

You Traitor:

Forgiveness when an Ingroup Member Forges an Alliance with the Outgroup

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Abstract

For over a decade, the topic of forgiveness has become an area of research interest within the field of social psychology. However, the forgiveness literature remains dominated by discussions of interpersonal forgiveness. The aim of the present two experiments was to expand the current scope of forgiveness research by examining forgiveness within a group context, and for the first time, forgiveness of a traitor. Specifically, the potential impact of emotions and the black sheep effect on forgiveness was investigated. Participants were cyberostracized in a laboratory setting. In Experiment 1, evidence for a black sheep effect related to forgiveness emerged (i.e., participants were more forgiving of a deviant outgroup member than a deviant ingroup member). However, in Experiment 2 this finding was restricted to emotional reactions. Implications of the black sheep effect for the process of forgiving a traitor are discussed.

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You Traitor:

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I am perhaps the only American who cannot give you letters for his own country: all the relations I had there are now broken. I must never return.

- Benedict Arnold, February 1794
(American Traitor, 1741-1801)

And with the laws, the punishments – and there were only two – a quick and murderous fight or ostracism; and ostracism was the worst.

- John Steinbeck, 1939
The Grapes of Wrath

Benedict Arnold's treacherous actions during the American Revolution have placed him in the same category as Judas, that of a traitor. By supplying top-secret information to the British, Arnold's secret alliance with them could have jeopardized the Americans' war for independence. Upon learning of his betrayal, revolutionary American citizens were quick to demonize Arnold and demanded revenge (Randall, 1990). As such, Arnold's treacherous behaviour effectively broke all ties between him and his home country.

The case of Benedict Arnold is one of the most famous acts of betrayal in modern history, due to the impact it could have had on the American Revolution. Betrayal, however, need not be on such a grand scale to have a significant impact on the person or group that feels betrayed. The hurt can occur because a politician from the party you support switches parties; a fellow activist is found to have big business sympathies; your friend abandons you for another clique; or your coworker does not support a strike. Despite the obvious emotional impact that such betrayals can have on group members, little psychological research has investigated how people respond to a traitor. The

research presented here is an attempt to help fill this gap in the literature by providing an understanding of how group members react when there is a traitor in the ranks.

Social Identity Theory

Although betrayal is often a synonym for disloyalty, especially in personal contexts, such as a relationship among friends, it can also imply treachery, especially at the group level. A common definition of betrayal emphasizes that it is an extreme act of disloyalty; it is being disloyal to one's group while concurrently acting in the interests of an opposing group. For example, consider the feelings of betrayal that may be experienced when you discover that a coworker has abruptly decided to leave your workplace during the middle of a bid for an important contract. Furthermore, your coworker has left your firm in order to pursue a career at a firm that you are in direct competition with for the contract. This act of betrayal will likely draw ire among you and your coworkers because it is an affront to the group to which you belong.

Under such a situation, and according to social identity theory (SIT), coworkers will likely draw distinctions between the two groups and they will defend their own group because part of how individuals view themselves is connected with the groups they belong to (Tajfel, 1978; Tajfel & Turner, 1986). Social identity and personal identity together form the basis of an individual's self-concept. One's personal identity is derived from individual traits or characteristics, whereas one's social identity is experienced through group membership. Social identity is important to the make-up of one's self-concept because individuals can derive a positive sense of self through group memberships. Further, it is contended that people are motivated by a basic desire for self-

esteem (Baumeister, 1993). Therefore, according to SIT, people are motivated to achieve and maintain a positive view of their groups. For example, people can gain a sense of belongingness and positive affect from a variety of memberships, including their profession, gender, age, nationality, or role as a student. And they subsequently draw distinctions between groups that they belong to and groups that they do not belong to.

Essentially, we identify with groups that we perceive ourselves to belong to, and part of who we are is constructed by these group memberships. One outcome of identifying with a particular group is that anyone who is not a member becomes part of the outgroup. Positive evaluations of our ingroup derive from comparisons that we make with relevant outgroups. Feelings of high prestige result from differentiations made between the ingroup and outgroup that reflect positively on the ingroup (Tajfel & Turner, 1986). Yet, consider a situation where the outgroup is seen as superior to the ingroup. The motivation to maintain a positive sense of self, and accordingly a positive social identity, can at times lead people to abandon their own group so that they may join a more positively distinct group. However, this movement toward a new group may lead former group members to label the individual who chooses to leave a traitor.

Situations in which there are competing social groups oftentimes result in distinctions being drawn between *us* and *them* or *we* and *they* (Tajfel, Jaspars, & Fraser, 1984; Turner, 1982). This type of framing lends itself to the psychological study of reactions to a traitor because part of the betrayal experienced by the injured party results from the traitor siding with an opposing group (i.e. the outgroup, or *them*). Such an action may evoke negative emotions toward, and evaluations of, the traitor because it is an affront to the prestige and well-being of the ingroup, and hence to the individual. Ingroup

members may be left wondering why someone would want to leave the group, and whether such an action reflects poorly on the ingroup, or whether it is a reflection on the individual who left. Regardless, such an experience may raise doubts about the status and value of one's social group, doubts which necessarily challenge the positive esteem derived from the group. In order to buffer against such a threat to one's social identity, it may be helpful to ascribe negative attributions to the traitor rather than to the group.

When individuals internalize a group membership as part of their self-concept the features of that membership then hold relevance for their self-esteem. For example, participants rated their proficiency on an upcoming task more positively when their home basketball team was victorious than when it had lost (Hirt, Zillmann, Erickson, & Kennedy, 1992). Essentially, the successes and failures of a social group reflect not only on the group itself, but also on each individual within the group. Therefore, people are motivated to maintain a positive appearance of their ingroup. The desire to preserve the status and cohesiveness of one's group helps account for the development of the ingroup bias. Within an intergroup context, one way to achieve a sense of positive regard from your ingroup is to ensure that your group is distinct and superior to relevant outgroups. Ingroup favoritism motivates people to act in ways that are beneficial to their own group, even if detrimental to another group (Brewer, 1979). Thus, behaviours derived from ingroup favoritism should place your group ahead of the outgroup.

A series of classic social psychology experiments have demonstrated the impact of the ingroup bias on intergroup relations (Tajfel, 1970; Tajfel & Billig, 1974; Tajfel, Billig, Bundy, & Flament 1971). Researchers randomly assigned participants to groups without allowing them to interact with one another, or sometimes without even letting

them see one another. Participants were led to believe that the groups were formed on the basis of a subtle distinction (e.g. preference for one artist or another, or being someone who overestimates or underestimates the number of dots on a screen). This trivial division of groups, known as the minimal group paradigm, led to pronounced differences in how members treated people from their own group and the other group. Specifically, an ingroup bias was evident as participants consistently awarded more money to their own group members. Even more surprisingly, participants preferred to maximize the earnings difference between their ingroup and the outgroup, even if this reduced their overall earnings (Tajfel et al., 1971). Results from minimal group studies have shown that people place great importance in their social identities and the groups to which they belong. And therefore, individuals are motivated to strengthen the status of their own group, regardless of the consequences to outgroup members.

In view of the fact that group members are motivated to maintain the positive status of their group, it should follow that the actions of an ingroup member that do not support the ingroup, but rather support the outgroup, are likely to evoke strong negative reactions from ingroup members. Group members are not likely to tolerate a member who poses a risk to the cohesiveness and esteem of their group because this would damage the esteem of each individual. This is precisely the situation that people are confronted with when a traitor exists among them.

The Black Sheep Effect

Since individuals derive self-worth and a sense of certainty from their group, they may feel threatened when a fellow group member acts in direct opposition to the well-being of their group. Such a situation may cause individuals to treat the deviant group

member as an outsider. That is, he or she would no longer benefit from the resources or status associated with the group because fellow group members would no longer see him or her as a worthy group member. At first, it may appear that such an assertion runs counter to that proposed by SIT and the research on ingroup bias. However, derogating misbehaving ingroup members (e.g., treating them as outsiders) can actually serve to bolster the cohesiveness and status of a group (Marques, Yzerbyt, & Leyens, 1988). Ultimately, it is the status of the group that remains of central importance for group members, such that derogating an ingroup member is seen as a worthy endeavour.

The subjective group dynamics (SGD) model builds on the research of social identity theory and helps account for the seemingly paradoxical fact that members can globally prefer their ingroup, yet concurrently prefer an outgroup member over an ingroup member (Abrams, Randsley de Moura, Hutchinson, & Viki, 2005). This model proposes that ingroup superiority can be achieved by differentiating the ingroup from relative outgroups, and by differentiating ingroup members who support ingroup norms from those who do not. The black sheep effect is seen as one example of the SGD model.

According to the black sheep effect, deviant members of a group are indeed looked down upon by fellow ingroup members (Marques et al., 1988). The black sheep effect refers to the more extreme judgments passed on likeable and unlikeable ingroup members as compared to equally likeable and unlikeable outgroup members. For example, if an ingroup member violates a group norm, he or she will be viewed negatively, and more negatively than an outgroup member who has violated the same norm. The source of the black sheep effect stems from the relevance that ingroup members' behaviour holds for the social identity of other group members. This ultimately

means that an individual will derogate the transgressing ingroup member (i.e., the black sheep, or traitor) in order to maintain a positive differentiation of the ingroup. It is more important to maintain a positive appearance of the group than it is to tolerate deviant group members. In other words, members are willing to sacrifice a few for the good of the many.

Characteristics or behaviours of an ingroup member that do not comply with the group's standards threaten the cohesiveness and positive aspects of the group's social identity (Marques, Páez, & Abrams, 1998). For example, Belgian students presented with either likeable or unlikeable ingroup and outgroup, were asked to rate these targets on a number of trait descriptors. In line with the black sheep hypothesis, likeable and unlikeable (i.e., attractive or unattractive) ingroup members were judged more extremely than corresponding outgroup targets (Marques et al., 1988). Specifically, likeable ingroup members were judged to be better than likeable outgroup members, and unlikeable ingroup members were judged more negatively than equally unlikeable outgroup members.

Another study with a different population of students found similar results (Marques & Yzerbyt, 1988). Law students evaluated a good speech performance by a fellow law student more positively than an equally good speech performance given by a philosophy student. Additionally, law students evaluated a poor speech performance given by a law student more negatively than when the same speech was believed to have been delivered by a philosophy student. Downgrading deviant group members is a cognitive-motivational strategy aimed at protecting the group's social identity, and is referred to as "a sophisticated form of ingroup bias" by Marques et al. (1988). The black

sheep effect shows others that the status or behaviour of that individual (i.e., the black sheep) is not congruent with the group's characteristics, and hence will not be tolerated.

It is argued here that SIT may play a significant role in understanding how people respond to a traitor. Group membership is a defining feature of the emotional reactions group members have toward traitors. Emotional reactions may not merely stem from witnessing misbehaving group members, but also from intergroup situations in which the ingroup member's behaviour benefits *them* instead of *us*.

Although there is a paucity of research on the role of a traitor within the group dynamics literature, there is precursory evidence to support the assertion that part of a group member's reaction to a traitor may be accounted for by the social identity shared between the traitor and the betrayed. For example, Hogg, D'Agata, and Abrams (1989) investigated the process of second language acquisition within an intergroup context and their research provides some information on group members' reactions to betrayal. These researchers explored how individuals responded to ingroup members who chose to speak the dominant outgroup language. Such ingroup members were viewed as ethnolinguistic traitors, and were consequently evaluated more negatively than ingroup members who spoke the ingroup language. Ethnolinguistic traitors were downgraded on measures of status and solidarity. Ultimately, it was both the group's social identity and the actions of a misbehaving group member that resulted in a sense of ethnolinguistic betrayal.

Further evidence to support the claim that group identities do indeed play an important role when faced with a traitor is provided by Moreland and McMinn (1999). Their study revealed that feelings of betrayal could be elicited from an individual who is

not a traitor in the traditional sense. Former members of a group, who left on amicable terms, still evoked feelings of betrayal among current group members. In this study, researchers found that groups became more upset by negative feedback when the feedback was purportedly given by former ingroup, rather than outgroup, members. Feelings of betrayal, as measured by distress over the negative feedback and rejection of the feedback, were evident when the evaluation supposedly came from a former ingroup member. Such findings indicate that the experience of betrayal is intimately connected to one's social identity, and that the intensity of such an emotion may be increased when experienced at the hands of a current, rather than former, group member.

Ostracism

A review of the literature related to the construct of a traitor would be incomplete without examining the act of betrayal, or transgression, committed by the traitor. Fitness (2001) argues that betrayal is essentially an act of rejection. Given this, social ostracism, or exclusion, is a natural construct to focus attention on because it is a prime example of rejection, and one that can have profound negative effects upon an individual (Williams, 1997).

Humans are social creatures and our daily interactions with others not only provide us with support, friendship, and a sense of belongingness, but these interactions also provide structure and give meaning to our world. Therefore, people are strongly motivated to maintain attachment with others (Baumeister & Leary, 1995). Social ostracism runs counter to this desire and in effect has the power to make us question our place in the world.

Acts of ostracism can range from the extreme of physically removing someone from society (e.g., placing a criminal in prison and/or solitary confinement), to more subtle forms such as giving someone the silent treatment or avoiding eye contact with them (Williams, 2001). Williams and colleagues (2002) have even described a form of ostracism that does not rely on direct contact between people. Cyberostracism, as it is known, occurs when someone feels excluded by acts other than those that occur in direct face-to-face contact with an individual. Not returning someone's phone call or email, ignoring a person in a chat room, or refusing to toss a ball to someone during an online game of catch are all forms of cyberostracism (Williams & Zadro, 2001).

Research on cyberostracism has shown that the negative effects of social ostracism do indeed carry over to the virtual world (Williams, Cheung, & Choi, 2000). Participants who were excluded from an online game of catch (which was actually just a computer program) reported feeling worse compared to participants who were included in the game. Cyberostracized participants reported decreases in belongingness, lowered self-esteem, and more negative moods. Furthermore, these negative feelings were intensified when people experience ostracism at the hands of a fellow group member rather than an outgroup member (Williams, 2001). People may feel doubly hurt in this situation because not only are they being excluded, but their exclusion may also come as a surprise. Additionally, if an ingroup member is ostracized while outgroup members are not, the ostracized target may feel betrayed by his or her group members. Thus, the already negative situation caused by an act of ostracism can be compounded when placed in the context of an intergroup environment.

In effect, ostracism is an aversive act that leaves its victims in a negative emotional state. Furthermore, ostracism can be viewed as an act of betrayal in an intergroup context, which can intensify one's negative emotional experience. It is precisely this emotional experience that is important for understanding how a victim may respond to the actions of a traitor.

Emotions

Emotions can be defined as “complex, patterned, organismic reactions” that act as sources of information for people (Lazarus, 1991). Emotions inform individuals about how they feel in particular situations, and consequently emotions influence our actions and daily interactions with others. As such, emotions carry an adaptive purpose by assisting humans with understanding and interpreting their surroundings (Lazarus, 1991). Considering this, it would follow that people would be angered (Williams & Govan, 2005) by the actions of a traitor because it is precisely that feeling of anger that helps to inform people that the traitor is someone not to be trusted (Nadler & Liviatan, 2006). Consequently, one may act more vigilantly around the traitor, which is necessarily an adaptive function. The experience of negative emotions and one's resulting vigilant actions are adaptive in this scenario because they reduce one's vulnerability to future acts of betrayal, and therefore provide one form of protection against a traitor.

Betrayal, especially in the context of ostracism, can be an emotionally challenging experience. For example, of 168 students surveyed about a hurtful event, 20% of the reported events involved betrayal (Leary, Springer, Negel, Ansell, & Evans, 1998). Furthermore, the ratings of emotional pain reported by participants were positively correlated with the degree to which they felt rejected during the hurtful episode.

Rejection, such as being excluded from a group, can arouse feelings of sadness within its victims (Atlas & Morier, 1994). As an example, when asked to describe a situation that elicited sadness, 28% of participants described a situation involving rejection (Shaver, Schwartz, Kirson, & O'Connor, 1987). In addition to experiencing sadness, victims of rejection and betrayal may feel lonely and or socially anxious (Leary, Koch, & Hechenbleikner, 2001). Lastly, anger is a common emotional reaction to betrayal (Fitness, 2001). These emotions are important to consider in the context of a traitor because the behavioural response(s) of the victim will likely be affected by the emotions that she or he is experiencing. Furthermore, different emotions can motivate different behavioural responses. Anger may motivate someone to confront a traitor, whereas feelings of sadness and loneliness may simply make someone withdraw from the situation and the traitor (Fitness, 2001; Leary et al., 2001). In summary, understanding the emotional reactions sparked by a traitor's offence is one step to understanding how people will respond to that person in the future, and whether or not they will be willing to forgive.

Forgiveness

An act of betrayal can cause relational conflict and hostilities between group members and the black sheep (i.e., traitor) of their group. Reconciling grievances committed against a group is perhaps one way to adjust to relational damage and achieve group cohesiveness again. A testament to the utility of such a proposal comes from the fact that the desire for reconciliation and peace has led to a greater awareness of the need for forgiveness (Tutu, 1999). Accordingly, over the past decade, forgiveness has made its way into the realm of the social sciences, in part, through the field of social psychology.

A commonly accepted definition of forgiveness has been provided by McCullough, Worthington, and Rachal (1997). They define forgiveness as motivational changes on the part of the victim in which one's desire to avoid and seek revenge against the transgressor decreases, while at the same time benevolence toward the transgressor increases. Note that this definition indicates that forgiveness does not equate with condoning the offense or forgetting it.

In essence, forgiveness is a release of negative affect toward the offender, which can result in benefits for the victim, the offender, and their relationship. Forgiveness can increase the communication between a victim and offender, and thus can also provide both partners with an opportunity to move past the transgression (Fincham, 2002; Zechmeister & Romero, 2002). Such possibilities can foster prosocial behaviours between individuals and ultimately open the door to relational repair (Fincham, Beach, & Davila, 2004).

Part of the reason for recent growth in forgiveness research can be attributed to the positive role that forgiveness plays in the maintenance of healthy interpersonal (Fincham, 2000) as well as intergroup (e.g., Wohl & Branscombe, 2005; Wohl & Reeder, 2004) relationships. For example, Fincham (2000) found that forgiveness and marital quality were related, and that forgiveness independently predicted behaviour toward one's partner. Additionally, Fincham (2002) found that unforgiveness, or the tendency to seek revenge, was associated with patterns of negative reciprocity that can lead to psychological aggression. Conversely, forgiveness predicted patterns of constructive communication.

In addition to promoting the maintenance of a healthy interpersonal relationship, forgiveness has also been linked to both mental and physical benefits for victims (Coyle & Enright, 1997; Friedberg, Adonis, Von Bergen, & Suchday, 2005; Lawler et al., 2003; Ysseldyk, Matheson, & Anisman, 2007). Participants who remembered hurtful experiences and then engaged in empathetic perspective taking and imagined forgiving their perpetrators, had lower physiological stress responses than participants who nursed grudges against their perpetrators (Witvliet, Ludwig, & Vander Laan, 2001). Thus, the release of negative feelings and cognitions about an act of betrayal or traitor should lead to a release of negative physiological symptoms for offended group members.

Forgiveness of an offender can also result in a generalized prosocial orientation; one that goes beyond the relationship with the offender (Karremans, Van Lange, & Holland, 2005). Participants who reported feelings of forgiveness, when compared to unforgiveness, showed greater levels of relatedness to others, and were more likely to donate money or participate in volunteer work. Therefore, forgiveness is a process that can positively affect an individual's cognitions and behaviours in day to day circumstances.

The abovementioned benefits of forgiveness have sparked interest amongst researchers in determining circumstances under which forgiveness is most likely to occur. McCullough et al. (1997) found that empathy plays a significant role in the granting of forgiveness. Essentially, as empathy for the offender increases, forgiveness is more likely to occur. Interventions aimed at promoting empathy for one's transgressor have been found to positively affect levels of forgiveness (McCullough & Worthington, 1995).

Other variables related to forgiveness have been reported by McCullough et al. (1998). In addition to empathy, the offer of an apology, relational closeness prior to the offense, and one's level of rumination about an offense are three other factors that are strongly associated with forgiveness.

Empirical research concerning forgiveness continues to grow within social psychology, but much of this research focuses on forgiveness at the interpersonal level (Enright, Freedman, & Rique, 1998; McCullough, Worthington, & Rachal, 1997; McCullough et al., 1998). Considerably less research has been conducted at the intergroup level (McLernon, Cairns, Hewstone, & Smith, 2004; Wohl & Branscombe, 2005), and findings concerning intragroup forgiveness are not present within the current social psychological literature.

Within the intergroup forgiveness literature, a study by Wohl and Branscombe (2005) investigated the role of group membership on willingness to forgive. These researchers found that categorizing participants in a manner that increased their collective human identity led to greater levels of forgiveness, when compared to categorization that emphasized a distinction between the ingroup and the outgroup. To the point, social identity can influence the process of forgiveness. However, this research examined transgressions committed by the outgroup; forgiveness of a deviant ingroup member (e.g., a traitor) has yet to be examined.

To summarize, previous research on traitors has assessed instances in which group members felt betrayed, but the possible emotional and behavioural reactions to a traitor have not been investigated. For example, Williams and his colleagues (2000) conducted cyberostracism studies in which fellow group members excluded participants,

but only the participants' mood was assessed. Additionally, studies conducted by Moreland and McMinn (1999) and Hogg and colleagues (1989) also did not focus on how participants react to feeling betrayed. A more comprehensive understanding of how traitors and everyday acts of betrayal affect group members remains absent from the literature. While the extant literature does provide a starting point for a discourse on traitors, it also leaves many questions to be answered: What are the emotional and psychological responses to a traitor? How do individuals act toward traitors (e.g., will individuals try to avoid a traitor)? And lastly, is there room for forgiveness when dealing with a traitor? The present research, to my knowledge, is the first to address these questions within a laboratory setting.

Overview

The impact of a traitor's actions on the emotions and behaviours of a victim were investigated in a set of two experiments. Specifically, the present research assessed betrayal within the context of ostracism by ingroup members. In Experiment 1, participants played a game of online catch and were excluded from the game by both an ingroup and outgroup member. Following this ostracism manipulation, participants' emotional reactions and their willingness to forgive the other players were measured. Experiment 2 expanded on the results of Experiment 1 by employing a different group identity as the basis for the ingroup-outgroup distinction, increasing the number of players in the on-line game, creating a control condition, creating an intragroup and additional intergroup condition, and incorporating a behavioural measure to assess participants' desire to avoid the traitor.

During both experiments participants played a game of online catch referred to as Cyberball, which has proven to be a useful paradigm for examining rejection in a laboratory environment (Williams, 2001; Williams et al., 2000). Moreover, the inherently ambiguous nature of cyberostracism (i.e., participants do not know why they are being excluded) increases threats to one's sense of belongingness and self-esteem more so than conditions in which participants know the reason for the ostracism (Sommer, Williams, Ciarocco, & Baumeister, 2001). That is, when playing Cyberball participants do not know why they are being excluded from the game and the uncertainty created by this situation increases their feelings of rejection. The ambiguous nature of the rejection in Cyberball helps foster greater affective responses in a laboratory setting. In both experiments, the social identities chosen to form the bases of ingroups and outgroups were intended to be meaningful enough to participants to cast the ingroup member as a traitor. Consequently, the present research conformed to the preconditions stated by Branscombe, Wann, Noel, and Coleman (1993) regarding the type of situation needed to observe the black sheep effect.

Experiment 1

The aim of the first experiment was twofold. Firstly, the emotional reactions experienced by a victim at the hands of a traitor were measured. Secondly, Experiment 1 was designed to assess whether the black sheep effect would operate in the context of a traitor, and to determine if this effect holds consequences for the forgiveness of a traitor.

Three hypotheses were proposed:

- 1) Participants would feel negative emotions after being rejected from the game.

- 2) Participants would be less likely to forgive the ingroup member (traitor) who rejected them, in comparison to the outgroup member who rejected them.
- 3) The impact of the transgression on the forgiveness outcome would be mediated by an individual's level of reported anger.

Method

Participants

Thirty-five introductory psychology students (15 women, 20 men) from Carleton University participated in the study for course credit. Ages ranged between 18 and 40 years ($M = 20.32$, $SD = 4.16$). The data from one participant was excluded, as he did not report being rejected from the Cyberball game.

Group Identification. Prior to the experimental manipulation, participants responded to items concerning their level of identification as a Canadian or American citizen. As expected, participants identified with and valued their Canadian identity ($M = 5.71$, $SD = 1.23$) significantly more than the American identity ($M = 2.16$, $SD = 1.24$), $t(25) = 8.54$, $p < .001$, $d = 2.87$.

Procedure

Upon their arrival at the lab, participants were greeted by the experimenter and asked to sit at a desk with a computer and to complete an informed consent form. As is the norm in studies on cyberostracism (see Williams et al., 2000), the experimenter told the participants that the purpose of the study was to assess their mental visualization skills. This story eluded participants from the true purpose of the study and provided a realistic research setting. Participants were then told that they would play an online game of catch with two other students from different universities in Canada and the United

States. Participants were instructed to mentally visualize playing the game of catch with the other players, and that at the end of the game he or she would be asked a series of questions about his or her mental visualization process and interactions with the other players.

Participants then completed an online background questionnaire, which they were told provided the researcher with demographic information. Included in this questionnaire was the Nation Identification Questionnaire (Wohl & Branscombe, 2005) that assessed the extent to which participants identified with their Canadian identity. Participants were told that this questionnaire was included to determine if any differences existed in the mental visualization skills between the two nations involved in the study.

Upon completion of the background questionnaire, participants were once again reminded of the purpose of the study and were provided with suggestions as to what they should focus on during the game (e.g., the appearance of the other players, the setting, weather conditions, etc.). Following this, participants were left with the Cyberball program running (with the condition of the program set to ostracize participants). A webpage link appeared on the computer screen once the game was complete that led participants to a series of online questionnaires.

Following completion of the online questionnaire, participants received a funnel debriefing procedure to allow the researcher to assess suspicion among participants. No participant generated the true purpose of the study. A written debriefing form followed, in which the true goals of the study were stated. Additionally, participants were alerted to the possibility that negative thoughts may persevere beyond the study and the experimenter provided information to offset any negative feelings held by the

participants. Participants then received a second informed consent form, a written debriefing form with contact information, and a credit slip for their participation in the study.

Measures

Mental Visualization. All measures used in Experiment 1 can be found in Appendix D. In order to maintain the researcher's cover story, measures were included to assess the participants' mental visualization experiences. On a scale from 1 (*not at all able*) to 5 (*very much able*) participants were asked, "How able were you to visualize the other players?" A second question asked, "Describe how you tried to visualize the other players (e.g., Where were you? What sort of people were they? Was it cloudy or sunny?). What was the mental picture?" Since these items were included to maintain the cover story they were not included in the analysis of the data.

Manipulation check. To ensure that participants were aware of their exclusion from the game they had to click on a webpage link that described how often the ball was thrown to them. Three options were made available to participants, indicating that they were thrown the ball equally as much as the other players, more than the other players, or less than the other players. An additional item asked participants to estimate the amount of throws they received during the game. Lastly, four items were included to ensure that participants felt excluded from the game by both the Canadian and American player. On a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) participants responded to the following statements: "The American [Canadian] did not throw the ball equally to me and the other player" and "The American [Canadian] made me feel left out of the game". The player referred to was dependent on whether the participant was currently responding

to questions regarding the Canadian or the American, the order of which was counterbalanced.

Forgiveness. Brown and Phillips (2005) state forgiveness measure was adapted to assess forgiveness in the context of a traitor. Ten items measured participants' overall willingness to forgive the Canadian and American players for excluding them from the game on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Two items measured feelings of avoidance among participants: "I would not want to play the game again with the Canadian [American]" and two items measured acceptance of the transgressor: "I understand why the Canadian [American] did not throw the ball to me as much as I would have liked". Four items assessed revenge motivations: "If I were to play with the Canadian [American] again and someone new, I would only throw the new person the ball", "I hope the Canadian [American] has someone not throw him/her the ball". Lastly, an explicit forgiveness item was included in the measure as a validity check for the other subscales. The order in which participants responded to the scales (concerning either the Canadian or American) was again counterbalanced. Negative items were reversed scored so that higher scores indicate more forgiveness. As a scale, the five items showed strong internal reliability regarding both transgressors (American [$\alpha = .80$] and Canadian [$\alpha = .78$]).

Emotions. Tam et al.'s (2007) scale of Intergroup Emotions was included to measure how participants felt after being excluded from the game. Twelve adjectives (presented in a randomized order) were included to measure participants' emotional reactions. Participants were asked to indicate how they currently felt by rating each emotion adjective on a seven-point scale with endpoints of 1 (*not at all*) and 7 (*very much*

so). Three of the adjectives represented positive emotions (i.e., pleasant, happy, cheerful) $\alpha = .37^1$, four adjectives measured anger (i.e., angry, furious, irritated, hatred) $\alpha = .66$, and five adjectives represented fear (i.e., anxious, fearful, worried, nervous, afraid) $\alpha = .73$.

Group identity. The Nation Identification Questionnaire (Wohl & Branscombe, 2005) was included to ensure that participants identified with and valued their Canadian group identity. Six items measured the extent to which this was the case, and six additional items were included to ensure that participants did not identify with an American group identity. Statements such as “I am pleased to be a member of Canada [the United States]” and “I feel strong ties with other people that live in Canada [the United States]” were rated by participants on a scale from 1 (*strongly disagree*) to 8 (*strongly agree*). Both versions of the scale, Canadian identity and American identity, were found to have excellent levels of internal consistency with Cronbach’s alpha levels of .96 and .92, respectively.

Rejection. Two items² assessed the extent to which the cyberostracism manipulation affected participants’ feelings of rejection. On a scale ranging from 1 (*not at all*) to 7 (*very much so*) participants responded to the following items: “I felt non-

¹ Although the reliability of the positive emotion subscale was quite low ($\alpha = .37$), the analysis concerning this subscale was not modified in Experiment 1 because the measurement of positive emotions in Experiment 1 was not as important as the measurement of positive emotions in Experiment 2. That is, in Experiment 2 an accurate measurement of positive emotions was essential to demonstrate the black sheep effect, whereas in Experiment 1 this was not the case. Ultimately, modifying the use of the Intergroup Emotions Scale such that each emotion rating was directed at a particular group member (rather than having the participant report their emotions in general) served to rectify the low internal reliability scores from Experiment 1.

² Two additional items were included in Experiment 2 to supplement this measure of rejection.

existent during the Cyberball game”, and “I felt poorly accepted by the other participants”. These two items were highly correlated ($r = .71, p < .01$)

Results

*Preliminary Analyses*³

Independent sample t-tests were conducted on the dependent variables to determine if gender effects were present. No effects of gender were found in the analysis. Consequently, gender was not controlled for in all subsequent analyses.

Manipulation Check

All participants realized they were excluded from the game, and as such clicked on the link that indicated they were thrown the ball less than the other players. Participants reported not receiving the ball equally as much as the other players (indicated by mean responses significantly above the midpoint of the scale) due to the actions of both the Canadian ($M = 5.94, SD = 1.81, t(34) = 7.97, p < .001, d = 2.73$) and the American ($M = 6.31, SD = 1.30, t(34) = 12.80, p < .001, d = 4.39$) players. The difference between these groups was not significant $t(34) = -1.26, p = .22$. Participants also reported feeling left out of the game (indicated by mean responses significantly above the neutral point of the scale) by both the Canadian ($M = 5.69, SD = 1.35, t(34) = 9.61, p < .001, d = 3.30$), and the American ($M = 5.37, SD = 1.52, t(34) = 7.30, p < .001, d = 2.50$) players. Moreover, participants reported feeling more left out of the game by the Canadian than the American, $t(34) = 2.15, p = .04, d = .22$.

Experimental Effects

³ Missing data for quantitative items was replaced by averaging the scores of the subscale items and using this value in place of the missing score.

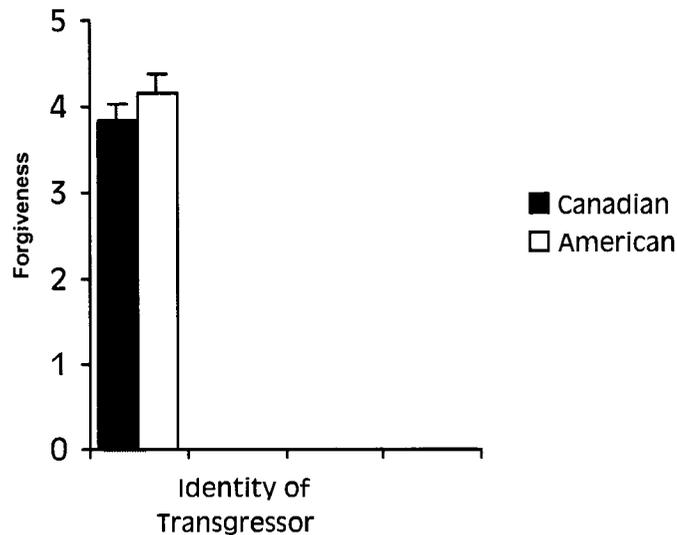
Rejection. After taking part in the Cyberball game, participants reported moderate levels of rejection ($M = 3.17$, $SD = 1.68$), as the mean for this measure was found not to be significantly above the midpoint of the scale, $t(34) = -1.16$, $p = .25$.

Emotions. Participants' reported somewhat high levels of anger ($M = 4.54$, $SD = 1.11$), as indicated by a mean significantly above the midpoint of the scale, $t(34) = 5.49$, $p < .001$ and low levels of fear ($M = 2.09$, $SD = 0.75$), $t(34) = -11.17$, $p < .001$.

Participants reported moderate levels of positive affect ($M = 3.31$, $SD = 0.90$), $t(34) = -1.21$, $p = .23$.

Forgiveness. Results from the forgiveness measure followed the hypothesis. As can be seen in Figure 1, participants were significantly less forgiving of the Canadian player (the traitor) ($M = 3.83$, $SD = 1.28$) compared to the American player ($M = 4.17$, $SD = 1.25$), $t(34) = 2.04$, $p = .049$, $d = 0.27$.

Figure 1. Mean forgiveness scores (+ *SE*) for the deviant ingroup member and the deviant outgroup member.



Predicting forgiveness. It was hypothesized that the level of rejection felt by participants would predict forgiveness for the traitor, and a regression analysis supported this prediction, $F(1, 33) = 11.35, p = .002$. This equation significantly predicted 26% of the variance ($R^2 = .26$). Baron and Kenny's (1986) procedure for testing mediation was employed to determine if the relationship between rejection and forgiveness was influenced by anger. However, mediation was not found as there was no significant relationship between rejection and anger, $F(1, 33) = .48, p = .50$.

Discussion

Results from Experiment 1 supported the hypothesis that willingness to forgive an act of ostracism would depend on the country of origin (e.g., Canadian and American players) of the player who committed the act. When ostracism was committed by a fellow ingroup member that individual was less likely to be forgiven than if the transgression

had been committed by an outgroup member. I argue that these results are due to participants perceiving the Canadian as a traitor. Ultimately, both computer players committed the same act against the participant, but the reaction of the participant toward each player differed based on the national identity of the player.

Research on group relations has demonstrated that people expect to be favoured by ingroup members and rejected by outgroup members (Frey & Tropp, 2006). By ostracizing the participant, and instead playing with the outgroup member, the Canadian player violated a group norm and was branded a deviant ingroup member, or traitor. Accordingly, the results from Experiment 1 seem to indicate that participants were affected by this norm violation. Not only were they less forgiving of the ingroup member, but they also felt more excluded from the Cyberball game when the exclusion came from an ingroup member. As anticipated, it would appear that forgiving a deviant ingroup member, or traitor, poses a unique challenge for victims.

Research concerning interpersonal forgiveness has shown that relationship closeness is positively related to forgiveness (McCullough et al., 1998). Partners in a relationship have a shared history and rely on one another for different needs. This interdependence can motivate forgiveness for an interpersonal offence because victims see the relationship as something worth maintaining. Conversely, forgiving a traitor seems to be impeded by the closeness shared between ingroup members. Without personal factors (e.g., history, investment in the relationship) that would motivate a victim to forgive a deviant ingroup member, it would appear that people are more willing to forgive the more distant, but less offensive, outgroup member.

In addition to providing new information about group forgiveness, this experiment also demonstrated a new context, and form of evidence, for the black sheep effect. Initial studies of the black sheep effect examined evaluative judgments of unlikeable ingroup and outgroup members (Marques et al., 1988). Participants would rate ingroup and outgroup members on a number of positive and negative traits. More recent findings have demonstrated that participants react more punitively to ingroup rather than outgroup offenders, provided that guilt is certain (van Prooijen, 2006). By comparison, in Experiment 1 the guilt of the offenders was certain and accordingly a black sheep effect was observed for a measure of pro-relational intent (i.e., forgiveness). As such, this study extends research on the black sheep effect into the realm of behavioural implications for group members. Not only are deviant ingroup members judged more harshly than deviant outgroup members, but also they are less forgivable, and this may have implications for how individuals behave toward such group members. Behavioural reactions expressed toward a black sheep is a topic that deserves more research attention, and in Experiment 2 this line of research was undertaken by incorporating an avoidance measure into the experiment.

Lastly, the regression analysis in Experiment 1 indicated that as the impact of the transgression increased (i.e., as participants reported higher levels of rejection) forgiveness decreased. Anger was hypothesized to influence this relationship; however, support for this hypothesis was not found. This null effect may be a result of how the anger measure was used. Participants were asked to report their level of anger in general, whereas typically participants are asked to report the level of anger they feel toward a specific group (Tam et al., 2007). As such, the use of this measure was modified

accordingly in Experiment 2. Participants reported the anger they felt toward the deviant ingroup member, and separately, the anger they felt toward the deviant outgroup member.

Experiment 2

Experiment 2 widened the scope of Experiment 1 through a number of modifications. Importantly, three new conditions were added in Experiment 2. A control condition was included to provide comparison baseline data. In this condition, participants did not experience cyberostracism. Thus, since a transgression did not occur in the control condition forgiveness scores were not collected for this level of the independent variable. However, emotions felt toward the other players, as well as the participants' desire to approach fellow ingroup or outgroup members, were measured. A third condition examined the effects of outgroup ostracism on the participant. In this condition, two outgroup players only threw the ball to one another, effectively ostracizing the participant and one other ingroup player. This condition allowed for another comparison of forgiveness levels between the ingroup transgressors (i.e., traitors) and the outgroup transgressors. Also, whether the presence of a traitor lessened the anger felt toward deviant outgroup members was also a question addressed by the addition of this condition. Lastly, a fourth condition was created in which the participant played Cyberball with only ingroup members. This condition was created to explore the concept of intragroup forgiveness, and in this condition every ingroup member ostracized the participant. Participants were randomly assigned to one of these four conditions, which can be referred to as the control condition, the traitor condition (the sole condition in Experiment 1), the outgroup ostracism condition (only the outgroup members ostracized

the participant), and the intragroup ostracism condition (only ingroup members ostracized the participant). It was predicted that participants would be least willing to forgive the deviant ingroup member in the traitor condition, due to the impact of a black sheep effect.

To date, extant research has not examined behavioural implications of witnessing a traitor rebuff the ingroup. In Experiment 2, after participants completed all of the dependent measures they were informed that another round of Cyberball would soon begin. For this second round of Cyberball, participants were asked to choose a player from the previous round to participate with in the upcoming round. This modification provided a behavioural measure of avoidance tendency. It was hypothesized that participants in the control condition would prefer to play the game with their fellow ingroup member, but that participants ostracized by their ingroup member would be more apt to choose the outgroup member rather than their ingroup member (i.e., traitor). It should be noted that participants did not actually play a second game of Cyberball.

Another modification in Experiment 2 was that outgroups and ingroups were formed on the basis of school identity. Participants played Cyberball with computerized Carleton and Ottawa University students. This modification was implemented to increase the generalizability of the findings to ensure that it was not something specific about the previous reference groups (Canadians and Americans) that caused the findings. As in Experiment 1, the presentation of questionnaires concerning either the ingroup or outgroup was counterbalanced.

The number of computer players participating in the Cyberball session was increased from two to three. In every condition, except the intragroup ostracism

condition, participants played Cyberball with a fellow Carleton student and two Ottawa U students. This dynamic was intended to create an ‘us versus them’ situation from the outset of the game, and to have the potential to increase feelings of betrayal among participants because the fellow Carleton student should be expected to benefit her or his ingroup member (e.g., teammate) in this situation.

In order to increase the realism of the experiment, the researcher received a phone call prior to the start of the game ostensibly from a fellow researcher at Ottawa University. This led participants to believe that all players were online at the same time to play the game. Furthermore, while participants were completing the background questionnaire, they were told that the researcher had to leave the room briefly in order to check on the other Carleton participant who would also be playing Cyberball.

A central issue not addressed in Experiment 1 was whether the severity of the offence differed based on who committed the transgression. Would participants perceive the transgression to be more severe when committed by an ingroup member rather than an outgroup member? Perceived offence severity has been found to be associated with forgiveness (Girard & Mullet, 1997; McCullough, Fincham, & Tsang, 2003), and as such it was important to incorporate a measure of offence severity in Experiment 2.

Lastly, the internal reliability ratings of Tam et al.’s (2007) Intergroup Emotions Scale were lower than expected in Experiment 1. Specifically, internal reliability ratings for anger ($\alpha = .66$), fear ($\alpha = .73$), and happiness ($\alpha = .37$) were considerably lower compared to past research ($\alpha = .89$, $\alpha = .93$, $\alpha = .82$, respectively). The differences in the internal reliability ratings of the scale are likely due to how participants were asked to respond to the questionnaire. Participants were asked how they felt in general, whereas

previous use of the scale has asked participants how they feel when thinking about the outgroup. The use of this scale was altered in Experiment 2 in hopes of achieving better internal reliability among the three subscales and a more accurate description of the emotions felt toward the traitor. Specifically, participants were asked to indicate their feelings toward each transgressor separately, rather than their overall emotional state.

Method

Participants

Ninety-six introductory psychology students from Carleton University participated in the study for course credit. After examination of the raw data, data collected from four participants was excluded from the analyses due to inaccurate responses. Data from participants who reported being included in the game, or being rejected from the game, when in fact they were not, was excluded from the analyses. Therefore, the total sample consisted of ninety-two participants (60 women and 32 men), with ages ranging from 18 to 44 years ($M = 20.39$, $SD = 3.49$).

Group identification. Prior to the experimental manipulation, participants responded to items that measured their level of identification with Carleton University, as opposed to the University of Ottawa. As expected, participants highly identified with their Carleton University membership ($M = 5.78$, $SD = 1.13$) and did not identify with the University of Ottawa membership ($M = 2.05$, $SD = 1.03$).

Procedure

The procedure for Experiment 2 followed that of Experiment 1, with the exception of several modifications. Participants were randomly assigned to one of four levels of ostracism (no ostracism, ostracism by ingroup members, ostracism by outgroup

members in the presence of a fellow ingroup member, or ostracism by both ingroup and outgroup members). Respectively, these conditions may be referred to as the control condition, the ingroup ostracism condition, the outgroup ostracism condition, and the traitor condition. Additional measures were incorporated into Experiment 2 to enhance the explanatory power of the results. And lastly, the Cyberball program was changed to account for a new group membership (school identity) and three, instead of two, computer players.

Measures

All measures used in Experiment 2 can be found in Appendix E. A repeated measures analysis of variance (ANOVA) was conducted on the dependent measures to determine if within group differences were present when the dependent measure concerned the ingroup (Carleton players 1, 2, or 3) or the outgroup (Ottawa University players 2, or 3). Significant within group differences were not detected, and hence dependent variables were collapsed into variables concerning either the ingroup or outgroup collectively.

Manipulation checks. To ensure that participants were aware of their level of involvement in the game, they were required to click on a webpage link that described how often the ball was thrown to them. Three options were made available to participants, indicating that they were thrown the ball equally as much as the other players, more than the other players, or less than the other players. A final item asked participants to estimate the percentage of throws they received during the game.

In addition to including items designed to measure participants' overall awareness of their exclusion, items were also included to ensure that participants were aware of

exactly who excluded them from the game. On a scale from 1 (strongly disagree) to 7 (strongly agree), participants responded to the following statements: “The Carleton player [Ottawa U player] did not throw the ball equally to me and the other players” and “The Carleton player [Ottawa U player] made me feel left out of the game”.

Ostracism. The extent to which participants felt rejected from the game was measured using the two items from Experiment 1, and two additional items. On a scale ranging from 1 (*not at all*) to 7 (*very much so*) participants responded to the following statements: “I felt rejected during the game” and “I felt as though I had made a connection or bonded with one or more of the participants during the Cyberball game”. These items were included to provide more detail about how rejected participants felt from the game. Items were reverse scored, so that high values represented feelings of rejection. This 4-item scale demonstrated good internal consistency (Cronbach’s $\alpha = .83$)

Group identity. The Nation Identification Questionnaire (Wohl & Branscombe, 2005) was modified to ensure that participants identified with, and valued, their Carleton University student identity. Six items measured the extent to which this was the case, and six additional items were included to ensure that participants did not identify with a University of Ottawa student identity. Statements such as “I am pleased to be a member of Carleton University [the University of Ottawa]” and “I feel strong ties with other people that attend Carleton University [the University of Ottawa]” were rated by participants on a scale from 1 (*strongly disagree*) to 8 (*strongly agree*). Both versions of the questionnaire (Carleton University identity and University of Ottawa identity) were found to have excellent levels of internal consistency with Cronbach’s alpha levels of .84 and .80, respectively.

Forgiveness. Brown and Phillips (2005) state forgiveness measure was adapted to assess forgiveness in the context of a traitor. Five items measured participants' overall willingness to forgive the Carleton and Ottawa U players for excluding them from the game on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). As in most forgiveness questionnaires, a single-item measure of forgiveness was included among other items, such as "I dislike the Carleton [Ottawa U] player". Negatively phrased items were reverse scored, so that higher values indicated more forgiveness toward the offender. The 5-item forgiveness questionnaire demonstrated acceptable levels of internal reliability for both the Carleton offenders ($\alpha = .87$) and the University of Ottawa offenders ($\alpha = .93$).

Avoidance. One item assessed participants' desire to avoid the traitor after the conclusion of the game. Participants were asked to select a player from the previous round as a teammate to play with in an upcoming round of Cyberball.

Perceived Hurt. Two items assessed the level of perceived hurt experienced by the participant from the other players. On a scale from 1 (*extremely hurt*) to 5 (*not at all hurt*) participants responded to the question "How hurt are you by the actions of the Carleton [Ottawa U] player?"

Offence severity. Two items measured level of offence severity as reported by participants on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*): "Not being thrown the ball by the Carleton [Ottawa U] player is a severe offence".

Understanding. A single-item measure was used to assess how understanding participants were of the actions of the other players: "I understand why the Carleton

[Ottawa U] player did not throw me the ball as much as I would have liked”. This item was rated on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

Emotions. A modified version of Tam et al.’s (2007) scale of Intergroup Emotions was used to measure emotions directed toward the Carleton and Ottawa U players. In Experiment 2, the fear subscale of this questionnaire was not used, as the Cyberball game did not arouse fear in participants during Experiment 1. Emotions thought to be more relevant to the experience of ostracism, and a traitor, were included in the questionnaire instead of emotions related to fearfulness and hatred. Specifically, the questionnaire asked participants on a scale from 1 (*not at all*) to 7 (*very much so*) “to what extent do you feel the following emotions when thinking about the Carleton [Ottawa U] player”? Emotions were displayed in a randomized order and included anger, sadness, frustration, happiness, embarrassment, contentment, humiliation, irritation, and pleasantness. The Intergroup Emotions Scale⁴ used in Experiment 2 contained two subscales accounting for negative and positive emotions. The internal reliability scores for each subscale can be seen in Table 1.

Table 1

Internal (Cronbach’s α s) Reliabilities for the Intergroup Emotions Subscales for Ingroup Members and Outgroup Members.

Subscale	α	<i>n</i> of items
Ingroup Members (Carleton)		
Negative Emotions	.94	18

⁴ The modification of the Intergroup Emotions Scale in Experiment 2 resulted in a negative emotion subscale instead of an anger subscale. A factor analysis revealed that the addition of negative emotional words such as embarrassment and sadness loaded onto the same factor as the words related to anger. Therefore, this subscale is more appropriately termed a negative emotion subscale, which includes aspects of anger, sadness, and embarrassment.

Positive Emotions	.95	9
Outgroup Members (Ottawa U)		
Negative Emotions	.97	12
Positive Emotions	.91	6

Results

Preliminary Analyses

Independent sample t-tests were conducted on the dependent variables to determine if gender effects were present. A family confidence coefficient level of .90 was maintained, with the error rate for each t-test set at $.10/12 = .008$. This analysis revealed no gender effects; however, a separate analysis was necessary to determine if gender played a role in the avoidance of the traitor. Participants were asked to choose a player for a second game of Cyberball, and chi square tests were calculated to determine if males and females differed in the frequency with which they chose the ingroup member as their teammate. Within the control condition, males ($5/14 = 0.36$) and females ($3/9 = 0.33$) did not differ significantly in their choice of teammate, $\chi^2(1, N = 23) = 0.14, p = .91$. However, a significantly greater proportion of males ($5/7 = 0.71$) compared to females ($3/16 = 0.19$) preferred the traitor as their teammate following the cyberostracism manipulation, $\chi^2(1, N = 23) = 5.96, p = .02$. Therefore, this dependent variable (avoidance of the traitor) was analyzed separately for males and females.

Independent sample t-tests were also conducted on the dependent variables to determine if order effects were present. The order in which the questionnaires were

presented (concerning either the ingroup or outgroup) did not affect the results, and consequently order was not controlled for in subsequent analyses.

Correlations among the dependent variables for the ingroup can be seen in Table 2, and correlations for the outgroup can be seen in Table 3. And lastly, key descriptive statistics can be seen in Table 4.

Table 2

Correlations between dependent variables concerning the ingroup.

	1.	2.	3.	4.	5.	6.	7.
1. Ingroup Identification	1	.12	.17	.15	-.10	.09	.04
2. Rejection		1	.59**	-.66**	-.29*	.24*	.15
3. Negative Emotions			1	-.53**	-.56**	.38**	.20
4. Positive Emotions				1	.47**	-.23	-.26*
5. Forgiveness					1	-.27*	-.43**
6. Hurt						1	.35**
7. Severity							1

* $p < .05$. ** $p < .01$

Table 3

Correlations between dependent variables concerning the outgroup.

	1.	2.	3.	4.	5.	6.	7.
1. Ingroup Identification	1	.12	.23	.13	-.04	.20	-.01
2. Rejection		1	.66**	-.73**	-.28*	.42**	.19
3. Negative Emotions			1	-.43**	-.58**	.70**	.41**
4. Positive Emotions				1	.30*	-.17	-.16
5. Forgiveness					1	-.44**	-.52**
6. Hurt						1	.44**
7. Severity							1

* $p < .05$. ** $p < .01$ Table 4 Descriptive statistics (Mean (*SD*)) on key dependent variables by condition.

Variable	Condition			
	Control	Traitor	Outgroup	Ingroup
Ingroup				
Negative Emotion	1.43 (0.78)	4.02 (1.78)	2.13 (1.15)	3.62 (1.38)
Positive Emotion	4.93 (1.52)	2.43 (1.29)	3.00 (1.41)	2.11 (1.05)
Forgiveness		4.93 (1.52)	6.07 (1.22)	5.17 (0.93)
Outgroup				
Negative Emotion	1.51 (0.97)	3.52 (1.74)	3.67 (1.91)	
Positive Emotion	4.37 (1.47)	2.51 (1.21)	2.44 (1.10)	
Forgiveness		5.03 (1.49)	4.70 (1.68)	
Rejection	2.60 (0.96)	5.93 (1.03)	5.30 (1.22)	6.00 (0.90)

Manipulation Checks

Cover story. Participants were told that the main objective of the study was to assess their mental visualization skills. All participants generated a mental visualization account of the game. The following quote describes one participant's experience:

We were outside, in a park playing on grass, but there was nothing manmade, not even a bench around. It was a sunny summer day, but there were still a few clouds in the sky. Behind us, there was a lake. To my right was a male student, white, wearing jeans, a t-shirt, and a baseball hat. In front of me was an Asian girl with long dark hair. On my left was a blonde girl and she wasn't wearing any shoes. We were throwing around a yellow tennis ball.

Ostracism. To ensure that the ostracism manipulation negatively affected participants, a one-way ANOVA comparing all four conditions was conducted on the level of rejection experienced by participants. This result was significant, $F(3, 88) = 55.27, p < .001, \eta^2 = 0.65$. A Tukey post hoc comparison test revealed that participants in the control condition (in which everyone participated in the game equally) felt significantly less rejected ($M = 2.60, SD = 0.96$) than participants placed in any of the three experimental ostracism conditions - the intragroup ostracism condition ($M = 6.00, SD = 0.90$), the outgroup ostracism condition ($M = 5.30, SD = 1.22$), and the traitor ostracism condition ($M = 5.93, SD = 1.03$), $ps < .001$. Furthermore, there were no significant differences in levels of reported rejection between any of the three ostracism conditions, $ps > .11$.

All participants included in the data analysis chose the appropriate weblink that indicated the extent to which they participated in the game. Participants also accurately

estimated the percentage of ball tosses they received in each condition. Lastly, open-ended comments written by participants indicated that the cyberostracism manipulation had its intended effect.⁵

Identifying transgressors. Within each condition, respondents indicated who made them feel left out of the game and this manipulation check ensured that participants were aware of exactly who was responsible for their exclusion from the Cyberball game. Participants correctly identified the individual(s) responsible for their exclusion in every condition. Specifically, as indicated by the means being significantly above the midpoint of the scale, within the traitor condition participants agreed that the outgroup members ($M = 6.15$, $SD = 0.95$), $t(22) = 13.44$, $p < .001$, and ingroup members ($M = 6.17$, $SD = 1.19$), $t(22) = 10.75$, $p < .001$, made them feel left out of the game. Likewise, in the outgroup ostracism condition, participants correctly reported being excluded by the outgroup ($M = 5.98$, $SD = 1.68$), $t(22) = 7.10$, $p < .001$, but not the ingroup ($M = 2.91$, $SD = 1.86$), $t(22) = -1.52$, $p = 0.14$.

Additionally, in the traitor condition, where both the ingroup ($M = 6.17$, $SD = 1.19$) and outgroup ($M = 6.15$, $SD = 0.95$) members excluded the participants, participants reported feeling equally left out by both groups, as revealed in a paired sample t-test analysis, $t(22) = -0.09$, $p = .93$.

Experimental Effects

⁵ In the control condition participants noted the fairness of the game, "I think that when you're playing with strangers you don't really want to hurt anyone's feelings by never passing the ball to them. So everyone was being polite." Conversely, in the experimental conditions participants noted feeling rejected from the game. Specifically, one participant was reminded of an actual ostracism experience: "I definitely felt excluded, but like I mentioned before it felt like what would sometimes happen at recess time," while another participant concluded that the other players simply did not like her. In the intragroup ostracism condition, one participant attempted an excuse for her exclusion by suggesting that the game mistakenly labeled her as an Ottawa University student, which would account for why her own ingroup members did not throw her the ball!

Feeling hurt. Within the traitor condition, differences in level of hurt reported from the actions of the traitor versus the actions of the outgroup members were analyzed with a one-tailed paired samples t-test. Participants reported being more hurt by the actions of the ingroup member (traitor) ($M = 2.74, SD = 1.18$) rather than by the actions of the outgroup members ($M = 2.26, SD = 1.05$), $t(22) = -2.63, p = .008, d = .43$. This result is in line with the hypothesis that participants would be more negatively affected by the actions of their disloyal ingroup member compared to the outgroup members.

An exploratory analysis was then conducted to determine if levels of hurt differed across ingroup members in the intragroup condition, the ingroup member in the traitor condition, and the outgroup members in the outgroup condition. A one-way ANOVA revealed that levels of hurt reported by participants from the actions of these players did not significantly differ across conditions, $F(2, 66) = .26, p = .78$. Participants were equally hurt by their transgressing ingroup members, regardless of whether or not the ingroup member was a traitor. And, participants were equally hurt in both the intergroup and intragroup conditions by transgressing outgroup and ingroup members respectively.

Understanding why the act of ostracism occurred. Within the traitor condition, participants reported low to moderate levels of understanding for their exclusion from the Cyberball game. It was expected that participants would convey less understanding of the traitor's actions compared to the actions of the outgroup members. A one-tailed paired sample t-test indicated that participants were less understanding of the ingroup member ($M = 2.61, SD = 1.80$) compared to the outgroup members ($M = 3.24, SD = 1.92$), $t(22) = 1.96, p = .03$.

An exploratory analysis was then conducted to determine if levels of understanding differed across ingroup members in the intragroup condition, the ingroup member in the traitor condition, and the outgroup members in the intergroup condition. A one-way ANOVA revealed that levels of understanding reported by participants from the actions of these players did not significantly differ across conditions, $F(2, 66) = 1.55, p = .22$. Participants were not understanding of their ingroup transgressors regardless of whether the transgressor was a traitor or not. It was predicted that participants would be less understanding of the ostracism act when committed by ingroup members ($M = 3.19, SD = 1.68$) in the intragroup condition, than when committed by outgroup members ($M = 3.59, SD = 2.17$) in the outgroup ostracism condition. The correct direction of this prediction was observed, but a significant result was not achieved $t(22) = -.70, p = .49$.

Perceived severity of offence. Within the traitor condition participants reported low to moderate levels of offence severity for their exclusion from the Cyberball game. A paired samples t-test found no significant difference between the severity of the offence committed by the ingroup member (traitor) ($M = 3.09, SD = 2.02$) and the outgroup members ($M = 2.65, SD = 1.65$), $t(22) = -1.34, p = .19$.

An exploratory analysis was then conducted to determine if levels of offence severity differed across ingroup members in the intragroup condition, the ingroup member in the traitor condition, and the outgroup members in the outgroup ostracism condition. A one-way ANOVA revealed that levels of severity reported by participants did not significantly differ across conditions, $F(2, 66) = 2.60, p = .08$. That is, participants rated the severity of the offence by their transgressing ingroup members equally, regardless of whether the ingroup member was a traitor or not. Similarly,

participants felt the severity of the offence was equal in both the intergroup and intragroup conditions, by transgressing outgroup and ingroup members respectively.

Evidence of the Black Sheep Effect

Analyses were conducted on the two emotion subscales to determine if the cyberostracism manipulation revealed evidence for a black sheep effect. Participants placed in the control condition were expected to feel more positive emotions toward the likeable ingroup member compared to the likeable outgroup members, illustrating an ingroup bias. Furthermore, in the traitor condition participants were expected to feel more negative emotions toward the now unlikeable ingroup member (traitor) compared to the unlikeable outgroup members. Such a pattern of results would demonstrate evidence of a black sheep effect.

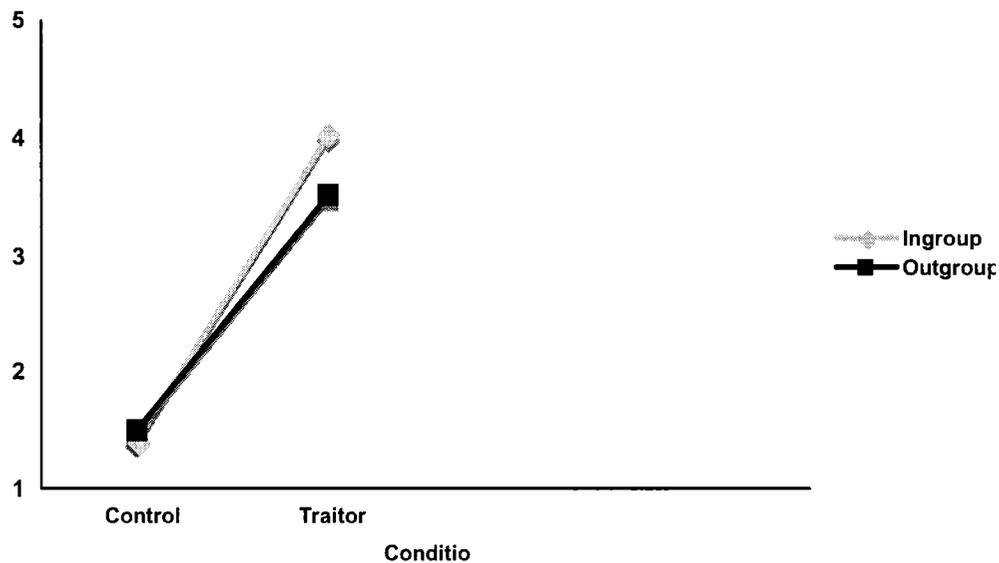
Positive Emotions. A 2 between (condition: control vs. traitor) x 2 within (player: ingroup vs. outgroup) mixed model ANOVA on participants' positive emotions toward the Cyberball players revealed a significant main effect for condition ($M_s = 4.65, 2.47$, respectively), $F(1, 44) = 33.65, p < .001, \eta_p^2 = .43$, but not for player, $F(1, 44) = 2.38, p = .13$. These results were qualified by a significant two-way Condition x Player interaction, $F(1, 44) = 4.24, p = .046, \eta_p^2 = .09$. Follow-up simple effects analysis revealed a significant effect for the control condition, $F(1, 44) = 6.48, p < .05$, but not for the traitor condition, $F(1, 44) = 0.13, ns$. As predicted, positive emotion ratings in the control condition were higher for the ingroup member ($M = 4.93, SD = 1.52$) than the outgroup members ($M = 4.37, SD = 1.47$).

Negative Emotions. To determine if participants felt more negative emotions toward the unlikeable ingroup player rather than the unlikeable outgroup players, a

second 2 between (condition: control vs. traitor) x 2 within (player: ingroup vs. outgroup) mixed model ANOVA was conducted. A main effect for condition ($M_s = 1.47, 3.77$) was found, $F(1, 44) = 35.09, p < .001, \eta_p^2 = .44$. This effect was qualified by a significant two-way Condition x Player interaction, $F(1, 44) = 5.00, p = .03, \eta_p^2 = 0.10$. Follow-up simple effects analysis revealed a significant effect for the traitor condition, $F(1, 44) = 7.30, p < .01$, but not for the control condition, $F(1, 44) = 0.21, ns$. As predicted, participants in the traitor condition felt more negative emotions toward the ingroup member (traitor) ($M = 4.02, SD = 1.78$) than toward the outgroup members ($M = 3.52, SD = 1.74$) (as seen in Figure 2).

It was also hypothesized that the presence of a traitor would lessen the amount of negative emotions directed at the outgroup transgressors. An analysis of the negative emotions directed at the outgroup members ($M = 3.52, SD = 1.74$) in the traitor condition, versus the outgroup ostracism condition ($M = 3.67, SD = 1.91$) indicated that negative emotions did not significantly differ across these conditions, $t(44) = -.27, p = .79$.

Figure 2. Interaction plot showing mean negative emotion ratings for the ingroup and outgroup members as a function of condition.



Forgiving the Act of Cyberostracism

Forgiveness within the traitor condition. To determine whether the black sheep effect was also influential on the forgiveness findings, a one-tailed paired samples t-test was conducted on participants within the traitor condition. It was expected that within this condition, forgiveness would be lower for the unlikeable ingroup member (traitor) compared to the unlikeable outgroup members. Contrary to this hypothesis, the ingroup player ($M = 4.93$, $SD = 1.52$) was not forgiven significantly less than the outgroup players ($M = 5.03$, $SD = 1.49$), $t(22) = .42$, $p = .34$.

Forgiveness between conditions. An exploratory analysis was conducted to determine if levels of forgiveness differed across ingroup members in the intragroup condition, the ingroup member in the traitor condition, and the outgroup members in the outgroup ostracism condition. A one-way ANOVA revealed that levels of forgiveness reported by participants did not significantly differ across conditions, $F(2, 66) = .619, p = .54$. That is, participants forgave their transgressing ingroup members equally, regardless of whether the ingroup member was a traitor or not. Similarly, participants were equally forgiving across both the outgroup and intragroup ostracism conditions, to transgressing outgroup and ingroup members respectively. And lastly, also contrary to my hypothesis, forgiveness levels for the traitor ($M = 4.93, SD = 1.52$) were not the lowest among the conditions examined because forgiveness of the outgroup members in the outgroup ostracism condition ($M = 4.70, SD = 1.68$) were lower, but not significantly so. Ultimately, participants were forgiving of all the transgressors across the conditions.

Predicting Forgiveness

Forgiveness in the traitor condition. The impact of the transgression, as indicated by level of reported rejection, was found to predict forgiveness, $R^2 = .41, F(1, 21) = 14.79, p = .001$. Baron and Kenny's (1986) mediation analysis procedure was again used to determine if negative emotions acted as a mediator in the relationship between rejection and forgiveness. Rejection reliably predicted negative emotions directed at the traitor, $R^2 = .42, F(1, 22) = 15.17, p = .001$. And the full model was also significant, $F(1, 22) = 11.08, p = .001$, and it accounted for 53% of the total variance ($R^2 = .53$). Within the full model, the coefficient associated with negative emotion was significant, $\beta = -.44, t(23) = -2.17, p = .04$, while the level of rejection variable no longer significantly

predicted willingness to forgive, $\beta = -.36$, $t(23) = -1.77$, $p = .09$. Preacher and Hayes (2004) bootstrapping technique (with 1000 iterations) was then employed to determine whether the indirect effect of rejection on forgiveness, via negative emotion, was significantly different than zero. The indirect effect was estimated to lie between -1.20 and -.08 with 95% confidence. Therefore, the indirect effect is significant as zero is not in the 95% confidence interval.

Avoidance Measure

Avoiding the traitor. To examine whether participants wished to avoid the ingroup member (traitor) after a transgression, but not in the control condition, chi-square analyses were conducted to determine if a significant relationship existed between condition and choice of player. Due to a gender effect, separate analyses were conducted for females and males. Contrary to my hypothesis, female participants did not choose the Carleton player significantly less in the traitor condition ($3/16 = 0.19$) versus the control condition ($3/9 = 0.33$), $\chi^2(1, N = 25) = .67$, $p = .41$. Likewise, males also did not choose the Carleton player significantly less in the traitor condition ($5/7 = 0.71$) versus the control condition ($5/14 = 0.36$), $\chi^2(1, N = 21) = 2.39$, $p = .12$.

Discussion

The main goal of Experiment 2 was to go beyond the self-report measures in Experiment 1 by assessing a behavioral reaction to cyberostracism, namely a desire to avoid the traitor. It was predicted that when given the chance to choose a teammate for another game of Cyberball, participants would avoid playing with the ingroup member who acted as a traitor. Instead, participants would choose an outgroup member as a teammate. This, however, was found not to be the case. Participants did not display a

preference to play with the ingroup member in the control condition, nor did they display a preference to avoid the ingroup member in the traitor condition.

One explanation for this result may be found by examining the level of forgiveness attained for the transgressors in Experiment 2. Participants reported high levels of forgiveness for the traitor, suggesting that the offence committed by the traitor was forgiven. Forgiveness is often defined as a reduction in one's desire to seek revenge against a transgressor, and equally importantly, a reduction in one's desire to avoid the transgressor (McCullough et al., 1997). Given that participants reported forgiving the traitor, there would be no reason for participants to avoid the traitor. Essentially, the high forgiveness scores coupled with the lack of desire to avoid the traitor strongly suggest that participants truly forgave their transgressors for ostracizing them from the game.

It is possible that participants did not preferentially select their ingroup member as a teammate in the control condition because any prejudice they had toward the outgroup may have subsided after playing a Cyberball round in which everyone played fairly. That is, if people expect to be rejected by the outgroup (Frey & Tropp, 2006), but then find themselves included by the outgroup, they would have no reason to distrust outgroup members, especially in a seemingly low risk situation such as Cyberball. Therefore, within the control condition, the selection of either an ingroup or outgroup member is not surprising.

Participants, in general, did not seek to avoid the traitor, but female participants, compared to male participants, did choose the traitor as their teammate significantly less often. This finding suggests that women were more unwilling to interact with the traitor, and research on indirect aggression may help explain this initially puzzling gender

difference. Studies examining indirect aggression have reported that girls from the age of 11 and on are more likely to use indirect aggression tactics against victims, whereas boys use physical and verbal tactics more often (Osterman et al., 1998). Perhaps, women saw the choice of a teammate as an opportunity for indirect aggression against the traitor and capitalized on this by selecting the outgroup members more often as their teammates. However, this explanation is at odds with the fact that women reported forgiving the traitor. The forgiveness literature has yet to reveal consistent gender effects on the process of forgiveness, so exactly what is driving the gender difference found in the avoidance measure is difficult to conclude (Toussaint & Webb, 2005).

Although the forgiveness measure in Experiment 2 did not reveal a black sheep effect (i.e., participants were equally forgiving of both unlikable ingroup and unlikeable outgroup members), such an effect was evident in the emotional responses reported by participants. In the control condition, participants displayed the typical ingroup favoritism bias by reporting more positive emotions when thinking about ingroup, rather than outgroup, members. However, in the traitor condition participants reported more negative emotions when thinking about the unlikeable ingroup members, compared to the unlikeable outgroup members.

The negative emotions felt toward the traitor, combined with the fact that participants felt more hurt by the transgression when it was committed by the traitor rather than by an outgroup member, would suggest that forgiveness for deviant ingroup members should be lower than forgiveness for deviant outgroup members. Yet, participants were equally forgiving of both groups despite these differences in negative emotions and hurt. Perhaps participants simply judged the transgression as a forgivable

offence, and therefore differences in forgiveness for ingroup and outgroup members were not found. Similarly, forgiveness of deviant outgroup and ingroup members across all three of the ostracism conditions did not differ. It would appear that differences in forgiveness based on the group membership of the transgressor were only elicited in intergroup contexts in which the identity of both transgressors was salient, and furthermore only in Experiment 1.

As in Experiment 1, the impact of the transgression in Experiment 2 (i.e., level of rejection reported by participants) predicted forgiveness of the traitor. Furthermore, this relationship was influenced by negative emotions, such that an increase in rejection led one to experience more negative emotions, and consequently less forgiveness for the traitor. Participants who felt ostracized in the Cyberball game likely felt that this experience threatened their positive self-image. External events, such as ostracism, that threaten one's view of the self must be warded off in order to maintain a positive view of the self (Baumeister, Dale, & Sommer, 1998). Correspondingly, after experiencing cyberostracism, not forgiving a transgressor may have been a defensive strategy used by participants to protect their self-image (Eaton, Struthers, & Santelli, 2006). The mediation analysis from Experiment 2 reveals that this defensive act was predicted by an increase in negative emotions. This finding seems appropriate given that anger, an inherently defense oriented emotion (Hansen & Sassenberg, 2006), was one of the main emotions in the negative emotion subscale.

General Discussion

Experiment 1 found support for the prediction that a traitor would be forgiven less compared to a similarly transgressing outgroup member. However, evidence for a black

sheep effect in Experiment 2 was restricted to the emotional reactions reported by participants, and did not extend over to the forgiveness findings. Participants felt more negative emotions toward the traitor, but ultimately did not forgive the traitor less than the outgroup members.

Although evidence for a black sheep effect was found in the present studies, the process through which this effect occurred likely differs from the original conception of the black sheep effect. Previous studies examining this phenomenon have concluded that the black sheep effect results from identity concerns on the part of ingroup members. Unlikeable ingroup members are seen as a threat to the positive identity needs of fellow ingroup members (Marques et al., 1988). In past black sheep studies, unlikeable ingroup members are typically defined by undesirable traits (e.g., unattractiveness) or undesirable acts (e.g., a poor public speech performance). In comparison to the current studies, these are somewhat minor infractions that would colour someone as an unlikeable group member. Ostracism, at the expense of the ingroup member and to the benefit of outgroup members, is a more severe offense. Specifically, ostracism is an act of personal rejection that defies group norms and moral concerns, and ultimately it brands the unlikeable ingroup member as a traitor. Given the nature of this transgression, it would be naïve to conclude that participants displayed a black sheep effect due solely to group identity concerns. Rather, participants' reactions to the traitor are more likely accounted for by the personal affront of the transgression as well as its norm violating nature.

According to moral foundations theory (Haidt & Graham, 2007), there are five psychological components to morality: harm or care, fairness or reciprocity, ingroup or loyalty, authority or respect, and purity or sanctity. The traitor in the Cyberball game

violated the first three of these psychological components, and had arguably become more than simply an unlikeable ingroup member who elicited identity concerns. Fincham (2000) has suggested that transgressions seen as immoral acts are more difficult to forgive than transgressions not perceived in such terms. So arguably, participants were affected to a greater extent by the transgression when at the hands of their group member because this act violated a sense of group morality. Simply put, group morality holds that ingroup members should follow norms that benefit ingroup members (Cohen, Montoya, & Insko, 2006). Ostracism at the hands of an ingroup member is unjust (i.e., it is perceived in moral terms), whereas ostracism at the hands of an outgroup is less unexpected. Given these considerations, the black sheep effect observed in the present studies was a result of the cyberostracism manipulation, which likely aroused identity concerns as well as more personal feelings of rejection and hurt.

Yet why was it that a black sheep effect impacted the forgiveness of deviant ingroup members in Experiment 1, but not in Experiment 2? In Experiment 2, participants reported being more hurt by the actions of the traitor, and they felt more negative emotions toward this player. However, these findings did not translate into lower forgiveness scores for the traitor. The most reasonable explanation for the discrepancy in the forgiveness scores may be accounted for by the methodological differences between Experiment 1 and Experiment 2. For example, the group membership of the Cyberball players was changed from Canadians and Americans in Experiment 1, to Carleton and Ottawa University students in Experiment 2. The goal of this change was to replicate the findings from Study 1 while at the same time generalizing the findings to a different context. However, the fact that the black sheep

effect only affected forgiveness scores in Experiment 1 may be indicative of a stronger identification among participants to their national identity, as compared to their school identity. Although the ingroup identification scores were nearly identical between Experiment 1 and Experiment 2 (5.71 and 5.78, respectively), recent research has shown that Canadians strongly identify with their country, as indicated by a national pride average that places Canadians fifth among 32 nations (Smith & Kim, 2006). By comparison, participants may not have identified as strongly with their school identity. A school identity is more transient than a national identity, and researchers have shown that one's level of identification with a group incorporates a temporal component (Clegg, Rhodes, & Kornberger, 2007). Perhaps a difference between the two ingroup identities was not detected because each time identity was measured it was compared with how much participants also identified with the outgroup. Conversely, if participants were asked how much they identified with their national identity or their school identity, a sizeable difference may have been detected. Importantly, if participants did identify more strongly with their national identity this may mean that they were more affected by the transgression of the Canadian and thus perceived this individual as more of a traitor than the deviant Carleton student, all of which may have led them to be less forgiving of the Canadian traitor. Furthermore, given that the concept of a traitor is intimately linked to ideas concerning patriotism, this may be a viable reason for the discrepancy of the forgiveness scores between experiments 1 and 2.

In addition to the difference of the forgiveness scores being less between the ingroup and outgroup in Experiment 2 compared to Experiment 1, a second discrepancy between the two studies is that the average forgiveness scores differed by nearly one

point. Participants were less forgiving in Experiment 1, and this finding is not surprising if the abovementioned explanation is correct. If participants were more affected by the transgression in Experiment 1 because the identity of the transgressor was more important to them, then one would expect them to be less forgiving of the offence under this situation.

Another possibility for the difference in the forgiveness scores between the two studies may be due to the fact that the group playing Cyberball in Experiment 2 was larger than the group in Experiment 1. A third computer player was added to the Cyberball game in Experiment 2 to create a situation with two ingroup members and two outgroup members. It was hoped that this modification would increase the impact of the manipulation, but conversely it seemed to dull the effect. Participants were, on average, more forgiving of the cyberostracism offence while playing with the larger group in Experiment 2. Perhaps the addition of a second outgroup member, took some of the participant's attention away from the act being committed by the traitor. Instead of intensifying the role played by the traitor, the addition of this second outgroup member may have diffused responsibility for the transgression across three players, instead of simply two players, ultimately resulting in lower forgiveness scores in Experiment 1 than in Experiment 2.

According to the black sheep effect, unlikeable ingroup members are derogated more than equally unlikeable outgroup members. The cyberostracism manipulation employed in this study effectively created unlikeable ingroup and outgroup members because individuals who reject others are often rated as less likeable (Pepitone & Wilpizeski, 1960). Furthermore, the cyberostracism manipulation also served as a useful

transgression in the laboratory setting. One challenge in conducting forgiveness research is creating realistic transgressions for participants to experience (Brown & Phillips, 2005), while not causing participants too much distress. The results from my study suggest that Cyberball is one option for researchers interested in overcoming this challenge. On average, participants reported moderate levels of anger, indicating that Cyberball does have a negative impact on those who play it. However, participants also reported low levels of fear, which would suggest that cyberostracism is not too intense to warrant restricting its use in psychology experiments. Perhaps the most persuasive evidence of Cyberball's usefulness as a transgression can be seen in the forgiveness scores reported by participants. In Experiment 1, the generally moderate levels of forgiveness reported by participants illustrate that the cyberostracism manipulation affected them, but not so severely as to make the option of forgiveness unthinkable.

Limitations

Although Cyberball appeared to be a useful transgression for the study of forgiveness in a laboratory setting, several caveats should be noted. Written descriptions from participants, as well as anecdotal information, suggest that the mental visualization cover story may have unintended effects on the experiment. Several female participants reported visualizing the ostracizing players as males and this can result in a crossed categorization context, as opposed to a simple ingroup versus outgroup situation. According to the crossed categorization model, the differentiation between two groups can be weakened in situations where another group membership is simultaneously salient (Crisp, Walsh, & Herostone, 2006). Some female participants in Experiment 2 imagined the players rejecting them to be males, and this had the potential to confound the simple

school identity context of the experiment. If women pictured the transgressing ingroup member as a male, then the effect of the traitor may be lost because the deviant ingroup member (i.e., fellow Carleton student) could then be perceived as a deviant outgroup member (i.e., male). This is an important caveat for the current findings (in Experiment 2, 65% of the participants were female) and for future research, because psychology classes typically have higher proportions of women than men (Bornstein, Kaplan, & Perry, 2007).

Cyberball presents participants with a specific transgression, namely exclusion. Future studies investigating the forgiveness of a traitor should be designed with an array of transgressions. Relying solely on the use of rejection as a transgression would limit the generalizability of any findings because specific emotional reactions may be more associated with exclusion (Twenge & Baumeister, 2005) than with other offences. To adequately explore the emotional and behavioural responses, different scenarios incorporating different transgressions are necessary. Researchers may also want to construct situations in which participants' reactions to a traitor are measured only after participants identify someone as a traitor. The experiments presented here did not require participants to identify the deviant ingroup member as a traitor. Rather, a laboratory setting was created in which participants could potentially view the deviant ingroup member as a traitor. However, it is possible that creating a stronger association between a deviant ingroup member and traitor (e.g., by explicitly labelling the deviant as a traitor) would affect one's reactions to this individual.

Analysis of specific emotions targeted toward the traitor was not possible for two reasons. Firstly, the intergroup emotions questionnaire was modified, but such that only

positive and negative emotions were identified. The emotions experienced by the participants may have been more accurately assessed with a different scale, such as the Differential Emotions Scale (DES) (Izard, 1991). The DES provides scores for ten fundamental emotions, and numerous studies have supported the construct validity of this scale (O'Grady & Janda, 1989).

Secondly, the sample size was not large enough to conduct a multiple regression analysis in which many emotion predictors could be entered into the model, as a minimum of 10 cases per variable is typically standard (Brace, Kemp, & Snelgar, 2003). Also, the interpretation of the avoidance measure was limited due to a small sample size that would not permit a logistic regression analysis. Logistic regression analysis requires a minimum of 50 cases per independent variable (Grimm & Yarnold, 1995). Analysis of the avoidance measure revealed a gender effect, which would have necessitated separate analyses for men and women, and those analyses would only have sample sizes of 7 and 16, respectively.

In an effort to more fully understand the participants' reactions to the traitor, an open-ended question at the end of Experiment 2 may have been a worthwhile undertaking. One participant mentioned to the researcher that she chose the traitor as her teammate for another game because she felt this player deserved a second chance. Such a statement may be indicative of forgiveness, and if each participant had been asked why she or he did, or did not, choose the traitor, a better understanding of the participants' reactions to the traitor may have been achieved.

Conclusion

Along with the benefits provided by group membership, come rules that regulate one's behaviour and thus one's acceptance among a group. These rules are often referred to as group norms, and they can be either implicit or explicit. Violating a norm can result in being labelled a deviant, or under more extreme circumstances a traitor. Ingroup members are expected to favour fellow ingroup members, and a substantial literature has investigated the role of norms within group relations. Ingroup members who challenge group norms tend to be derogated, and group members will prefer to associate with an outgroup member who agrees with their position rather than an ingroup member who does not (Eidelman, Silvia, & Biernat, 2006). Research examining the black sheep effect has furthered the discourse on deviant ingroup members, and the present two studies attempted to extend findings concerning the black sheep effect into the realm of traitors and forgiveness. Specifically, results from Experiment 1 supported the hypothesis that a traitor would be treated as a black sheep and therefore forgiven less than an outgroup member who committed the same transgression as the traitor. However, this effect was not found to affect forgiveness for the traitor in Experiment 2, and this difference between the two experiments is perhaps most likely accounted for by the methodological differences between these studies. It is hoped that the experiments described here can provide preliminary information on how people react when a traitor is among them. More research is needed to determine under what circumstances a traitor will be treated as a black sheep, and whether the evaluation of a traitor as a black sheep has important implications for behavioral interactions between group members.

References

- Abrams, D., Marques, J. M., Randsley de Moura, G., Hutchinson, P., & Bown, N. J. (2004). The maintenance of entitativity: A subjective group dynamics approach. In V. Yzerbyt, C. M. Judd, & O. Corneille (Eds.), *The psychology of group perception: Perceived variability, entitativity, and essentialism*. (pp. 361-379). New York: Psychology Press.
- Abrams, D., Randsley de Moura, G., Hutchinson, P., & Viki, G. T. (2005). When bad becomes good (and vice versa): Why social exclusion is not based on difference. In D. Abrams, M. A. Hogg, & J. M. Marques (Eds.), *The social psychology of inclusion and exclusion* (pp. 161-190.) New York: Psychology Press.
- Atlas, G. & Morier, D. (1994). The sorority rush process: Self-selection, acceptance criteria, and the effect of rejection. *Journal of College Student Development*, 35, 346-353.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Baumeister, R. F. (Ed.). (1993) *Self-esteem: The puzzle of low self-regard*. New York: Plenum.
- Baumeister, R. F., Dale, K., & Sommer, K. L. (1998). Freudian defense mechanisms and empirical findings in modern social psychology: Reaction formation, projection, displacement, undoing, isolation, sublimation, and denial. *Journal of Personality*, 66, 1081-1124.

- 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.
- Bornstein, B. H., Kaplan, D. L., & Perry, A. R. (2007). Child abuse in the eyes of the beholder: Lay perceptions of child sexual and physical abuse. *Child Abuse & Neglect*, 31, 375-391.
- Brace, N., Kemp, R., & Snelgar, R. (2003). *SPSS for psychologists. A guide to data analysis using SPSS for Windows*. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Branscombe, N. R., Wann, D. L., Noel, J. G., & Coleman, J. (1993). In-group or out-group extremity: Importance of the threatened social identity. *Personality and Social Psychology Bulletin*, 19, 381-388.
- Brewer, M. B. (1979). In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin*, 86, 307-324.
- Brewer, M. B. (2003). *Intergroup relations*. Philadelphia, PA: Open University Press.
- Brown, R., & Phillips, A. (2005). Letting bygones be bygones: Further evidence for the validity of the Tendency to Forgive Scale. *Personality and Individual Differences*, 38, 627-638.
- Clegg, S. R., Rhodes, C., & Kornberger, M. (2007). Desperately seeking legitimacy: Organizational identity and emerging industries. *Organization Studies*, 28, 495-513.

- Cohen, T. R., Montoya, R. M., & Insko, C. A. (2006). Group morality and intergroup relations: Cross-cultural and experimental evidence. *Personality and Social Psychology Bulletin, 32*, 1559-1572.
- Coyle, C.T., & Enright, R.D. (1997). Forgiveness intervention with postabortion men. *Journal of Consulting and Clinical Psychology, 65*, 1042-1046.
- Crisp, R. J., Walsh, J., & Hewstone, M. (2006). Crossed categorization in common ingroup contexts. *Personality and Social Psychology Bulletin, 32*, 1204-1218.
- Eaton, J., Struthers, C. W., & Santelli, A. G. (2006). The mediating role of perceptual validation in the repentance-forgiveness process. *Personality and Social Psychology Bulletin, 32*, 1389-1401.
- Eidelman, S., Silvia, P. J., & Biernat, M. (2006). Responding to deviance: Target exclusion and differential devaluation. *Personality and Social Psychology Bulletin, 32*, 1153-1164.
- Enright, R.D., Freedman, S., & Rique, J. (1998). The psychology of interpersonal forgiveness. In R.D. Enright & J. North (Eds.), *Exploring forgiveness* (pp. 46-62.) Madison, WI: University of Wisconsin Press.
- Fincham, F. D. (2000). The kiss of the porcupines: From attributing responsibility to forgiving. *Personal Relationships, 7*, 1-23.
- Fincham, F. D. & Beach, S. R. (2002). Forgiveness in marriage: Implications for psychological aggression and constructive communication. *Personal Relationships, 9*, 239-251.
- Fincham, F.D., Beach, S.R., & Davila, J. (2004). Forgiveness and conflict resolution in marriage. *Journal of Family Psychology, 18*, 72-81.

- Fitness, J. (2001). Betrayal, rejection, revenge, and forgiveness: An interpersonal script approach. In M. R. Leary (Ed.), *Interpersonal rejection* (pp. 73-103). New York: Oxford University Press.
- Frey, F. E., & Tropp, L. R. (2006). Being seen as individuals versus as group members: Extending research on metaperception to intergroup contexts. *Personality and Social Psychology Review*, *10*, 265-280.
- Friedberg J. P., Adonis, M. N., Von Bergen H. A., Suchday S. (2005). September 11th related stress and trauma in New Yorkers. *Stress and Health*, *8*, 53-60.
- Girard, M., & Mullet, E. (1997). Forgiveness in adolescents, young, middle-aged, and older adults. *Journal of Adult Development*, *4*, 209-220.
- Grimm, L.G. & Yarnold, P.R. eds. (1995). *Reading and Understanding Multivariate Statistics*. Washington D.C.: American Psychological Association.
- Haidt, J., & Graham, J. (2007). When morality opposes justice: Conservatives have moral intuitions that liberals may not recognize. *Social Justice Research*, *20*, 98-116.
- Hansen, N., & Sassenberg, K. (2006). Does social identification harm or serve as a buffer?: The impact of social identification on anger after experiencing social discrimination. *Personality and Social Psychology Bulletin*, *32*, 983-996.
- Hirt, E., Zillmann, D., Erickson, G., & Kennedy, C. (1992). Costs and benefits of allegiance: Changes in fans' self-ascribed competencies after team victory versus defeat. *Journal of Personality and Social Psychology*, *63*, 724-738.
- Hogg, M. A., D'Agata, P., & Abrams, D. (1989). Ethnolinguistic betrayal and speaker evaluations among Italian Australians. *Genetic, Social, and General Psychology Monographs*, *115*, 155-181.

- Izard, C. E. (1991). *The psychology of emotions*. New York: Plenum Press.
- Karremans, J. C., Van Lange, P. A. M., & Holland, R. W. (2005). Forgiveness and its associations with prosocial thinking, feeling, and doing beyond the relationship with the offender. *Personality and Social Psychology Bulletin, 31*, 1315-1326.
- Lawler, K. A., Younger, J. W., Piferi, R. L., Billington, E., Jobe, R., Edmondson, K. & Jones, W. H. (2003). A change of heart: Cardiovascular correlates of forgiveness in response to interpersonal conflict. *Journal of Behavioral Medicine, 26*, 373-393.
- Lazarus, R. S. (1991). *Emotion and Adaptation*. New York: Oxford University Press.
- Leary, M. R., Koch, E. J., & Hechenbleikner, N. R. (2001). Emotional responses to interpersonal rejection. In M. R. Leary (Ed.), *Interpersonal rejection* (pp. 73-103). New York: Oxford University Press.
- Leary, M. R., Springer, C., Negel, L., Ansell, E., & Evans, K. (1998). The causes, phenomenology, and consequences of hurt feelings. *Journal of Personality and Social Psychology, 74*, 1225–1237.
- Marques, J. M., Abrams, D., Paez, D., & Martinez-Taboada, C. (1998). The role of categorization and in-group norms in the judgments of groups and their members. *Journal of Personality and Social Psychology, 75*, 976-988.
- Marques, J. M., Paez, D., & Abrams, D. (1998). Social identity and intragroup differentiation as subjective social control. In S. Worchel, J. F. Morales, D. Paez, & J. C. Deschamps (Eds.), *Social identity: International perspectives* (pp. 124-141). Thousand Oaks, CA: Sage Publications Inc.

- Marques, J. M., & Yzerbyt, V. Y. (1988). The black sheep effect: Judgmental extremity towards ingroup members in inter- and intra-group situations. *European Journal of Social Psychology, 18*, 287-292.
- Marques, J. M., Yzerbyt, V. Y., & Leyens, J. P. (1988). The 'black sheep effect': Extremity of judgments towards ingroup members as a function of group identification. *European Journal of Social Psychology, 18*, 1-16.
- McCullough, M. E., Fincham, F. D., & Tsang, J. (2003). Forgiveness, forbearance, and time: The temporal unfolding of transgression related interpersonal motivations. *Journal of Personality and Social Psychology, 84*, 540-557.
- McCullough, M. E., Rachal, K.C., Sandage, S. J., Worthington, E. L., Brown, S. W., & Hight, T. L. (1998). Interpersonal forgiving in close relationships: II. Theoretical elaboration and measurement. *Journal of Personality and Social Psychology, 75*, 1586-1603.
- McCullough, M. E., & Worthington, E. L. (1995). Promoting forgiveness: A comparison of two brief psychoeducational group interventions with a waiting-list control. *Counseling and Values, 40*, 55-68.
- McCullough, M. E., Worthington, E. L., & Rachal, K. C. (1997). Interpersonal forgiving in close relationships. *Journal of Personality and Social Psychology, 73*, 321-336.
- McLernon, F., Cairns, E., Hewstone, M., & Smith, R. (2004). The development of intergroup forgiveness in Northern Ireland. *Journal of Social Issues, 60*, 587-601.
- Moreland, R. L., & McMinn, J. G. (1999). Gone, but not forgotten: Loyalty and betrayal among ex-members of small groups. *Personality and Social Psychology Bulletin, 25*, 1484-1494.

- Nadler, A., & Liviatan, I. (2006). Intergroup reconciliation: Effects of adversary's expressions of empathy, responsibility, and recipients' trust. *Personality and Social Psychology Bulletin*, *32*, 459-470.
- O'Grady, K. E., & Janda, L. H. (1989). The effects of anonymity and dissimulation on the differential emotions scale. *Personality and Individual Differences*, *10*, 1033-1040.
- Osterman, K., Bjorkqvist, K., Lagerspetz, K. M. J., Kaukiainen, A., Landau, S. F., Fraczek, A., & Caprara, G. V. (1998). Cross-cultural evidence of female indirect aggression. *Aggressive Behavior*, *24*, 1-8.
- Pepitone, A., & Wilpizeski, C. (1960). Some consequences of experimental rejection. *Journal of Abnormal and Social Psychology*, *60*, 359-364.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers*, *36*, 717-731.
- Randall, W. S. (1990). *Benedict Arnold: Patriot and traitor*. New York: William Morrow and Company, Inc.
- Shaver, P., J. Schwartz, D. Kirson, and C. O'Connor. (1987). Emotion knowledge: Further exploration of a prototype approach. *Journal of Personality and Social Psychology* *52*, 1061-86.
- Smith, T. W., & Kim, S. (2006). National pride in comparative perspective: 1995/96 and 2003/04. *International Journal of Public Opinion Research*, *18*, 127-136.
- Sommer, K. L., Williams, K. D., Ciarocco, N. J., & Baumeister, R. F. (2001). When silence speaks louder than words: Explorations into the intrapsychic and

- interpersonal consequences of social ostracism. *Basic and Applied Social Psychology*, 2, 225-243.
- Tajfel, H. (1970). Experiments in intergroup discrimination. *Scientific American*, 223, 96-102.
- Tajfel, H. (1978). Social categorization, social identity and social comparison. In H. Tajfel (Ed.), *Differentiation between social groups: Studies in the social psychology of intergroup relations* (pp. 61-76). London: Academic Press.
- Tajfel, H., & Billig, M. (1974). Familiarity and categorization in intergroup behavior. *Journal of Experimental Social Psychology*, 10, 159-170.
- Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behaviour. *European Journal of Social Psychology*, 1, 149-178.
- Tajfel, H., Jaspers, J. M. F., & Fraser, C. (1984). The social dimension in European social psychology. In H. Tajfel (Ed.), *The social dimension: European developments in social psychology* (pp. 1-5). Cambridge: Cambridge University Press.
- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel and L. W. Austin (Eds.), *Psychology of intergroup relations* (pp. 7-24). Chicago, IL: Nelson-Hall
- Tam, T., Hewstone, M., Cairns, E., Tausch, N., Maio, G., & Kenworthy, J. (2007). The impact of intergroup emotions on forgiveness in Northern Ireland. *Group Processes and Intergroup Relations*, 10, 119-136.
- Toussaint, L., & Webb, J. R. (2005). Gender differences in the relationship between empathy and forgiveness. *Journal of Social Psychology*, 145, 673-685.

- Turner, J. C. (1982). Toward a cognitive redefinition of the social group. In H. Tajfel (Ed.), *Social identity and intergroup behavior* (pp. 15-40). Cambridge, England: Cambridge University Press.
- Tutu, D. (1999). *No future without forgiveness*. London: Random House.
- Twenge, J. M., & Baumeister, R. F. (2005). Social exclusion increases aggression and self-defeating behavior while reducing intelligent thought and prosocial behavior. In D. Abrams, M. A. Hogg, & J. M. Marques (Eds.), *The social psychology of inclusion and exclusion* (pp. 27-46.) New York: Psychology Press.
- Van Prooijen, J. (2006). Retributive reactions to suspected offenders: The importance of social categorizations and guilt probability. *Personality and Social Psychology Bulletin*, 32, 715-726.
- 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: The Guilford Press.
- 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., Govan, C. L. (2005). Reacting to ostracism: Retaliation or reconciliation? In D. Abrams, M. A. Hogg, & J. M. Marques (Eds.), *The social psychology of inclusion and exclusion* (pp. 47-62.) New York: Psychology Press.
- Williams, K. D., Govan, C. L., Croker, V., Tynan, D., Cruickshank, M., & Lam, A. (2002). Investigations into differences between social- and cyberostracism. *Group dynamics: Theory, research, and practice*, 6, 65-77.

- Williams, K. D., & Zadro, L. (2001). Ostracism: On Being Ignored, Excluded, and Rejected. In M. R. Leary (Ed.), *Interpersonal rejection* (pp. 73-103). New York: Oxford University Press.
- Witvliet, C. V. O., Ludwig, T. E., & Vander Laan, K. L. (2001). Granting forgiveness or harboring grudges: Implications for emotion, physiology, and health. *Psychological Science, 12*, 117-123.
- Wohl, M. J. A., & Branscombe, N. R. (2005). Forgiveness and collective guilt assignment to historical perpetrator groups depends on level of social category inclusiveness. *Journal of Personality and Social Psychology, 88*, 288-303.
- Wohl, M. J. A., & Reeder, G. D. (2004) When bad deeds are forgiven: Judgments of morality and forgiveness for intergroup aggression. In J. P. Morgan (Ed.), *Focus on aggression research* (pp. 59-74). New York: Nova Science Publishers, Inc.
- Ysseldyk, R., Matheson, K., & Anisman, H. (2007). Rumination: Bridging a gap between forgivingness, vengefulness, and psychological health. *Personality and Individual Differences, 42*, 1573-1584.
- Zechmeister, J. S., & Romero, C. (2002). Victim and offender accounts of interpersonal conflict: Autobiographical narratives of forgiveness and unforgiveness. *Journal of Personality and Social Psychology, 82*, 675-686.

Appendix A: Statement of Informed Consent

The purpose of an informed consent is to insure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study.

Study Title: Mental Visualization

Faculty Sponsor: Dr. Michael J. A. Wohl Tel. 520-2600 ext. 2908; EMAIL: michael_wohl@carleton.ca

Principle Investigators: April McGrath Tel. 520-2600 ext. 6312; EMAIL: amcgrath@connect.carleton.ca

Other Researchers: Sarah Bowen

If you have any ethical concerns about how this study please contact Dr. C. Davis (Chair of the Carleton University Research Ethics Committee for Psychological Research , 520-2600, ext. 2251) or Dr. M. Gick (Chair of the Department of Psychology at Carleton University, 520-2600, ext. 2648).

Purpose and Task requirements: The aim of the present study is to understand mental visualization in Canada⁶ and the United States. In order to assess mental visualization, you will first play a cyber game of catch over the internet (cyberball). Specifically, you will be connected to a network with other Canadians and Americans. After this mental visualization task you will be asked to complete a series of questionnaires about this task and your perceptions of your interaction with the other players. The time to complete the session will be approximately 45 min. You will receive one experimental credit for you participation.

Potential risk/discomfort. Some people can become stressed by internet interactions.

Right to withdraw and Anonymity/confidentiality. Your participation in this study is entirely voluntary. At any point during the study you have the right to not complete certain questions or to withdraw with no penalty whatsoever. The data collected in this experiment are confidential. All data are coded such that your name is not associated with the data. The coded data are made available only to the researchers associated with this project.

I have read the above description of the study entitled "Mental Visualizations." The data collected will be used in research publications and/or for teaching purposes. My signature indicates that I agree to participate in the study, and this in no way constitutes a waiver of my rights.

Full Name (please print): _____

Participant Signature: _____

Date: _____

Researcher Signature: _____

Date: _____

⁶ In Experiment 2, appropriate changes were made to the statement of informed consent, the informed consent form to the use of data, and the debriefing statement in order to reflect the new group identities (i.e., Carleton and Ottawa University students).

Appendix B: Informed Consent to the Use of Data

The purpose of an informed consent is to ensure that you now understand the true purpose of the study and that you agree to allow your data to be used for research and teaching purposes. Because you were only told of the procedures and not the purpose of this study at the outset, we are now asking for your consent to allow your data to be used for research and teaching purposes.

Purpose. The purpose of this study is to assess students' reactions to being socially ostracized by either ingroup members (fellow Canadians) or outgroup members (Americans). This research is attempting to look at intergroup differences in willingness to forgive. Specifically, we are examining whether people are more willing to forgive ingroup members than outgroup members for a similar transgression. We also want to examine people's willingness to forgive an ingroup member who violates group norms by associating with an outgroup member at the expense of an ingroup member.

Anonymity/Confidentiality. The data collected in this study are kept anonymous and confidential. The consent forms are kept separate from your responses.

Right to withdraw data. You have the right to indicate that you do not wish your data to be used in this study. If you indicate this is your choice, then all measures you have provided will be destroyed.

Signatures: I have read the above description of the study concerning forgiving and unforgiving people and their reactions to social ostracism. The data in the study will be used in research publications or for teaching purposes. My signature indicates that I agree to allow the data I have provided to be used for these purposes.

Full Name (Print): _____

Participant Signature: _____

Date: _____

Researcher Signature: _____

Date: _____

Appendix C: Statement of Debriefing

Participants will be asked the following questions:

1. Do you have any questions that you would like answered about the study so far?
If so, what?
2. Has there been anything about the study so far that was disrupting, puzzling, or that you wondered about?
3. Please describe in your own words what you think the study is about.

Next, participants will be informed of the general purpose of the study. As well, participants will be informed of the fact that sometimes, negative thoughts may persevere beyond the duration of the study. Experimenters will use the following script to debrief participants, prior to giving them the written debriefing form and list of contact numbers:

In the present study we were assessing students' reactions to being socially excluded (also known as social ostracism). What I could not tell you at that time is that what I am interested in is whether students' willingness to forgive others for excluding them from the ball-toss game is affected by their group memberships. In particular, we wanted to see if students are more likely to forgive others for excluding them when they are fellow Canadians, as opposed to Americans.

With this in mind, let me tell you about what happened here today. All participants were told that they would be engaging in a study that was designed to assess mental visualization skills. You were told that you would be playing a cyber game with two other students from other universities in Canada and the United States. In actuality, the other players were computer-controlled. That is, you were playing a computer simulated game of catch. Furthermore, we programmed the game so that after two initial tosses, the computer was programmed to exclude you from the game.

If you feel angry or sad at the moment, these are legitimate reactions to the Cyberball game. The game has been carefully constructed to create this effect and has been used in many studies that look at the effects of social ostracism. It was necessary to tell you that this was a real game played with real players because we wanted to understand people's real reactions.

Now, let me now tell you about another aspect of the game. It appeared to some people that they were playing against two Canadians. For other people, they played against two Americans or one Canadian and one American. We alternated the nationality of the players to assess people's willingness to forgive a fellow group member (Canadians) or a member of another group (Americans). We also wanted to see if people would be willing to forgive a member of their own group who teamed up with a member of another group.

I was unable to disclose this part of the study to you at the onset because you might have felt pressure to respond in the way you thought I expected you to, rather than reacting the

way you normally would. The possibility that some people might react on what they believed the experimenter expected is called the demand awareness effect. This can be a problem in research because my results could reflect nothing having to do with the psychological processes being studied, but could simply reflect demand awareness.

Although you now know that the players were computer-controlled, it may still be possible for you to have a negative impression of the groups used. We used Americans in this study because they are a very salient group for Canadians, not because we think Americans possess any negative attributes or that they would act in harmful ways against Canadians. In fact, a recent Maclean's Magazine poll indicated that the overwhelming majority of Americans polled would support putting American troops in harm's way to protect Canadians. The poll also revealed that Americans are likely to use words such as 'tolerant'; 'compassionate' and 'funny' when describing Canadians and like interactive with Canadians. Therefore, the majority of Americans think and behave in a positive manner toward Canadians.

Do you have any questions about this study or the procedure that was used?

<Hand participant Informed Consent Form to use of data>

The purpose of an informed consent is to ensure that you now understand the true purpose of the study and that you agree to allow your data to be used for research and teaching purposes. Because you were only told of the procedures and not the purpose of this study at the outset, we are now asking for your consent to allow your data to be used for research and teaching purposes.

If you have any questions about this study when you leave, please feel free to use the contact information on this debriefing form that you are allowed to keep.

<Hand participant debriefing sheet>

Thank you again for your participation, you may gather your things and you are free to go.

Appendix D: Experiment 1 Questionnaires

Background Questionnaire

Please answer the following questions about yourself.

1. Age: _____
2. Sex: Female/Male
3. Ethnic/Racial background: _____
4. Are you a Canadian Citizen? Yes/No
5. Are you an American Citizen? Yes/No
6. Country of residence (when not at school):
7. Country of Birth: _____
8. Please indicate the political party you feel is most aligned with your beliefs and values:
 - American Republican Party
 - American Democratic Party
 - American Green Party
 - Canadian Liberal Party
 - Canadian New Democrats
 - Canadian Conservative Party
 - Canadian Bloc Quebecois
 - Canadian Green Party
 - Other
9. Is this your first time playing Cyberball? Yes/No
10. If NO, how many times have you played Cyberball in the past?
 - 1 other time
 - 2 - 5 other times
 - More than 5 other times

Nation Identification Questionnaire

In order to better explore national differences in mental visualization we would like to know how strongly you identify as a member of both the United States and Canada. As you read the following questions, please indicate the amount you agree or disagree. Please note: Even though you may reside in only one of the countries below, we are asking you to complete this both Parts A and B of this questionnaire.

A. Identification as a Member of Canada

1. I see myself as a strong member of Canada.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

2. I am pleased to be a member of Canada.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

3. Being a member of Canada is very important to me.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

4. I feel strong ties with other people that live in Canada.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

5. Being a member of Canada is a reflection of who I am.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

6. I identify with other Canadians.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

B. Identification as a Member of the United States

1. I see myself as a strong member of the United States.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

2. I am pleased to be a member of the United States.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

3. Being a member of the United States is very important to me.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

4. I feel strong ties with other people that live in the United States.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

5. Being a member of the United States is a reflection of who I am.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

6. I identify with other Americans.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

Rejection Questionnaire

1. I felt non-existent during the Cyberball game.

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

2. I felt poorly accepted by the other participants.

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

Intergroup Emotions Scale

INSTRUCTIONS: Please indicate how much each adjective describes **how you feel at this moment**. We want you to be as honest as possible in indicating how you're feeling right now.

1. Angry

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

2. Furious

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

3. Pleasant:

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

4. Irritated

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

5. Anxious

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

6. Cheerful:

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

7. Fearful

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

8. Worried

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

9. Nervous:

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

10. Afraid

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

11. Hatred

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

12. Happy

1.....2.....3.....4.....5.....6.....7
Not at all Very much so

State Forgiveness Scale

Instructions: For the following questions, please indicate your **current thoughts and feelings toward the AMERICAN [CANADIAN] player**. Use the options located in the drop-down boxes to indicate your agreement with each of item.

1. If I were to play with the AMERICAN [CANADIAN] again and someone new, I would only throw the new person the ball.

1.....2.....3.....4.....5.....6.....7
 Strongly Disagree Disagree Neutral Agree Agree Strongly
 Disagree Somewhat Somewhat Agree

2. I hope the AMERICAN [CANADIAN] has someone not throw him/her the ball.

1.....2.....3.....4.....5.....6.....7
 Strongly Disagree Disagree Neutral Agree Agree Strongly
 Disagree Somewhat Somewhat Agree

3. I would not want to play the game again with the AMERICAN [CANADIAN].

1.....2.....3.....4.....5.....6.....7
 Strongly Disagree Disagree Neutral Agree Agree Strongly
 Disagree Somewhat Somewhat Agree

4. I understand why the AMERICAN [CANADIAN] did not throw the ball to me as much as I would have liked.

1.....2.....3.....4.....5.....6.....7
 Strongly Disagree Disagree Neutral Agree Agree Strongly
 Disagree Somewhat Somewhat Agree

5. I forgive the AMERICAN [CANADIAN] for not throwing the ball to me as much as I would have liked.

1.....2.....3.....4.....5.....6.....7
 Strongly Disagree Disagree Neutral Agree Agree Strongly
 Disagree Somewhat Somewhat Agree

Appendix E: Experiment 2 Questionnaires

Background Questionnaire

Please answer the following questions about yourself.

1. Age: _____
2. Sex: Female/Male
3. Ethnic/Racial background: _____
4. Are you a Carleton student? Yes/No
5. Are you an Ottawa University student? Yes/No
6. Country of residence (when not at school):
7. Country of Birth: _____
8. Please indicate the political party you feel is most aligned with your beliefs and values:
 - American Republican Party
 - American Democratic Party
 - American Green Party
 - Canadian Liberal Party
 - Canadian New Democrats
 - Canadian Conservative Party
 - Canadian Bloc Quebecois
 - Canadian Green Party
 - Other
9. Is this your first time playing Cyberball? Yes/No
10. If NO, how many times have you played Cyberball in the past?
 - 1 other time
 - 2 - 5 other times
 - More than 5 other times

School Identification Questionnaire

In order to better explore possible differences in mental visualization between our samples, we would like to know how strongly you identify as a member of both Carleton and Ottawa University. As you read the following questions, please indicate the amount you agree or disagree.

Please note: Even though you may attend school at just one institution below, we are asking you to complete this both Parts A and B of this questionnaire.

A. Identification as a Member of Carleton

1. I see myself as a strong member of Carleton.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

2. I am pleased to be a member of Carleton.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

3. Being a member of Carleton is very important to me.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

4. I feel strong ties with other people that live in Carleton.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

5. Being a member of Carleton is a reflection of who I am.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

6. I identify with other Carleton students.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

B. Identification as a Member of the United States

1. I see myself as a strong member of the University of Ottawa.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

2. I am pleased to be a member of the University of Ottawa.

1.....2.....3.....4.....5.....6.....7.....8
strongly disagree strongly agree

3. Being a member of the University of Ottawa is very important to me.

1.....2.....3.....4.....5.....6.....7.....8

strongly disagree

strongly agree

4. I feel strong ties with other people that live in the University of Ottawa.

1.....2.....3.....4.....5.....6.....7.....8

strongly disagree

strongly agree

5. Being a member of the University of Ottawa is a reflection of who I am.

1.....2.....3.....4.....5.....6.....7.....8

strongly disagree

strongly agree

6. I identify with other University of Ottawa students.

1.....2.....3.....4.....5.....6.....7.....8

strongly disagree

strongly agree

Rejection Questionnaire

1. I felt rejected by the other players during the Cyberball game.

1.....2.....3.....4.....5.....6.....7

Not at all

Very much so

2. I felt non-existent during the Cyberball game.

1.....2.....3.....4.....5.....6.....7

Not at all

Very much so

3. I felt poorly accepted by the other participants.

1.....2.....3.....4.....5.....6.....7

Not at all

Very much so

4. I felt as though I had made a connection or bonded with one or more of the participants during the Cyberball game.

1.....2.....3.....4.....5.....6.....7

Not at all

Very much so

Intergroup Emotions Scale

INSTRUCTIONS: Please indicate how much each adjective describes how you feel toward Carleton [Ottawa U] Player [#1, #2, #3] at this moment. We want you to be as honest as possible in indicating how you're feeling right now.

1. Angry

1.....2.....3.....4.....5.....6.....7
 Not at all Very much so

2. Sad

1.....2.....3.....4.....5.....6.....7
 Not at all Very much so

3. Frustrated:

1.....2.....3.....4.....5.....6.....7
 Not at all Very much so

4. Happy

1.....2.....3.....4.....5.....6.....7
 Not at all Very much so

5. Embarrassed

1.....2.....3.....4.....5.....6.....7
 Not at all Very much so

6. Content:

1.....2.....3.....4.....5.....6.....7
 Not at all Very much so

7. Humiliated

1.....2.....3.....4.....5.....6.....7
 Not at all Very much so

8. Irritated

1.....2.....3.....4.....5.....6.....7
 Not at all Very much so

9. Pleasant:

1.....2.....3.....4.....5.....6.....7
 Not at all Very much so

State Forgiveness Scale

Instructions: For the following questions, please indicate your current thoughts and feelings toward Carleton [Ottawa U] Player [#1, #2, #3]. Use the options located in the drop-down boxes to indicate your agreement with each of item.

1. If I had the opportunity to interact with Carleton [Ottawa U] Player [#1, #2, #3] again, I would try to avoid interacting with him/her.

1.....	2.....	3.....	4.....	5.....	6.....	7
Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree

2. I hope that Carleton [Ottawa U] Player [#1, #2, #3] get what's coming to them for what they did to me.

1.....	2.....	3.....	4.....	5.....	6.....	7
Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree

3. I dislike Carleton [Ottawa U] Player [#1, #2, #3].

1.....	2.....	3.....	4.....	5.....	6.....	7
Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree

4. Even though the actions of Carleton [Ottawa U] Player [#1, #2, #3] hurt me, I do not feel ill-will toward her/him.

1.....	2.....	3.....	4.....	5.....	6.....	7
Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree

5. I forgive Carleton [Ottawa U] Player [#1, #2, #3].

1.....	2.....	3.....	4.....	5.....	6.....	7
Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree

