The impact of ostracism on stigma consciousness and rejection sensitivity

A Senior Honors Thesis

Presented in Partial Fulfillment of the Requirements
for Graduation in the College Honors Program

By
Kayleigh Neff
Psychology Major

The College at Brockport
May 4, 2012

Thesis Director: Dr. Jennifer J. Ratcliff, Assistant Professor, Psychology

Abstract

Previous research indicates that ostracism is a pervasive social phenomenon that affects four fundamental psychological needs (Zadro, Williams, & Richardson, 2004). The current study seeks to examine whether or not females experience heightened levels of stigma consciousness or gender-based rejection sensitivity through exposure to ostracism via Cyberball from outgroup members (e.g., males). Stigma consciousness was measured through the Stigma Consciousness Questionnaire (SCQ; Pinel, 1999), while rejection sensitivity was measured through the Gender-Based Rejection Sensitivity Questionnaire (London, Downey, Romero-Canyas, Rattan, & Tyson, 2012). Fifty-four female participants composed the final sample. Results indicate that previous research was replicated, in that significantly lower levels of the four needs were reported. Changes in stigma consciousness levels from pre- to post-test did occur, but were marginal. No significant results were found with regards to gender-based rejection sensitivity. Limitations and directions for future research will be discussed.

Keywords: ostracism, gender, stigma consciousness, rejection sensitivity, Cyberball

The impact of ostracism on stigma consciousness and rejection sensitivity

Social exclusion is a universal experience, with 75% of American adults admitting to both using and receiving tactics such as the "silent treatment" (Williams & Gerber, 2005). Ostracism appears to occur throughout the lifespan, and has been observed in groups of children (e.g., ostracizing other children on a playground; Williams & Gerber, 2005), as well as in adults (e.g., females using social ostracism as a competitive tactic; Benenson, Hodgson, Heath, & Welch, 2008). Moreover, ostracism has been shown to be utilized across species. For instance, female chimpanzees have been observed employing ostracism in order to reduce the size of their groups (Benenson et al., 2008).

Social exclusion has been shown to have serious ramifications for individuals and society as a whole. Accordingly, case studies of recent school shootings indicate that ostracism has preceded thirteen of the fifteen examined incidents (Leary, Kowalski, Smith, & Phillips, 2003). This demonstrates that social exclusion is a powerful phenomenon, and one area of research that should be examined in order to find variables which may potentiate or lessen its effects.

Ostracism

Ostracism is a powerful social phenomenon that has been defined as the act of socially excluding or ignoring another individual (Williams, Cheung, & Choi, 2000), and may include a variety of punishing behaviors, such as denial of eye contact, gossip, social exclusion, and banishment (Dixon, 2007). Accordingly, it has been further described as "social death… the most potent form of rejection" (Gerber & Wheeler, 2009, p. 472).

Interestingly, ostracism is often described in terms of physical pain (e.g., "hurt," "ache"; Nordgren, Banas, & MacDonald, 2011). It has been demonstrated that sensitivity to physical pain is positively correlated to sensitivity with social pain, and reactions to social exclusion even mimic responses to physical injury (e.g., numbness, aggressiveness; Eisenberger, Jarcho,

Lieberman, & Naliboff, 2006; DeWall & Baumiester, 2006; Twenge, Baumiester, Tice, &

Stucke, 2001). In fact, targets of long-term ostracism state that physical abuse would have been

preferable to the experience of ostracism (van Beest & Williams, 2006). Indeed, fMRI studies

show that the same areas of the brain affected by physical pain (the anterior cingulated cortex)

are activated when an individual perceives social pain (Eisenberger, Lieberman, & Williams,

2003).

Although the impact of ostracism can be detrimental to victims (Williams et al., 2000;

Zadro, Williams, & Richardson, 2004; Bastian & Haslam, 2010), it may be ubiquitous because

of the functional value of this tactic. Specifically, ostracism functions to maintain the stability

and cohesion of a group, by increasing conformity to group norms, which in turn maintains the

functioning of the group (Dixon, 2007). Thus, this tactic serves the purpose of silencing deviant

members of a social group (Williams & Gerber, 2005).

In terms of the impact of ostracism on targets, perceiving that one is experiencing

ostracism, even if only for a short period of time, has been shown to affect individuals such that

relative to non-ostracized controls, targets self-report lower levels of four important human needs

(belonging, control, self-esteem, and meaningful existence; Williams et al., 2000). That is, sense

of belonging is negatively impacted because the targeted individual is denied interaction with

another individual. In a similar manner, ostracism threatens an individual's sense of perceived

control in a social situation because it renders them unable to elicit a response from their

interactional partner. Furthermore, the implicit negative feedback that is inherent with ostracism

is not linked to any specific offensive behavior, making the reason for being a target ambiguous,

which in turn lowers self-esteem. Finally, meaningful existence is threatened by ostracism

because it leads a target to feel as though they do not exist. This harkens back to the term "social death" that is associated with the experience of ostracism (Williams et al., 2000).

Despite the multiple studies examining ostracism in a face-to-face context, this phenomenon can have a powerful impact on targets even when in impoverished contexts. In fact, simply imagining ostracism leads to increased sadness, disengagement, rejection, loneliness, and worthlessness relative to individuals who imagine acceptance (Samolis & Williams, 1994). Similarly, being ostracized in contexts (e.g., cyberostracism—ostracism that occurs in settings other than face-to-face; Williams et al., 2000) proves equally debilitating to targets (Williams et al., 2000).

Previous cyberostracism research has excluded participants in such a way that it is in a controlled social situation. Williams and Sommer (1997) demonstrated that participants who were excluded in a seemingly inoffensive triadic ball-toss game ("Cyberball") accurately perceived being excluded by the other players, and consequently reported lower mood states (e.g., depletion of need satisfaction levels, decreased self-esteem; Williams & Gerber, 2005). In fact, after two and a half minutes, participants can accurately perceive whether they are being ostracized or included in the game (Wirth, & Williams, 2009).

Furthermore, simply viewing another person being ostracized via Cyberball is enough to make the observer self-report lower levels of need satisfaction, and activate the detection of ostracism (Wesselmann, Bagg, & Williams, 2009; Coyne, Nelson, Robinson, & Gunderson, 2011). Cyberball has effectively created such feelings as worsened mood, anger, and lower levels of the four needs (Williams & Jarvis, 2006; Zadro, Williams, & Richardson, 2004).

The effects of ostracism are apparent even in an impoverished situation such as Cyberball. Participants self-report feeling dehumanized during games in which they are

ostracized, and they view the perpetrators of ostracism as less human as well (Bastian & Haslam, 2010). Research suggests that Cyberball is effective; even when the perpetrators of ostracism are a despised or rival social outgroup (e.g., the Ku Klux Klan; Gonsalkorale & Williams, 2007), ostracism is as powerful as if it were perpetrated by a non-despised group member. Furthermore, research shows that even when inclusion is costly (i.e., losing money) and being ostracized entails retaining money, ostracism is still experienced as painful (van Beest and Williams, 2006). Ostracism is powerful such that even when participants are informed beforehand that they are playing with the computer and not actual people, they still feel the damaging effects of ostracism (Zadro et al., 2004). In fact, Zadro and colleagues (2004) found that those participants who thought they were being ostracized by a computer self-reported being angrier than those who believed they were ostracized by actual people. Other findings indicate that the short-term effects of Cyberball include temporary worsened mood and lower levels of self-esteem (Abrams, Weick, Thomas, Colbe, & Franklin, 2010).

Stigma Consciousness and Rejection Sensitivity

Researchers have made repeated attempts to uncover different factors which may discount the immediate and negative effects of ostracism, but none have been uncovered to date (Wirth, Lynam, & Williams, 2010). Some have been found to intensify the experience of ostracism in such a way that the four psychological needs are further depleted (e.g., ostracism attributed to discrimination; Shapiro & Neuberg, 2008). Accordingly, it is plausible to believe that based on an individual's stigmatized status or heightened sensitivity to rejection based on that devalued status, they would be more likely to experience a strong, negative reaction to ostracism.

Stigma consciousness. Operationally defined, stigma is a characteristic that "conveys a social identity that is devalued in a particular social context" (Major & O'Brien, 2005, p. 395). The impact of social stigma is well-researched, and the impact that holding a stigmatized status in society has on an individual depends on several factors, including aspects of the self which are affected, concealability of the stigma, and centrality to self-concept. First, a person's self-concept is heavily impacted by the aspects of the self which are affected by the stigma (e.g., a physical characteristic, behavior, or role). "Concealability" of stigma is another factor, which refers to the extent to which others can identify the stigmatizing mark (Jones, Farina, Hastorf, Markus, Miller, Scott, & French, 1984). Nonconcealable stigmas such as race, sex, age, and physical disability are almost impossible to disguise or deemphasize the stigma that is associated with belonging to these groups. Possessing a nonconcealable stigma also makes it more difficult to ignore negative social feedback, whereas possessing a concealable stigma would not provide the opportunity for the individual to be discredited based solely on their stigmatizing condition. Finally, stigma affects an individual to the extent that an individual feels their stigmatizing condition is central to their self-identity. If a stigmatizing condition affects an attribute that was previously central to an individual's self-concept, the stigma is likely to be more central to their new self-identity. Any stigma that threatens a central aspect of an individual's self-identity is likely to have a powerful impact on the self-concept (Jones et al., 1984).

Stigma consciousness refers to the level of self-consciousness that an individual holds regarding their stigmatized or undervalued social status (Pinel, 1999). Stigma consciousness has been consistently found in samples of women, gay men, lesbians, African Americans, Asians, and Hispanics through use of the Stigma Consciousness Questionnaire (SCQ; Pinel, 1999). It is important to note that stigma consciousness does not refer to one's conscious awareness of their

stigmatized status, but rather, it refers to an individual's focus on their stereotyped social

identity. An individual's level of stigma consciousness varies based on the extent to which they

believe that their stereotyped status affects their interactions with others (Pinel, 2004). That is,

relative to individuals low in stigma consciousness, individuals who are high in stigma

consciousness believe that their stereotyped social status has a strong impact on how outgroup

members treat them (e.g., how males treat female conversational partners) (Pinel, 1999). This

research also demonstrated that women with heightened levels of stigma consciousness are more

likely to worry about how others view them than are those who are low in stigma consciousness.

Furthermore, for groups of women and ethnic minorities, high levels of stigma consciousness

appear comparably injurious when compared to those with a concealable stigma, such as gay

men and lesbians (Pinel, 2004).

Research has revealed that female participants who were high in stigma consciousness

expected to perform more poorly on stereotypical male topics (e.g., "automobile brands") than

on stereotype-irrelevant topics (e.g., "parts of the body") when they were competing against a

man relative to a woman (Pinel, 1999). This demonstrates the effect that stigma consciousness

has on the interactions between males and females.

Moreover, when women with high dispositional levels of stigma consciousness expect

their male partner to be sexist, they elicit negative reactions from those men by behaving

critically toward them (Pinel, 2002). Additionally, it was found that high levels of stigma

consciousness contributed to experiences of stereotyping and intergroup conflict (Pinel, 2002).

Specifically, women who believed that their interactional partner was sexist gave their partner

critical ratings and, in turn, elicited negative evaluations from their partners. Pinel (1999) also

found a positive correlation between stigma consciousness and perceiving discrimination and disrespect from others.

Importantly, stigma consciousness is not necessarily a dispositional, or "fixed," construct. Brown and Pinel (2003) found that by reminding female participants of times when they were treated stereotypically by men, the participant's level of stigma consciousness was situationally-elevated, and it affected how they interpreted ambiguous feedback later on in the experiment. This finding indicates that experimenters can raise and lower stigma consciousness levels via manipulation, and this situationally-induced stigma consciousness operates in a similar way to dispositional stigma consciousness.

Rejection sensitivity. Rejection sensitivity has been operationally defined as the level to which an individual expects, perceives, and overreacts to social rejection (Downey & Feldman, 1996). The concept of rejection sensitivity can be traced to Bowlby's attachment theory (1963), which states that children use models to develop future expectations that others will either satisfy their needs or will reject them. Importantly, direct rejection experiences, or even expecting rejection from one's peers, are strong predictors of future relational difficulties (Parker & Asher, 1987). Moreover, the expectation of rejection leads to a heightened awareness of signs of rejection (real or imagined), as well as increased social anxiety and withdrawal (London, Downey, Bonica, & Paltin, 2007; Downey & Feldman, 1996). It has been suggested that high rejection sensitivity leads to a self-fulfilling prophecy of sorts, in that those individuals who exhibit anxious expectations of rejection are more likely to enact behavior that leads to partner dissatisfaction (e.g., jealous and controlling behavior; Downey, Freitas, Michaelis, & Khouri, 1998).

The majority of prior research on rejection sensitivity examines the construct in terms of how it impacts intimate relationships. This research favors the potential dating partner paradigm, in which a participant meets an opposite-sex confederate with whom they engage in a pleasant interaction. After the interaction, the participant is informed that the confederate did not want to continue the experiment (Downey & Feldman, 1996). Upon perceiving signs of rejection (real or imagined) from these potential dating partners, the anxious-expectation, high rejection sensitive (HRS) individual overreacted both behaviorally and affectively, by becoming hostile, jealous, controlling and depressed. In women specifically, high rejection sensitivity leads to increased negativity, and it has been suggested that these women are more susceptible to depression and emotional reactivity (Downey & Feldman, 1996). Even ambiguous behaviors are perceived as rejection by HRS individuals (Downey & Feldman, 1996).

As with stigma consciousness, research has shown that rejection sensitivity can be induced experimentally. For example, rejection sensitivity has been manipulated by placing some participants in one of two conditions in which the participant was rejected by a potential dating partner, or told that they were expected to spend their life alone (Ayduk, Downey, Testa, Yen, & Shoda, 1999; Gerber & Wheeler, 2009). Results revealed that rejection sensitivity in women was subsequently increased when they experienced perceived rejection.

The Current Work

Overall, previous research has shown that ostracism is ubiquitous, in such a way that ostracism can deplete four psychological needs, self-esteem, feelings of humanity, and (Zadro et al., 2004; Bastian & Haslam, 2010). Given that recognizing prejudice against one's social group is negatively related to psychological well-being, specifically in women (Kobrynowicz & Branscombe, 1997), the current study focuses on the potential relationship between perceiving

rejection as a result of belonging to a social group, and the implications this may have for reactions to ostracism.

The present study examines the impact that stigma consciousness and rejection sensitivity may have on reactions to ostracism attributed to one's social group. Stigma consciousness is expected to impact one's reactions to ostracism, as it is the focus one places on their stigmatized status. In the current study, it is expected that women who focus more on their stigmatized identity (i.e., stigma consciousness) will react more strongly and negatively to perceived ostracism. Similarly, it is expected that rejection sensitivity and reactions to ostracism will be related in such a way that stronger reactions to ostracism will be linked to higher levels of rejection sensitivity in females ostracized by males in particular.

Goodwin, Williams, and Carter-Sowell (2010) indicated that membership in a disadvantaged social group moderates reactions to ostracism. Ostracized African Americans were more likely to attribute their treatment in a Cyberball game to racism than were their included counterparts. This finding indicates that members of stigmatized groups find ostracism more threatening when they attribute it to their membership in their disadvantaged social group. Similarly, Wirth & Williams (2009) also examined the effects of ostracizing individuals based on group membership. Because Cyberball ostracizes participants in an ambiguous fashion, leaving them to interpret the reasons for why they were left out, Cyberball can be used to examine participant attributions of ostracism to prejudice or discrimination. By incorporating a salient indicator of group membership into Cyberball (e.g., gender, race), the researchers were able to create a situation in which participants could plausibly attribute being ostracized to being an outgroup member. Indeed, participants ostracized while possessing a group membership externally attributed it to being a member of an outgroup, thereby protecting their own self-

esteem. Wirth & Williams (2009) demonstrate that group membership has been yet another variable that does not moderate the effects of ostracism (Gonsalkorale & Williams, 2007; van Beest & Williams, 2006; Zadro et al., 2004).

First, it is predicted that prior research will be replicated, in that relative to their non-ostracized counterparts, individuals who are ostracized will self-report lower levels of the four psychological needs (e.g., belongingness, self-esteem, control, and meaningful existence; Zadro et al., 2004; Williams et al., 2000). This is expected to be significant regardless of the gender of the perpetrators of ostracism.

Second, the researcher predicts that in females ostracized by males, stigma consciousness levels will increase from pre- to post-test. Similarly, it is also predicted that females ostracized by two male participants will exhibit higher levels of post-test stigma consciousness than will females ostracized by two female participants, as well as those participants in the control condition.

Third, it is predicted that ostracized participants will exhibit higher levels of gender-based rejection sensitivity than their included counterparts. Those participants ostracized by males are expected to exhibit higher levels than those participants ostracized by females. It has been indicated that members of stigmatized groups (e.g., African Americans) often report higher levels of rejection sensitivity than their non-stigmatized counterparts (Branscombe, Schmitt, & Harvey, 1999), and the current study will attempt to extend this research to include women. Previous research indicates that those individuals high in rejection sensitivity are more accurate in judging the extent to which they are included or excluded (Shade, 2010), but there has been little to no research on how gender-based rejection sensitivity affects responses to ostracism.

Finally, correlations will be computed between all variables, including stigma consciousness, gender-based rejection sensitivity, ostracism condition, and the four psychological needs in order to replicate prior research and examine potential connections between previously unpaired variables.

The current study will examine potential relationships between stigma consciousness, rejection sensitivity, and the experience of ostracism. To the principal researcher's knowledge, these three constructs have not been examined together previously, nor have the relationships between them been explored. Williams & Gerber (2005) suggested that individual differences, such as rejection sensitivity, should be directly related to perceptions of and reactions to ostracism. The principle investigator will seek to further explore that relationship.

Method

Participants

One hundred seventy-seven students were prescreened in their introductory psychology courses. Ninety-eight female students were invited to participate after completing a prescreening questionnaire. From those invited, fifty-seven female participants, 18 years of age and older, enrolled in a Principles of Psychology course served as participants in the current study. All female participants were invited to participate in the study, and in exchange for their participation they received partial credit for their introductory psychology class. All participants were treated in accordance with APA standards (2010).

Materials

Prescreening Questionnaire. Participants completed a prescreening measure in their introductory psychology course, and were told that those who were eligible would be contacted

by the researcher to participate in a research study. The prescreening measure contained an

informed consent (see Appendix A), demographic questionnaire, and modified versions of the

Stigma Consciousness Questionnaire and Need for Uniqueness Questionnaire (Pinel, 1999;

Snyder & Fromkin, 1977; see Appendix B). The Need for Uniqueness Questionnaire was

unscored, and served as filler to disguise the true intent of the prescreening. Only females were

invited to participate in the study.

Cyberball 4.0. Utilizing Cyberball, it is possible to manipulate levels of inclusion and

ostracism in a controlled setting, and this technique has been shown to effectively elicit

perceptions of either exclusion or inclusion in participants. All participants played a game of

Cyberball, which is a ball-tossing game developed by Williams, Yeager, Cheung, & Choi (2012;

see the following link: https://cyberball.wikispaces.com/). The interactive game ostensibly has

the participant take part in a ball-tossing game with two other unseen players, and participants

are informed that the purpose of the game is to exercise mental visualization skills. The two

other players were actually computer-generated and preprogrammed confederates. Those in the

ostracism condition do not receive the ball from the other two players (i.e., they were left out of

the game), which induced feelings of ostracism. Participants in the control condition were

included equally by the other players and thus were able to catch and throw the ball to both other

players.

Manipulation check. Immediately after completing the Cyberball game, participants

were asked about the sex of the other two individuals in the game (see Appendix C). Participants

were provided with a variety of options (e.g., two females, two males, one female and one male,

none of the above).

Four Needs Questionnaire. Participants' levels of the four psychological needs after the

game of Cyberball was measured by responses to a four needs questionnaire (Zadro, Williams, &

Richardson, 2004; see Appendix D). The questionnaire contains three manipulation checks for

inclusion/ostracism, including a 9-point bipolar scale "accepted/rejected" question. Twelve

items reflect the four psychological needs, three for belonging ($\alpha = .74$), three for control ($\alpha =$

.72), three for self-esteem ($\alpha = .70$), and three for meaningful existence ($\alpha = .66$). The needs

questions are rated using a Likert scale from 1 (*not at all*) to 9 (*very much so*). The questionnaire

also includes 4 bipolar mood questions (bad/good, happy/sad, tense/relaxed, and aroused/not

aroused). There are two additional variables ("I felt angry during the Cyberball game" and "I

enjoyed playing the Cyberball game.")

Gender-Based Rejection Sensitivity Questionnaire. Rejection sensitivity has been

predominately examined via the Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman,

1996). With this questionnaire, researchers have been able to demonstrate links between

rejection sensitivity and other variables (neuroticism, anxiety, and relationship satisfaction)

through this measure (Brookings, Zembar, & Hochstetler, 2003; Downey & Feldman, 1996).

For the purposes of the current study, the modified Gender-Based Rejection Sensitivity

Questionnaire (London et al., 2012) was used to examine sensitivity to rejection that is

specifically due to one's identified gender. The Gender-Based Rejection Sensitivity

Questionnaire (Gender RSQ) is designed to assess the level of concern/anxiety a female has in

respect to being the target of gender-based rejection (London et al., 2012; see Appendix E).

Internal consistency is high ($\alpha = .83$), as is test-retest reliability at three to five weeks ($r = 0.81$, *p*

$= .001$). It contains two subscales, and is scored in domains of anxiety or concern over potential

rejection, as well as the expectation one holds for the outcome of each scenario. The measure

consists of eleven hypothetical social scenarios, all of which examine a participant's reaction to potentially anxiety-inducing social situations that could result in rejection due to gender bias (e.g., "Imagine that you have worked at your job for nearly a year. A position is open for manager and you approach your boss to ask for the promotion"). Each scenario assesses the participant's expectation of gender bias (e.g., "I would expect to be welcome to join one of the remaining groups"), as well as anxiety about the possibility of rejection (e.g., "How concerned/anxious would you be that the professor might not choose you because of your gender?"). All anxiety items are measured on a 1 (*very unconcerned*) to 6 (*very concerned*) Likert-type scale, and all expectation items are measured on a 1 (*very unlikely*) to 6 (*very likely*) Likert-type scale.

Stigma Consciousness Questionnaire. Participants were given the Stigma Consciousness Questionnaire (SCQ) to assess their level of stigma consciousness during the prescreening and the experiment itself (Pinel, 1999; see Appendix F). The SCQ for Women (SCQ-W) has been shown to be reliable ($\alpha = .77$). The measure consists of ten statements to which the participant provides their level of agreement on a Likert-type scale, from 0 (*strongly disagree*) to 6 (*strongly agree*). Each item is related to one of two content areas: women's experiences interacting with men (e.g., "My being female does not influence how men act with me"), and beliefs about how men view women (e.g., "Most men do not judge women on the basis of their gender").

Demographic Questionnaire. A brief demographic questionnaire assessing participant gender, relationship status, and age was included at the beginning of the prescreening in order to restrict participation to females (see Appendix G). The same demographic questionnaire was given upon completion of the experiment.

Procedure

Participants were pre-screened for their level of pre-existing stigma consciousness via a modified version of the Stigma Consciousness Questionnaire for Women (SCQ-W; Pinel, 1999). A brief demographic questionnaire assessing participant gender, age, and relationship status was also given at the time of prescreening. Only female participants were be recruited for the study. Once the participant entered the lab, they signed the informed consent (see Appendix H) and were told that they would play a game of Cyberball (Williams et al., 2012) with two students in another lab. Participants were informed that the study's purpose is to examine how individuals experience electronic games while practicing mental visualization skills. Participants were randomly assigned to either the ostracism or control condition. One-half of participants were told that they would be playing Cyberball with two male participants ("Josh" and "Greg"), and the remaining half were told that they would play with two other females ("Julia" and "Kaitlyn"). Those in the ostracism condition proceeded to play a game of Cyberball in which they experienced ostracism or inclusion from either two outgroup members (e.g., males) or two ingroup members (e.g., females). After completing the game of Cyberball, all participants completed questionnaires gauging their levels on the four psychological needs (e.g., belonging, control, self-esteem, and meaningful existence). Participants were asked who the other players in the game were (e.g., two males, two females, one female and one male, or other). The participants then completed the Gender RSQ and the SCQ-W (London et al., 2012; Pinel, 1999). Once the participants completed the questionnaires, the experimenter administered the debriefing statement (see Appendix I) and allowed participants to ask questions about the experiment.

Results

Fifty-four participants composed the final sample (three participants were excluded as a result of indicating that they played Cyberball with a participants of a gender other than the condition they were assigned). Participant age ranged from eighteen to twenty-two years ($M =$ 18.78, SD = .904). Participants were distributed evenly across conditions, with 29 (53.7%) in the ostracism condition and 25 (46.3%) in the inclusion condition. Participants were similarly distributed across conditions with regard to gender as well, as 28 participants (51.9%) played the game with two males, and 26 participants (48.1%) played with two females.

Overall, manipulation checks indicate that participants could easily perceive whether or not they were included or excluded. Those in the inclusion condition indicated that they received the ball an equal amount of times as the other two players. However, a few participants overestimated their inclusion, stating that they received the ball "almost every time." Those participants who were excluded could also accurately detect ostracism, indicating that they did not receive the ball after the first two tosses.

Researchers first predicted that prior research would be replicated with regard to ostracism conditions and the four psychological needs (e.g., belonging, control, self-esteem, and meaningful existence; see Figure 1). Results supported this hypothesis and prior research, indicating that those participants who were ostracized self-reported significantly lower levels of fulfillment each of the four needs. Specifically, in terms of belonging, participants who were excluded ($M =$ 1.90, SD = .239) demonstrated lower levels than those who were included ($M =$ 5.90, SD = .257), $F(1,50) = 129.46$, $p < .001$. Similarly, levels of control were lower in those participants who were excluded ($M =$ 2.35, SD = .279), than those who were included ($M =$ 5.93, SD = .300), $F(1,50) = 76.40$, $p < .001$. Self-esteem was impacted as well, $F(1,50) = 51.79$, $p <$

.001, with those in the ostracism condition ($M = 3.53$, SD $= .321$) expressing lower self-esteem than those in the control condition ($M = 6.92$, SD $= .345$) . Meaningful existence levels demonstrated similar differences between ostracized and included participants, $F(1,50) = 158.01$, $p < .001$, with those in the ostracism condition expressing lower scores ($M = 2.43$, SD $= .239$) than did those in the control condition ($M = 6.84$, SD $= .257$). Gender of the ostracizers did not impact self-reported need depletion, except in the case of meaningful existence where the interaction of the gender of the ostracizers and ostracism condition demonstrated marginal significance, $F(1,50) = 3.46$, $p < .07$. Specifically, this result indicates that those participants who were ostracized by other females displayed marginally lower levels of self-reported meaningful existence.

Additionally, it was predicted that in females ostracized by males, stigma consciousness levels would increase from pre- to post-test relative to those ostracized by females. Similarly, it was also predicted that females ostracized by two male participants would exhibit higher levels of post-test stigma consciousness than would females ostracized by two female participants, as well as those participants in the control condition. To examine the impact of ostracism and gender of the perpetrators of ostracism, a 2 (ostracism condition) x 2(gender of ostracizers) factorial ANOVA was conducted. The main effect of ostracism was not significant, $F < 1$. The main effect of gender of the ostracizer was marginally significant, $F(1,50) = 3.09$, $p < .09$, with females who were ostracized by males ($M = .276$, SD $= .212$) reporting marginally smaller differences in pre- and post-test stigma consciousness levels than did females ostracized by other females ($M = .281$, SD $= .220$; see Figure 2), which is in the opposite direction that was initially predicted. The interaction between ostracism condition and gender of the ostracizers was also marginally significant, $F(1,50) = 3.21$, $p < .08$. There was a trend for increases of stigma

consciousness from pre-test to post-test, indicating that there was an overall increase of stigma consciousness scores from the initial prescreening to the results obtained after the Cyberball manipulation.

Third, it was hypothesized that ostracized participants would exhibit higher levels of gender-based rejection sensitivity than their included counterparts. Those participants ostracized by males were expected to exhibit higher levels or rejection sensitivity than those participants ostracized by females. A one-way ANOVA indicated that participants indicated higher levels of anxiety and concern over gender-based rejection when they were playing Cyberball with males ($M = 2.73$, SD = .99) than when playing with females ($M = 2.15$, SD = .73). This relationship was significant at $F(3, 50) = 2.33$, $p < .02$, regardless of the ostracism condition. There was no interaction between gender of the ostracizers and ostracism condition. This indicated that females express higher levels of gender-based rejection sensitivity anxiety when playing with males regardless of their exclusion. No significant results were yielded in analyses of expectation of gender-based rejection and gender of ostracizers.

Finally, correlations were computed between all variables, including post-test stigma consciousness levels, gender-based rejection sensitivity, ostracism condition, and the four psychological needs. Data replicated previous results, indicating that belongingness, control, self-esteem, and meaningful existence were all positively correlated. Post-test stigma consciousness levels and gender- based rejection sensitivity were not significantly correlated ($r = .133$, $p > .05$). Surprisingly, the anxiety and expectation subscales of the Gender RSQ were only marginally positively correlated ($r = .264$, $p > .05$; see Table 1).

Discussion

Overall, the current study replicated previous research by providing support to the hypothesis that ostracism is easily detected by its targets, and it negatively affects the four psychological needs as described by Williams and colleagues (2000). Furthermore, the present study demonstrated that stigma consciousness and reactions to ostracism are marginally related, in such a way that those participants who are ostracized experience a stronger, negative reaction to ostracism in that lower levels of the four needs are self-reported.

Limitations

There were a few important limitations to note. The small sample size ($n = 55$) limits the power of this study. It is possible, that with a larger and more diverse sample, results would be more significant. Specifically, post-test stigma consciousness levels were higher in participants ostracized, as predicted, although the differences were marginal. A larger sample size could demonstrate that this relationship is indeed significant.

There were additional complications with programming Cyberball 4.0. The beta version did not seamlessly integrate with the survey software program utilized by the researchers, so when participants were finished playing Cyberball they had to manually redirect to the questionnaires. While it is not believed that this had a direct impact on differences between variables, the effects that this may have had on participants are unknown.

Limitations in the current study may partially lie with the form of ostracism manipulation itself. Specifically, it has been indicated in previous research that males play video games more frequently than females, and at a young age children associate playing video games as an activity more appropriate for boys than for girls (Greenberg, Sherry, Lachlan, Lucas, & Holmstrom, 2010; Lucas & Sherry, 2004). This could indicate that simply engaging in Cyberball would raise

stigma consciousness levels in females due to the masculine attribution that is associated with playing computer games, regardless of whether or not they were ostracized during the game..

Future Research

Future research could also address the concept of posttraumatic growth and its implications for reactions to ostracism. Posttraumatic growth is defined as personal growth that is borne of stressful life events (Miller, Canales, Amacker, Backstrom, & Gidycz, 2011). It is unknown whether or not posttraumatic growth can arise from experiences with social ostracism, but given that the experience of being ostracized is often classified as being stressful for the targeted individual (Bowes et al., 2010; Bastian & Haslam, 2010), it is not unreasonable to examine a potential relationship between exclusion and posttraumatic growth.

Research has indicated that social status may mediate the relationship between gender and reactions to ostracism. Bozin & Yoder (2008) suggest that it is not gender differences per se, but social status and control that account for threats to belongingness levels in women who have been ostracized. Future research should take this into account, by manipulating the social status of the participants and confederates within the game to determine if stigma consciousness levels are more significantly altered by a change in social status.

As stated previously, no individual or situational differences have been uncovered which buffer or reduce the effects of ostracism. However, it has been found in related research that social support serves as an important buffer against the effects of verbal, social, or physical bullying in childhood (Bowes, Maughan, Caspi, Moffitt, & Arseneault, 2010). Future research could examine potential applications to research with adults, and contribute to this deprived field by examining potential factors which promote resilience to ostracism.

Future research may also address other ways of inducing stigma consciousness. It is possible that participants in the current study did not perceive stigma consciousness as effectively as they would have if presented with an opportunity to be discriminated against in a face-to-face context. Pinel (2002) suggests that when women believe their conversational partners are sexist prior to meeting them, they are more likely to have higher levels of stigma consciousness and be more critical of their partners. With respect to Cyberball, indicating to participants prior to playing the game that their partners are sexist (or conform to traditional gender roles) may provide more significant results.

In summary, this study demonstrates that ostracism is a pervasive social phenomenon which is present throughout the lifespan and is easily detected by its victims. Stigma consciousness may be one variable which is strengthened by the detection of ostracism; however, further research should take heed of the limitations in this study and examine the significance of this relationship. Further research would be beneficial in order to uncover potential variables which could reduce or potentially eliminate the effects of ostracism.

References

Abrams, D., Weick, M., Thomas, D., Colbe, H., & Franklin, K.M. (2010). On-line ostracism affects children differently from adolescents and adults. B*ritish Journal of Developmental Psychology, 29*, 110-123.

American Psychological Association. (2010). Publication Manual of the American Psychological Association (6th ed.). Washington D.C.: American Psychological Association.

Ayduk, O., Downey, G., Testa, A., Yen, Y., & Shoda, Y. (1999). Does rejection elicit hostility in rejection sensitive women? *Social Cognition, 17*, 245-271.

Bastian, B. & Haslam, N. (2010). Excluded from humanity: The dehumanizing effects of social ostracism. *Journal of Experimental Social Psychology, 46*, 107-113.

Benenson, J.F., Hodgson, L., Heath, S., & Welch, P.J. (2008) Human sexual differences in the use of social ostracism as a competitive tactic. *International Journal of Primatology, 29*, 1019-1035.

Bowes, L., Maughan, B., Caspi, A., Moffitt, T.E., & Arseneault, L. (2010). Families promote emotional and behavioural resilience to bullying: Evidence of an environmental effect. *The Journal of Child Psychology and Psychiatry, 51*, 809-817.

Bowlby, J. (1963). *Attachment and loss: Vol. 1. Attachment*. New York: Basic Books.

Bozin, M.A. & Yoder, J.D. (2008). Social status, not gender alone, is implicated in different reactions by women and men to social ostracism. *Sex Roles, 58*, 713-720.

Branscombe, N.R., Schmitt, M.T., & Harvey, R.D. (1999). Perceiving pervasive discrimination among African-Americans: Implications for group identification and well-being. *Journal of Personality and Social Psychology, 77*, 135-149.

Brookings, J.B., Zembar, M.J., & Hochstetler, G.M. (2003) An interpersonal circumplex/five

factor analysis of the Rejection Sensitivity Questionnaire. *Personality and Individual Differences, 34*, 449-461.

Brown, R.P. & Pinel, E.C. (2003). Stigma on my mind: Individual differences in the experience of stereotype threat. *Journal of Experimental Social Psychology, 39*, 626-633.

Coyne, S.M., Nelson, D.A., Robinson, S.L., & Gunderson, N.C. (2011). Is viewing ostracism on television distressing? *The Journal of Social Psychology, 15*, 213-217.

DeWall, C. N., & Baumeister, R. F. (2006). Alone but feeling no pain: Effects of social exclusion on physical pain tolerance and pain threshold, affective forecasting, and interpersonal empathy. *Journal of Personality and Social Psychology, 91*, 1–15.

Dixon, R. (2007). Ostracism: One of the many causes of bullying in groups? *Journal of School Violence, 6*, 3-26.

Downey, G. & Feldman, S.I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology, 70*, 1327-1343.

Downey, G., Freitas, A.L., Michaelis, D., & Khouri, H. (1998). The self-fulfilling prophecy in close relationships: Rejection sensitivity and rejection by romantic partners. *Journal of Personality and Social Psychology, 75*, 545-560.

Eisenberger, N. I., Jarcho, J. M., Lieberman, M. D., & Naliboff, B. D. (2006). An experimental study of shared sensitivity to physical pain and social rejection. *Pain, 126*, 132–138.

Eisenberger, N.I., Lieberman, M.D., & Williams, K.D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science, 302*, 290-292.

Gerber, J. & Wheeler, L. (2009). On being rejected: A meta-analysis of experimental research on rejection. *Perspectives on Psychological Science, 4*, 468-488.

Gonsalkorale, K. & Williams, K.D. (2007) The KKK won't let me play: Ostracism even by a

despised outgroup hurts. *European Journal of Social Psychology, 37*, 1176-1186.

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

Greenberg, B.S., Sherry, J., Lachlan, K., Lucas, K., & Holmstrom, A. (2010) Orientations to video games among gender and age groups. *Simulation & Gaming, 41*, 238-259.

Jones, E.E., Farina, A., Hastorf, A.H., Markus, H., Miller, D.T., Scott, R.A., & French, R.S. (1984). Social stigma: The psychology of marked relationships. New York: W.H. Freeman and Company.

Kobrynowicz, D. & Branscombe, N.R. (1997). Who considers themselves victims of discrimination? Individual difference predictors of perceived gender discrimination in women and men. *Psychology of Women Quarterly, 21*, 347-363.

Leary, M., Kowalski, R.M., Smith, L., & Phillips, S. (2003). Teasing, rejection, and violence: Case studies of the school shootings. *Aggressive Behavior, 29*, 202-214.

London, B., Downey, G., Bonica, C., & Paltin, I. (2007). Social causes and consequences of rejection sensitivity. *Journal of Research on Adolescence, 17*, 481-506.

London, B., Downey, G., Romero-Canyas, R., Rattan, A., & Tyson, D. (2012). Gender-based rejection sensitivity and the academic self-silencing of women. *Journal of Personality and Social Psychology, 102*, 961-979.

Lucas, K., & Sherry, J.L. (2004). Sex differences in video game play: A communication-based explanation. *Communication Research, 31*, 499-523.

Major, B. & O'Brien, L.T. (2005). The social psychology of stigma. *Annual Review of Psychology, 56*, 393-421.

Miller, A.K., Canales, E.J., Amacker, A.M., Backstrom, T.L., & Gidycz, C.A. (2011). Stigma threat motivated nondisclosure of sexual assault and sexual revictimization: A prospective analysis. *Psychology of Women Quarterly, 35*, 119-128.

Nordgren, L.F., Banas, K., & MacDonald, G. (2011). Empathy gaps for social pain: Why people underestimate the pain of social suffering. *Journal of Personality and Social Psychology, 100*, 120-128.

Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low accepted children at risk? Psychological Bulletin, 102, 357–389.

Pinel, E.C. (1999). Stigma consciousness: The psychological legacy of social stereotypes. *Journal of Personality and Social Psychology, 76*, 114-128.

Pinel, E.C. (2002) Stigma consciousness in intergroup contexts: The power of conviction. *Journal of Experimental Social Psychology, 38*, 178-185.

Pinel, E.C. (2004). You're just saying that because I'm a woman: Stigma consciousness and attributions to discrimination. *Self and Identity, 3*, 39-51.

Samolis, M.M. & Williams, K.D. (1994). *The effects of ostracism and communication level on self and task-referents, feelings, and action*. Unpublished manuscript.

Shade, C.K. (2010). The effect of rejection sensitivity on perceptions of inclusion in Cyberball (Master's thesis). Available from http://etd.ohiolink.edu/view.cgi?acc_num=osu 1284138504.

Shapiro, J.R. & Neuberg, S.L. (2008). When do the stigmatized stigmatize? The ironic effects of being accountable (perceived) majority group prejudice expression norms. *Journal of Personality and Social Psychology, 95*, 877-898.

Snyder, C.R. & Fromkin, H.L. (1977). Abnormality as a positive characteristic: The

development and validation of a scale measuring need for uniqueness. *Journal of Abnormal Psychology, 86*, 518-527.

Twenge, J. M., Baumeister, R. F., Tice, D. M., & Stucke, T. S. (2001). If you can't join them, beat them: Effects of social exclusion on aggressive behavior. *Journal of Personality and Social Psychology, 81*, 1058 –1069.

van Beest, I. & Williams, K.D. (2006). When inclusion costs and ostracism pays, ostracism still hurts. *Journal of Personality and Social Psychology, 91*, 918-928.

Wesselmann, E.D., Bagg, D., & Williams, K.D. (2009). "I feel your pain": The effects of observing ostracism on the ostracism detection system. *Journal of Experimental Social Psychology, 45*, 1308-1311.

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. & Gerber, J. (2005) Ostracism: The making of the ignored and excluded mind. *Interaction Studies, 6*, 359-374.

Williams, K.D. & Sommer, K.L. (1997). Social ostracism by coworkers: Does rejection lead to social loafing or compensation? *Personality & Social Psychology Bulletin, 23*, 693-706.

Williams, K.D., Yeager, D.S., Cheung, C.K.T., & Choi, W. (2012). *Cyberball 4.0* [Software].

Wirth, J.H., Lynam, D.R., & Williams, K.D. (2010). When social pain is not automatic: Personality disorder traits buffer ostracism's immediate negative impact. *Journal of research in Personality, 44*, 397-401.

Wirth, J.H. & Williams, K.D. (2009). 'They don't like our kind': Consequences of being ostracized while possessing a group membership. *Group Processes and Intergroup Relations, 12*, 111-127.

Zadro, L., Williams, K.D., & Richardson, R. (2004). How low can you go? Ostracism by a

computer is sufficient to lower self-reported levels of belonging, control, self-esteem, and

meaningful existence. *Journal of Experimental Social Psychology, 40*, 560-567.

Figure Captions

Figure 1: Differences in levels of the four needs between ostracized and non-ostracized controls. The figure does not account for differences in gender of the ostracizers.

Figure 2: Differences between pre- and post-test stigma consciousness levels in participants ostracized or included by male or female partner
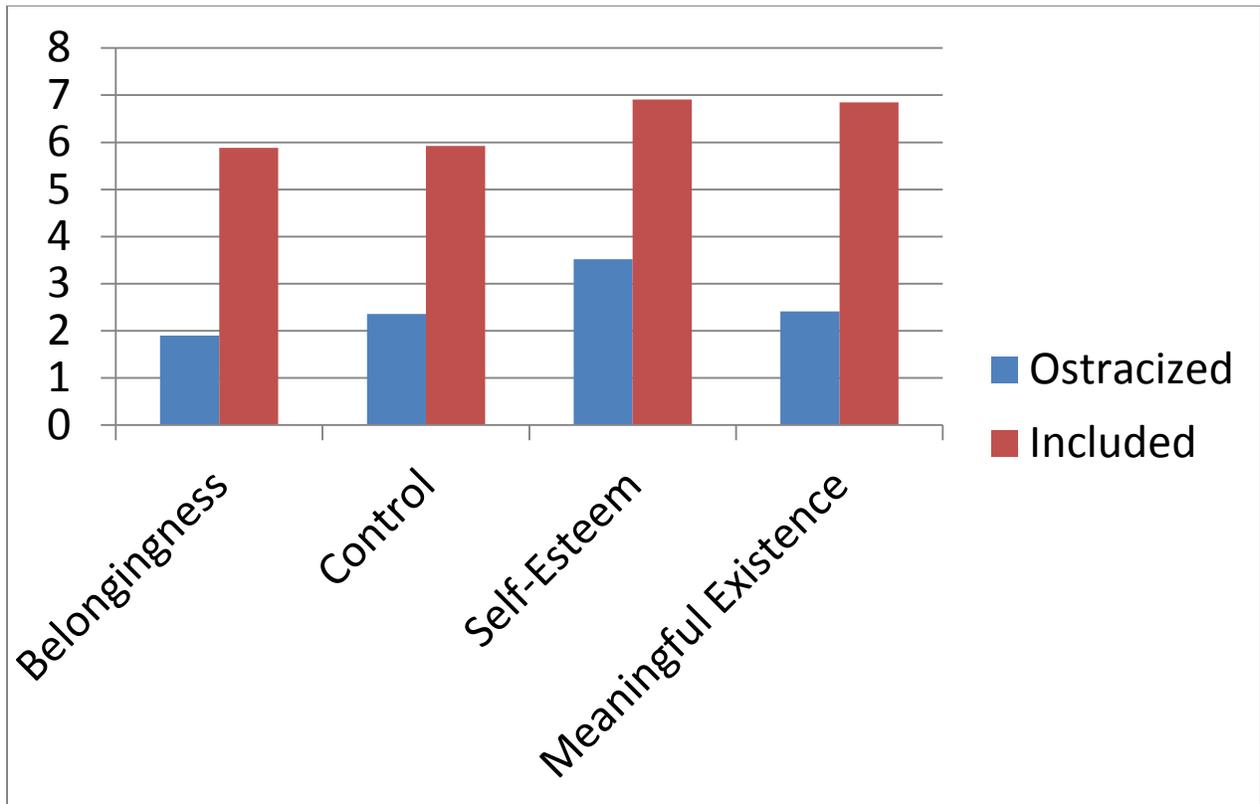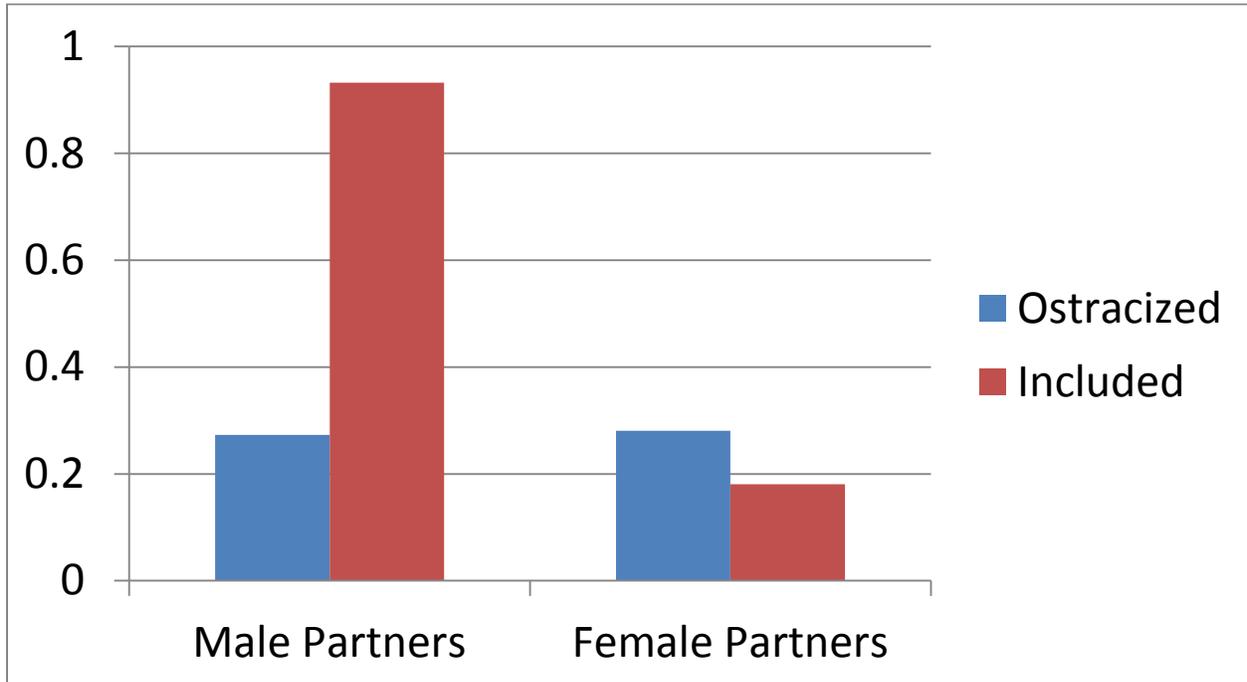
Figure 1

Figure 2

Table 1

Correlations between Gender Condition, Ostracism Condition, the four psychological needs (Belongingness, Control, Self-esteem, and Meaningful existence, Stigma Consciousness, Gender-Based Rejection Sensitivity Anxiety, and Gender-Based Rejection Sensitivity Expectation.

	Gender	Belong	Control	SE	ME	SC	GRS_A	GRS_E
Ost_Cond	-.003	.847**	.772**	.710**	.866**	.046	-.060	.015
Gender		.054	.024	.095	.002	.002	-.319*	-.190
Belong			.804**	.763**	.851**	.008	-.218	.028
Control				.776**	.758**	.176	-.110	.085
SE					.805**	.164	-.209	-.029
ME						.107	-.191	-.102
SC							.133	-.026
GRS_A								.264

Note. Belong = Belongingness self-report; Control = Control self-report; SE = Self-esteem self-report; ME = Meaningful existence self-report; SC = Stigma consciousness difference levels; GRS_A = Gender-based rejection sensitivity score on anxiety/concern subscale; GRS_E = Gender-based rejection sensitivity on expectation for rejection subscale.

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

Appendix A
Prescreening Informed Consent

This project has been approved by the SUNY College at Brockport's Institutional Review Board. Approval of this project only signifies that the procedures adequately protect the rights and welfare of the participants. Please note that absolute confidentiality cannot be guaranteed due to the limited protections of Internet access.

The questionnaire on the following page has been created to determine your eligibility for a future study that you can complete to partially fulfill your course requirement. In other words, this questionnaire will serve as a prescreening measure. Based on your responses to this measure, you may or may not be contacted to participate in a future research study. You will receive bonus points for completing this questionnaire, and if you are invited to participate in the experiment, you will also receive one course credit for your participation in the experiment.

In order for the researchers to contact you if you do qualify, you must enter your name and current e-mail address on this page. If you would like to be considered for the study, please write your name and e-mail address in the space provided below and then complete the following questionnaire. Please be as honest as you can in your responses to the questions.

Name_____

Current e-mail_____

Appendix B
Prescreening Questionnaire

1. **Sex (check one)** ____ Male _____ Female ____ Other

2. **What is your age? (write in)** _____

3. **What is your relationship status? (select one)**

   Single_____ In a Relationship_____ Other _____

Please carefully read and answer the following statements in correspondence with your agreement toward each item. **Each item is answered on a scale of 0 (*strongly disagree*) to 6 (*strongly agree*).**

1. Stereotypes about women have not affected me personally.

    0   1   2   3   4   5   6

2. I never worry that my behaviors will be viewed as stereotypically female.

    0   1   2   3   4   5   6

3. Most men do not judge women on the basis of their gender.

    0   1   2   3   4   5   6

4. Most men have a lot more sexist thoughts than they actually express.

    0   1   2   3   4   5   6

5. I often think that men are unfairly accused of being sexist.

    0   1   2   3   4   5   6

6. Most men have a problem viewing women as equals.

    0   1   2   3   4   5   6

7. When I am in a group of strangers, I am not reluctant to express my opinion openly.

    0   1   2   3   4   5   6

8. I sometimes hesitate to use my own ideas for fear they might be impractical.

0　　1　　2　　3　　4　　5　　6

9. People frequently succeed in changing my mind.

0　　1　　2　　3　　4　　5　　6

10. I like wearing a uniform because it makes me proud to be a member of the organization it

represents.

0　　1　　2　　3　　4　　5　　6

11. I do not always live by the standards and rules of society.

0　　1　　2　　3　　4　　5　　6

12. Being a success in one's career means making a contribution no one else has made.

0　　1　　2　　3　　4　　5　　6

13. I always try to follow the rules.

0　　1　　2　　3　　4　　5　　6

14. I must admit I find it hard to work under strict rules and regulations.

0　　1　　2　　3　　4　　5　　6

15. I would rather be known for trying new ideas rather than employing well-trusted methods.

0　　1　　2　　3　　4　　5　　6

16. I do not like to say unusual things to people.

0　　1　　2　　3　　4　　5　　6

17. I have been quite independent and free from family rule.

0　　1　　2　　3　　4　　5　　6

18. In most things in life, I believe in playing it safe rather than taking a gamble.

0　　1　　2　　3　　4　　5　　6

19. It is better to break rules that always conform to an impersonal society.

0   1   2   3   4   5   6

Appendix C
Manipulation Check

Please answer the following question to the best of your knowledge.

During the Cyberball game, the other two players would best be described as:

    1- Two males

    2- Two females

    3- One male and one female

    4- Other

Appendix D

The Four Needs Questionnaire
Zadro, Williams, & Richardson, 2004

1. What percent of the throws were thrown to you? _____
2. To what extent were you included by the other participants during the game?_____

Answer each item as carefully and as accurately as you can by placing a number beside each as follows:

	1	2	3	4	5	6	7	8	9	
Not at All										Very Much So

1._____ I felt poorly accepted by the other participants.
2._____ I felt as though I had made a "connection" or bonded with one or more of the participants during the Cyberball game.
3._____ I felt like an outsider during the Cyberball game.
4._____ I felt that I was able to throw the ball as often as I wanted during the game.
5._____ I felt somewhat frustrated during the Cyberball game.
6._____ I felt in control during the Cyberball game.
7._____ During the Cyberball game, I felt good about myself.
8._____ I felt that the other participants failed to perceive me as a worthy and likeable person.
9._____ I felt somewhat inadequate during the Cyberball game.
10.____ I felt my performance [e.g., catching the ball, deciding whom to throw the ball to] had some effect on the direction of the game.
11.____ I felt non-existent during the Cyberball game.
12.____ I felt as though my existence was meaningless during the Cyberball game.
13.____ I felt angry during the Cyberball game.
14.____ I enjoyed playing the Cyberball game.

Appendix E
Gender Rejection Sensitivity Questionnaire
London et al, 2011

Each of the items below describes situations that people encounter. Some people are concerned about these situations and others are not. Please imagine yourself in each situation and circle the number that best indicates how you would feel.

1. Imagine that you are in your science class, and the professor asks a particularly difficult question. A few people, including your, raise their hands to answer the question.						
How concerned/anxious would you be that the professor might not choose you because of your gender?	Very unconcerned				very concerned	
	1	2	3	4	5	6
I would expect the professor to choose me.	Very unlikely				very likely	
	1	2	3	4	5	6

2. Imagine that you have to give an oral presentation in a very important course. After everyone gives their presentations, the professor announces that he will post the grades outside of the classroom.						
How concerned/anxious would you be that you might receive a lower grade than others because of your gender?	Very unconcerned				very concerned	
	1	2	3	4	5	6
I would expect to receive a high grade on the presentation.	Very unlikely				very likely	
	1	2	3	4	5	6

3. Imagine that it's the first day of your science class and all the students must create teams to work on projects throughout the semester. Most of the groups are already full except for a few groups of all males.		
How concerned/anxious would you be that you might not be	Very unconcerned	very concerned

welcome to join one of the remaining groups because of your gender?	1 2 3 4 5 6
I would expect to be welcome to join one of the remaining groups.	Very unlikely very likely 1 2 3 4 5 6

4. Imagine that you have just completed the first round of interviews for a high paying corporate job. Your interviewer informs you that they will let you know about their decision after they have interviewed a few more applicants.

How concerned/anxious would you be that you might not be hired because of your gender?	Very unconcerned very concerned 1 2 3 4 5 6
I would expect to be hired.	Very unlikely very likely 1 2 3 4 5 6

5. Imagine that you were just accepted into a graduate program. Your advisor/mentor for the program is a senior, male professor. You meet your advisor for the first time on the first day of classes.

How concerned/anxious would you be that the professor might treat you differently than other students because of your gender?	Very unconcerned very concerned 1 2 3 4 5 6
I would not expect to be treated differently.	Very unlikely very likely 1 2 3 4 5 6

6. Imagine that you are starting a new job in a corporate office. On the first day, the manager arranges an office meeting to introduce you as a new employee.

How concerned/anxious would you be that others might expect less of you because of your gender?	Very unconcerned very concerned 1 2 3 4 5 6

	Very unlikely very likely
I would not expect others to have lower expectations me.	1 2 3 4 5 6

7. Imagine that you received a low grade on your math test and then you realize that there may be an error in the grading of one problem. You approach your professor to ask him to review the question.

How concerned/anxious would you be that the professor might not listen to your inquiry because of your gender?	Very unconcerned very concerned 1 2 3 4 5 6
I would expect the professor to listen to my inquiry.	Very unlikely very likely 1 2 3 4 5 6

8. Imagine that you have worked at your job for nearly a year. A position is open for manager and you approach your boss to ask for the promotion.

How concerned/anxious would you be that you might not get the promotion because of your gender?	Very unconcerned very concerned 1 2 3 4 5 6
I would expect to get the promotion.	Very unlikely very likely 1 2 3 4 5 6

9. Imagine you are at an important business meeting at work and your boss asks for comments or suggestions to improve the productivity of your department.

How concerned/anxious would you be that your suggestions might not be taken seriously because of your gender?	Very unconcerned very concerned 1 2 3 4 5 6

	Very unlikely very likely
I would expect my suggestions to be taken seriously.	1 2 3 4 5 6

10. Imagine you are working in a brokerage firm and your boss and a few of the other men in the firm are going out for drinks to a local bar after work.

How concerned/anxious would you be that your boss and your colleagues might not invite you to go to the bar for drinks because of your gender?	Very unconcerned very concerned 1 2 3 4 5 6
I would expect my colleagues to invite me to the bar after work.	Very unlikely very likely 1 2 3 4 5 6

11. Imagine that your science professor assigns you and your classmates to work on a group project. A team leader is chosen and he begins to assign tasks to each member.

How concerned/anxious would you be that the team leader might assign you a less complicated/more menial task because of your gender?	Very unconcerned very concerned 1 2 3 4 5 6
I would expect the team leader to not assign me a less complicated/more menial task.	Very unlikely very likely 1 2 3 4 5 6

Appendix F
Stigma Consciousness for Women Questionnaire
Pinel, 1999

Please carefully read and answer the following statements in correspondence with your agreement toward each item. Each item is answered on a scale of 0 (*strongly disagree*) to 6 (*strongly agree*).

1. Stereotypes about women have not affected me personally.
2. I never worry that my behaviors will be viewed as stereotypically female.
3. When interacting with men, I feel like they interpret all my behaviors in terms of the fact that I am a woman.
4. Most men do not judge women on the basis of their gender.
5. My being female does not influence how men act with me.
6. I almost never think about the fact that I am female when I interact with men.
7. My being female does not influence how people act with me.
8. Most men have a lot more sexist thoughts than they actually express.
9. I often think that men are unfairly accused of being sexist.
10. Most men have a problem viewing women as equals.

Appendix G
Demographic Questionnaire

1. **Sex (check one)**   _____ Male   _____ Female   _____ Other

2. **What is your age? (write in)**   _____

3. **What is your relationship status? (select one)**

   Single_____   In a Relationship_____   Other _____

Appendix H
Informed Consent

Participant Informed Consent
A State University of New York, The College at Brockport Research Project

Title of Research: Experiencing Electronic Games
Principle Investigator: Kayleigh Neff
Department: Psychology

The purpose of this research project is to examine how individuals interact in computer-based games, as well as how certain attitudes influence responses to web-based social interactions. During this experiment, you will play a simple computer game called "Cyber Ball" with other students. After playing the game, you will be asked to answer some questions about Cyber Ball and about your experience while playing Cyber Ball. In addition, you will be asked some additional questions about various attitudes that you hold, responses to different social situations, and a brief demographic questionnaire. At the conclusion of the experiment, you will be given an opportunity to ask the experimenter any questions you may have about the experiment or your participation in the experiment.

You will receive one credit towards completion of your introductory psychology requirement for this session. If at any time during this experiment, you wish to terminate your participation, you will receive full credit.

In order to participate in this study, your permission is needed. You are being asked to make a decision whether or not to participate in the experiment. If you want to participate, and agree with the statements below, please sign your name in the space provided at the end. You may change your mind at any time and leave the study without penalty, even after the study has begun.

I understand that:
1. I must be 18 years of age in order to participate in this research.
2. My participation is voluntary and I have the right to refuse to answer any questions
3. My confidentiality is protected. My name will not be written on any questionnaires. If any publication results from this research, I would not be identified by name.
4. The risks (i.e., interacting with outside individuals) and benefits (i.e., contributing to research findings in the field) of participating in this study have been clearly explained to me.
5. My participation involves playing a computer game called Cyber Ball and answering a survey including approximately 14 questions about my experience playing Cyber Ball, as well as additional survey about some of my social attitudes. It is estimated that it will take no more than 30 minutes to complete the game and surveys.

6. Approximately 80 people will take part in this study. The results will be used for the primary researcher's senior honors thesis and publication in a scientific journal.
7. Data will be kept in a locked filing cabinet by the investigator. Data and information sheets will be destroyed by shredding when the research has been accepted and approved.

Contact Information

If you have any questions about this study, please contact: **Kayleigh Neff at (315) 408-6952 or kneff1@brockport.edu, or Dr. Jennifer Ratcliff, Assistant Professor of Psychology at The College at Brockport, at jratclif@brockport.edu.**

If you have any questions about your rights as a research participant or concerning a research-related injury, you can call: **The Institution Review Board representative at (585) 395-2779 or irboffic@brockport.edu.**

I certify that I have read and understand this informational form and agree to participate as a subject in the research described. I agree that known risks to me have been explained to my satisfaction. I certify that I am 18 years old or older. My participation in this research is given voluntarily. I understand that I may discontinue participation at any time without penalty or loss of benefits to which I may otherwise be entitled. I may also refuse to answer specific questions if I so choose. I certify that I have been given a copy of this informational form to be taken with me.

Signaure_____Date_____

Printed Name_____

Appendix I
Debriefing

This study was designed to better understand how one's level of awareness about negative, prejudicial attitudes relates to their own social group impacts a person's reaction to a situation in which they were made to feel excluded from the group. Additionally, this study examines how a person's expectation to be rejected or excluded by another individual affects that relationship. Participants were pre-screened for their levels of stigma consciousness, and only females participated in the experiment. This experiment included a game of "Cyberball." There were two conditions for the "Cyberball" game, one of which involved the exclusion of some participants during the game. The remaining participants were included in the game. No person was actually singled out to not have the ball thrown to them, meaning that each participant was randomly chosen whether or not they had the ball thrown to them, and the exercise was simply to simulate the experience of ostracism. Cyberball was preprogrammed, and no participant was actually ostracized by any other individual.

After playing "Cyberball", the four psychological needs for belonging, control, self-esteem, and meaningful existence was measured. Rejection sensitivity (how much a person expects to be rejected) was also measured and stigma consciousness was reassessed. The study's purpose was to examine how ostracism impacts feelings of rejection sensitivity and stigma consciousness measures corresponded with higher scores on the four psychological needs questionnaire after experiencing ostracism.

During the experiment, it was necessary for those of you in the ostracism condition to be unaware that the "Cyberball" game was programmed to not throw the ball to you. Please note that while you may have experienced an emotional reaction to the game that the effects of the Cyber Ball game, including temporary worsened mood and lowered self-esteem, are short-term and your mood and self-esteem should return to normal within the hour.

By participating in this study you have provided data that can be analyzed in order to further understand how individuals experience ostracism. Findings from this study may help to empower individuals who experience ostracism to counteract its' effects. If you have any further questions about the experiment, feel free to ask the experimenter once you have finished. The Counseling Center is available in Hazen Hall, and can be reached at (585) 395-2207 if you believe that you would benefit from additional services after the experiment.

Once again, all of your responses and scores will be confidential and not linked with your name in any way. For the integrity of the experiment, please do not discuss it with others who will participate in it. Doing so may bias their answers, leading to data that is not truly valid. If you have any questions at all about the study, please contact the primary researcher or the supervising professor:

Kayleigh Neff
Department of Psychology
(315) 408-6952
kneff1@brockport.edu

Dr. Jennifer Ratcliff
Department of Psychology
137 Holmes Hall
jratclif@brockport.edu