

TO INCLUDE OR NOT TO INCLUDE

To Include or Not to Include:

Intervening in the Ostracism of a Stranger

In Middle School Children

A thesis submitted by

Patricia K. Gansert

In partial fulfillment of the requirements for the degree of

Master of Arts

in

Child Development

TUFTS UNIVERSITY

May 2014

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ADVISER: Richard M. Lerner

Abstract

Ostracism, the experience of being excluded or shunned by one's peers, is found across human cultures as well as in other animals. Being ostracized can have serious consequences, including increased risk of depression and anxiety. Previous research has found that the negative sequelae of ostracism can be mitigated if at least one group member continues to include the victim. This phenomenon represents a possible starting point for interventions to help victims of ostracism: children could potentially be trained to intervene in a peer's ostracism. This study explored characteristics associated with children's inclusion of an ostracized peer during Cyberball, a computer game task. Empathy and perspective were considered as possible moderators of a child's likelihood of helping an ostracized peer. Results indicated that empathy was not related to assisting an ostracized peer, but having a specific prosocial motivation to help might be related. Implications for future research and intervention are discussed.

Acknowledgments

This research was supported by a grant from the Poses Family Foundation. The author would like to thank the members of her committee, Lacey Hilliard and Jacqueline Lerner, as well as her committee chair, Richard M. Lerner, for all their feedback and support.

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To Include of Not to Include:

Intervening in the Ostracism of a Stranger

In Middle-School Children

Ostracism is the experience of being shunned, rejected, and ignored by a group one is a member of (Gruter & Masters, 1986). This seemingly simple phenomenon is found across cultures and even in some other species, and it is a fundamental part of how human groups operate (Gruter & Masters, 1986). By ostracizing members who fail to adhere to group norms, group cohesion is increased, aberrant behavior is discouraged, and the ostracized individual may reform his or her behavior to better suit the demands of the group (Masters, 1986). Examples of ostracism can range from small-scale (e.g., children giving 'the silent treatment' to a playmate who repeatedly takes their toys) to large-scale and even institutionalized (e.g., the U.S. prison system, in which those who violate society's rules are isolated from normal society; the group 'shunning' used by the Amish) (Masters, 1986).

Ostracism's importance for human behavior can be seen in the typical responses to experiences of ostracism. Even brief, mild, seemingly meaningless experiences of ostracism produce strong negative reactions (Williams, 2001; Williams, 2007). The Williams (2001) model of ostracism posits that humans have four primary needs—control, belonging, meaningful existence, and self-esteem—and experiencing ostracism causes an individual's needs to fail to be met. This "need threat" causes individuals to feel that their lives are less meaningful, reduces their self-esteem, makes them feel isolated from the group, and makes them feel like they have no control over their situations (Williams, 2001).

We can ask the question: why do people typically respond so powerfully and so rapidly to any experience of ostracism, regardless of its apparent importance (or lack thereof)? Williams (2007) suggests that detecting ostracism rapidly and automatically is of high adaptive value. In human evolutionary history, Williams (2007) claims, being rejected from the group was likely to lead to death; early humans could not survive in isolation. Research on our close genetic relative, the rhesus monkey, provides some support for this claim: rhesus monkeys socially isolated during infancy become disturbed, low-functioning adults, thus showing that social interaction is necessary to normal development (Harlow & Suomi, 1971). Given the potential negative consequences of such isolation, according to Williams (2007), signals that ostracism was occurring were extremely threatening in hominid evolution, and detecting such signals and responding appropriately to regain group acceptance was necessary.

Therefore, an individual's ostracism detection system may activate rapidly to even mild ostracism cues (Williams, 2007). Over time, however, the individual may consciously appraise the situation: if exclusion is not actually occurring or the experience was of little significance, the individual's primary needs may be restored to normal levels, while if the ostracism is real and significant, the individual may instead act to change the situation and restore their threatened needs (Williams, 2007).

The exact nature of an individual's response to ostracism may vary with the specific situation; if, for example, an individual's sense of self-esteem and belonging are most threatened, they may be likely to respond with increased helping behavior and affiliative behavior towards other groups to restore self-image as a useful individual and to bolster social ties (Williams, 2007). If, on the other hand, control and meaningful

existence are primarily threatened, the individual may respond with aggression towards the excluders, increasing feelings of control over the situation and reducing feelings of helplessness in the face of the ostracism (Williams, 2007).

Note, too, that individual characteristics may also affect response to ostracism. Women, for example, are more likely to respond with increased helping behavior overall, while men are more likely to respond with social loafing or aggression (Williams, 2007). In addition, duration of need threat can vary: socially anxious individuals show no difference from non-socially anxious individuals in degree of initial need threat (supporting the concept of a primitive, automatically activating social exclusion detection system), but the socially anxious individuals take longer to recover normal levels of their primary needs after the exclusion experience ends (Sethi, Moulds, & Richardson, 2012). This finding means that some individuals may be more vulnerable to negative long-term consequences of ostracism than others.

Importance For Adolescents

Although ostracism is distressing and threatening across populations, as we have described above, adolescents may be uniquely vulnerable to ostracism and its negative consequences. Adolescence is a time of transition from childhood to adulthood during which adolescents tend to spend more time with their peers than with their families: Grace et al. (2007) found that older adolescents spent, on average, twice as many hours per week with friends compared to family. This change in time with peers and family means that adolescents are functioning in a different social environment than are children and the peer group may be particularly salient for this age group.

Along with changes in the amount of time spent with peers, adolescents also experience changes in their concern with and understanding of peer relationships. During adolescence, individuals may begin to turn to peers as well as to parents to fulfill attachment-related needs, such as security and trusting relationships, and peers become influential in some domains (Nickerson & Nagel, 2005; Wand, Peterson, & Morphey, 2007). Note that this change does not mean that parents cease to be important: adolescents still tend to rely more on parents than on peers for security, and relationships with parents and peers may be equally intimate (Nickerson & Nagel, 2005; Wand, Peterson, & Morphey, 2007). Rather, peers increase in importance: Nickerson and Nagel (2005) found that eighth graders were twice as likely as fourth graders to turn to peers for emotional support and when they were upset, and eighth graders rated relationships with peers more trusting than did fourth graders. Similarly, Wand, Peterson, and Morphey (2007) found that, although parents remained influential during adolescence in many areas, such as educational aspiration and alcohol and drug use, peers gained influence in some other areas, including both important long-term choices such as sexual behavior and minor short-term choices such as taste in music. In short, during adolescence peers join parents as an important source of close emotional bonds and influence. Because adolescents are concerned with peers' opinions in at least some areas and are likely to turn to peers for emotional support and trusting relationships, peer rejection may be especially painful.

The combined effect, therefore, of increased time spent with peers and increased reliance on peers for emotional support means that adolescents may find peer ostracism highly distressing. Thus, understanding the nature of ostracism during adolescence is of

importance. The peer group is of course not the only context in which adolescents might experience ostracism. This research is preliminary, however. Although multiple contexts, and connections among them, are important, this study's focus on peer ostracism is a reasonable place to begin investigating, especially because of the salience of peers in adolescence.

Reducing the Effects

At this point, we have argued that ostracism leads to serious negative consequences, and that adolescents are particularly vulnerable. This argument leads us to ask: what, if anything, can be done to reduce or eliminate these negative consequences? How can a victim of ostracism be helped? One possible answer to these questions lies in the actions of the peer group.

Research shows that the negative effects of social exclusion can be mitigated or ameliorated by the behavior of group members (DeWall, Twenge, Bushman, Im, & Williams, 2010; Tang & Richardson, 2013). First, let us consider the case of mitigation (that is, the effects of the ostracism are lessened, but not completely eliminated). In an experimental study of adult participants, DeWall et al. (2010) found that, although being ostracized during a group activity led to aggression and negative mood for the victim, these effects were reduced if at least one member of the group continued to include the victim. Note, too, that the inclusion of further members of the group, although it continued to decrease aggression and negative moods, did not lead to as dramatic a change as occurred when the first individual included the ostracized person (Dewall et al., 2010). This finding suggests, first, that peer support can be a mitigating factor for the

negative consequences of ostracism; and second, that only a single supportive peer is needed to make an impact. Even one ally can change the outcome for an individual.

Aside from this mitigating effect, the actions of peers may be capable of entirely ameliorating the negative effects of ostracism. Here, it is useful consider the actions of peers not during an episode of ostracism, but rather afterwards. Tang and Richardson (2013), also using an experimental design with adult participants, found that individuals who had been excluded had mood and need ratings no different from individuals who had never been excluded *if* the excluded individuals were subsequently included in some other activity. Those peers providing this inclusion could be members of the original excluding group, other uninvolved peers, or even a computer: the inclusion itself was the key factor (Tang & Richardson, 2013). Again, we see that the actions of peers and the peer group context overall affect an individual's experience of ostracism: those who were restored to inclusion in a social group after being excluded were able to recover their threatened needs and decreased moods.

In both of these studies (DeWall et al., 2010; Tang & Richardson, 2013), we see that the presence of supportive peers, whether during an episode of ostracism or afterwards, can have a powerful beneficial effect. This research, however, was conducted with adults. To better understand the effect that peer support can have in the adolescent population, we may turn to the bullying research literature. Here we can consider the bully victim as being ostracized by the actions of the bully.

Observational studies of bullying in children and adolescents have found that peers are present during 80% to 90% of episodes of bullying (Atlas & Pepler, 1998; Craig, Pepler, & Atlas, 2000; Crosby et al., 2010; Hawkins et al., 2001; O'Connell, Pepler,

& Craig, 1999). Furthermore, the majority of children report that they disapprove of bullying and find it upsetting to witness (Hawkins et al., 2001). Despite this finding, however, children intervene in witnessed episodes of bullying only between 10% and 20% of the time (Atlas & Pepler, 1998; Hawkins et al., 2001; O'Connell et al., 1999; Salmivalli et al., 1996). In most cases, therefore, although children are uncomfortable witnessing bullying, they remain passive and do not take action to stop it.

However, when interventions do occur, they are typically successful: Hawkins et al. (2001) found that nearly 60% of interventions stopped the bullying within 10 seconds. When we examine these interventions more closely, we can identify two important characteristics. First, interventions were brief: all of the interventions Hawkins et al. (2001) observed lasted between two seconds and one minute. Second, interventions were equally likely to be aggressive or nonaggressive, and these two types of interventions were equally likely to be successful (Hawkins et al., 2001).

This set of findings suggests two points: first, as we have seen in relation to ostracism, aiding a victim of bullying may require relatively little effort: a single peer briefly confronting the bully is enough to end many episodes of bullying. Second, there is no single best way to successfully aid a peer who is being bullied: multiple types of interventions can be successful. It seems that the crucial factor is the presence of at least one peer who actively offers support. This phenomenon occurs in the specific case of ostracism as well: the presence of a single peer who either continued to include the participant during his or her ostracism or included the participant in a new activity afterwards was enough to mitigate the negative effects of the ostracism (Dewall et al., 2010; Tang & Richardson, 2003).

When we consider these studies as a whole, it seems likely that the specific peer behavior of intervening, whether by confronting a bully, actively including the victim of exclusion, or offering a supportive group afterwards, is a key way to aid victims of ostracism. It is important to note, however, that we cannot say that these studies show that among adolescents, peer intervention will end episodes of ostracism specifically. The studies of bullying used broad measures of bullying, encompassing physical aggression, verbal aggression, and relational aggression, and the studies of ostracism used only adult participants. We can say, however, that ostracism is a form of bullying, and that the studies above provide evidence that peer intervention is helpful to adolescent victims of bullying in general. When we additionally consider that peer intervention was helpful to adult victims of ostracism (Dewall et al., 2010; Tang & Richarson, 2003), it seems reasonable to suspect that peer intervention will be helpful to adolescent victims of ostracism.

If peer intervention is in fact a successful way to combat social exclusion and other forms of bullying, then one way to combat the problem of ostracism may be to train children to intervene with each other. Such a training program might be able to create a supportive community in which social exclusion is reduced by the active efforts of the community members. Before any such intervention could be created, however, there is an important question to answer. We have seen that, although the majority of children disapprove of bullying and find it upsetting to witness, comparatively few actually intervene. What is it, then, that causes the interveners to act? The answer to this question could provide a starting point for intervention designs: if whatever leads interveners to act is something that can be learned, children could be trained to intervene for their peers.

Empathy and Intervening

It is thus of interest to ask what characteristics might distinguish individuals who intervene for peers who are being ostracized or bullied and individuals who do not. One likely factor is empathy, that is, the ability to share another person's emotional state (Batson et al., 1981).

The link between empathy and helping behavior is well-established. Numerous studies have shown that when individuals feel empathy towards a person who is suffering or otherwise in need of aid, they tend to be more likely to offer aid to that person (Batson et al., 1981; Batson & Powell, 2003; Davis et al., 1992; Mathur et al., 2010). Brain-imaging research also supports these findings. Participants who showed more activation in empathy-related brain regions while watching a peer be excluded during a game later wrote more prosocial e-mails to the excluded peer (Masten et al., 2010; Masten et al., 2011). Furthermore, people vary in the degree to which they typically feel empathy towards others (Mathur et al., 2010). Thus, it seems likely that those adolescents who generally tend to feel more empathy may also be those who are more likely to intervene for a peer.

There is some evidence, however, that the association of empathy and helping behavior may be moderated by perspective taking. When one takes another person's perspective, one may feel a sense of oneness towards and similarity with the other, causing one to feel empathy towards that person (Cialdini, 1990; Decety & Grezes, 2006). Thus, it is possible that adolescents who are more skilled in taking another person's perspective may be more likely to intervene for their peers.

Statement of the Problem

Given the potential negative long-term consequences of ostracism and the possible special vulnerability of the adolescent population, identifying routes towards interventions to reduce ostracism and other forms of relational aggression are of interest. We have seen that peer interventions can be an effective way to mitigate the negative psychological consequences of ostracism for the victim and end the ostracism. Therefore, one possible form of intervention might be to train adolescents to intervene for their peers. The goal of this study, therefore, is to test whether empathy and perspective-taking can predict which adolescents choose to intervene when they witness a peer being ostracized. If so, then interventions built on such a relationship would be warranted.

Method

Participants

As part of a larger study (Hilliard et al., in preparation), 59 sixth-grade students (30 girls, 29 boys, mean age = 11.5 years, SD = 0.54) attending a metro-west Boston school were recruited with the aid of the students' health-class teacher. This teacher acted as a liaison, explaining the study to students and distributing fliers and information provided by the research team to students and parents. Participants were compensated with several small prizes (light-up rings, animal-shaped erasers, and the like) and a \$30 gift card. Participants who were selected for follow-up interviews received an additional \$10 gift card.

Materials

Empathy and perspective-taking were measured using the empathy and perspective-taking subscales of Davis' (1980) Individual Reactivity Index. These scales

were given as part of a larger survey. Both scales have seven items, each consisting of a descriptive statement (e.g., "I often have tender, concerned feelings for people less fortunate than me" and "I sometimes find it difficult to see things from the "other guy's" point of view") to which the participant responds Strongly Disagree, Disagree, Neither Agree Nor Disagree, Agree, or Strongly Agree.

The prosocial behavior task was adapted from Williams et al.'s (2000) Cyberball task. Cyberball was originally developed in order to create an ostracism scenario with minimal significance and detail which would still produce distress (Williams et al., 2000). The original Cyberball took the form of a ball-tossing computer game. Players believed they were playing online with strangers, but in reality the other players were computer controlled and were programmed to exclude the human player after receiving the ball only once (Williams, 2000). Since the original use of Cyberball, many versions of the task have been developed: versions in which receiving the ball is harmful to the player, in which the other players are from groups either hated or liked by the player, in which the player is included but another computer player is excluded, and more (Williams & Jarvis, 2006). The task has been used for research not only on ostracism, but also on empathy (Masten et al., 2010; Masten et al., 2011).

Our version of Cyberball, referred to as BallToss3000, takes the form of a video game programmed in Adobe Flash. In this game, the participant is not excluded, but rather witnesses one of the other three players being excluded. The game opens on a textbox explaining that BallToss3000 is an online ball-tossing game and prompts the participant to click the box in order to begin searching for an open game. After five seconds, a new textbox pops up saying that an open game has been found and that the

participant will first watch a game in progress. Once the participant's character appears on screen, he or she has joined the game and may begin playing. Clicking this textbox brings up the main game screen.

During the game, the participant sees three stick figures, labeled Player A, Player B, and Player C, tossing a ball to each other. Player C will receive the ball once and then never again: Player A and Player B toss to ball only to each other. After 20 seconds, a new stick figure, labeled You, appears on screen, and a textbox pops up telling the participant that they have now joined the game and may pass the ball by clicking any other player. The game proceeds as before, but now Player A and Player B have a 50% chance of throwing the ball to the participant or each other, and Player C has a 50% chance of throwing the ball to the participant, a 25% chance of throwing the ball to Player A, and a 25% chance of throwing the ball to Player B.

After the participant has thrown the ball 20 times, a textbox will pop up thanking the participant for playing and prompting him or her to save data. A save menu will pop up. This save file contains a list of numbers representing the target player of each throw made by the participant (so if the player threw to A, then B, then C, the resulting file will show the ID of A, B, and C, in that order).

Helping behavior towards C was measured as the number of times the participant threw the ball to Player C. These raw throw numbers were linearly transformed into percentages for clarity (note that each participant threw the ball exactly 20 times in total). Since the purpose of the Cyberball task was to measure how participants would behave if they saw C being excluded, a manipulation check was necessary. On the manipulation

check, 85.45% of participants reported that C had been excluded. Participants who did not notice the manipulation were not included in subsequent analyses.

Procedure

All experimental sessions took place in the students' health classroom, during their normal class period. The data used in this paper were collected during the final experimental session. A member of the research team explained to students that they would first play a new game (the larger study involved playing video games) and then take a survey. The game was described as a new, still very simple online game which the research team wanted the students to help test. The researcher told the students that the research team wanted to know both about the mechanics of the game and the behavior of the other players, because the research team wanted to form a player community around the game and thus needed to know how the players interacted with the game and how they behaved. Students were then told that before they could start playing, they would first watch a game that was already going on, and that the research team wanted them to pay close attention to this situation as well. Students were then told that they could start playing.

After the students finished playing Cyberball, the research team members helped the students save their data and then instructed them to begin the survey. Once the students completed the survey, they received their gift cards and waited for their classmates to finish the survey. Participants who had been randomly selected for a follow-up interview were taken outside the classroom for their interviews after they had completed their surveys.

Results

Before testing the hypothesized relationship between empathy and Cyberball score, standard descriptive analyses were performed (see Table 1). These analyses showed a strong correlation between empathy scores and perspective-taking scores, $r(52) = 0.68, p = .001$, and, when both of these variables were included in the model, collinearity was above acceptable limits (the condition index for the perspective taking variable was 65.33, well above acceptable levels). Therefore, only empathy was retained for subsequent analyses.

The relationship between empathy and helping behavior towards Player C was assessed in a regression analysis with predictor variables being empathy and gender and the criterion variable being Cyberball score. Throws to C were not significantly predicted by empathy (Beta = .0008, $p = .45$), but throws to C were significantly predicted by gender (Beta = $-.1259, p = .003$), with girls throwing the ball to C significantly more often than boys. The model explained a significant amount of variance in Cyberball scores, $F(2,52) = 5.05, p = .01, R^2 = .16$.

The above analysis was one planned in advance. During the cleaning and analysis of the data, however, another question emerged: is the number of throws made to C in fact a measure of intention to help? It is possible, for example, for a child to throw to C a high number of times simply because he or she arbitrarily chose a player to click on. In order to answer this question, qualitative data were needed. During the post-study survey, a number of free response questions were asked regarding the Cyberball task, including this item: "How did you decide who to throw the ball to?" This item invites the participant to explain his or her reasoning for behavior during Cyberball. Thus, by coding this item and comparing it to participants' actual behavior towards C during Cyberball, it

is possible to explore the relationship between an individual's stated reasoning and feelings towards C and his or her actual behavior. Note that this analysis was purely exploratory, with no a priori hypotheses.

The responses were placed into one of three possible categories by the researcher: Specific Reasoning (the response specifically mentions helping C and C's exclusion; $N = 6$, 2 female, 4 male), General Reasoning (the response mentions some prosocial reasoning, like being fair or making sure no one was left out, but does not specifically mention C; $N = 19$, 13 female, 6 male), and Non-Prosocial Reasoning (the response does not include any prosocial reasoning; $N = 29$, 13 female, 17 male). Two raters blind to the study's hypotheses achieved an adequate interrater agreement (Cohen's kappa = .62). These categorical codes were then used to create dummy variables for use in a subsequent regression analysis.

The response categories were based on two factors: prosocial reasoning and specificity of reasoning. In the Specific Reasoning category, participants expressed specific prosocial reasoning: they threw to C because C was being excluded. In the General Reasoning category, although participants still expressed prosocial reasoning, it was no longer specific: these responses were more general prosocial ideas like fairness and wanting no one to get left out, without explicit mention of the fact that only C was being excluded. In the Non-Prosocial Reasoning category, reasoning was not prosocial at all: this category included responses like throwing at random or simply going in order around the circle of players.

The differences in number of throws to C among these response categories was analyzed in a regression, with predictor variables being Specific Reasoning, General

Reasoning, and Non-Prosocial Reasoning, and the criterion variable being Cyberball score. Specific Reasoning participants were significantly more likely to throw the ball to C than were Non-Prosocial Reasoning participants (Beta = .228, $p = .001$), whereas General Reasoning participants were not different from Non-Prosocial Reasoning participants (Beta = .002, $p = .964$). The model explained a significant amount of the variance in Cyberball scores, $F(2, 48) = 6.51, p = .003, R^2 = .21$.

Discussion

This study's purpose was to explore the relationship between an adolescent's empathy and his or her behavior towards a peer who was being excluded from a game. A computerized ball-tossing task, Cyberball, was used to measure the participants' helping behavior. During data analysis, an additional question emerged: does the number of times an individual throws the ball to the excluded player in Cyberball have a relationship with the individual's stated reasoning for throwing the ball? That is, do those individuals who say they wanted to help the excluded player actually throw the ball to the excluded player more often than do those who do not express such an intention?

These questions are of importance because of their connection to the problem of social exclusion in the adolescent population. Social rejection and exclusion have been found to have negative long-term consequences such as depression, anxiety, and suicidal ideation (Sethi, Moulds, & Richardson, 2012; Williams, 2007). Previous research has shown that peer intervention may help to stop episodes of bullying and to mitigate the negative effects of peer exclusion (Dewall et al., 2010; Hawkins et al., 2001; Tang & Richardson, 2003). If factors associated with intervening to aid a peer could be identified, then it might be possible to use such factors to train children to aid their peers. Based on

previous research, empathy and perspective taking seemed likely to be related to peer intervention (Batson et al., 1981; Batson & Powell, 2003; Cialdini, 1990; Davis et al., 1992; Decety & Grezes, 2006; Mathur et al., 2010).

Surprisingly, analyses found no relationship between empathy and Cyberball scores. Gender, however, was related to Cyberball scores, with girls throwing the ball to the excluded player, Player C, more often than did boys. As to the exploratory Cyberball analyses, participants who expressed a specific intention to help Player C threw the ball to Player C significantly more often than either (a) participants who expressed a more general prosocial intention or (b) participants who expressed no prosocial intentions at all.

Given the relationship between helping behavior and empathy found in previous research (Batson et al., 1981; Batson & Powell, 2003; Davis et al., 1992; Mathur et al., 2010), it was unexpected that empathy scores were not related to Cyberball scores. One possible reason for this is that because of the simple, anonymous nature of the game, participants did not feel much empathy towards the stick-figure players, regardless of their typical feelings of empathy. However, participants did express strong feelings about the game and some specifically said on the post-game survey that they threw the ball to Player C because Player C was being excluded. Thus, it seems that Cyberball did engage our participants and evoked feelings of empathy in at least some participants. It does not seem likely that the lack of relationship between empathy and Cyberball scores is due to a failure of the game to elicit empathy for Player C.

We know from the literature that many more children disapprove of bullying and feel empathy towards victims of bullying than actually intervene in witnessed episodes of

bullying (Atlas & Pepler, 1998; Hawkins et al., 2001; O'Connell et al., 1999; Salmivalli et al., 1996). Thus, it is possible that empathy alone may not predict helping behavior in the context of bullying. Some other personal characteristic or situational factor may be necessary to lead an individual to actually intervene and help a peer. Previous research has found, for example, that temperament may influence empathic responding. Children who are high in negative emotionality (that is, they experience negative emotions strongly and easily) and low in emotional regulation may be highly empathic. However, these children may nevertheless avoid others who are in distress, rather than help, because the sight of the distressed person produces overwhelmingly intense negative emotions (Eisenberg, Wentzel, & Harris, 1998). Drawing on such past research, future studies should explore how personal and situational factors may interact with empathy in the context of intervening in ostracism and other forms of bullying.

It is also unclear why girls might throw the ball to C more often than boys. One obvious possibility was that girls were more empathic than boys, but empathy and gender were not significantly correlated (see Table 1). Another possibility is that girls were more engaged in and thus paid more attention to Cyberball than did boys; if this situation were the case, then, although girls and boys did not differ in their general levels of empathy, girls might have felt more empathy for Player C because of their increased attention to Cyberball. However, given that no data regarding participant engagement in Cyberball was collected, there is no way to test this hypothesis in the present data set.

As to the exploratory Cyberball analyses, it is not surprising that participants who did not express any prosocial reasoning for their ball throwing choices threw to Player C less often than participants who expressed a specific intention to help C. In Cyberball,

throwing the ball is the only way to interact with the other players, and so a player who wanted to help Player C would be likely to throw the ball to Player C. A player who had no particular concern for Player C might choose to simply throw the ball randomly.

What is less clear is why participants with general prosocial reasoning for their ball throwing choices were no different from participants with no prosocial reasoning. These participants realized that C was being excluded and reported that they chose to throw the ball for prosocial reasons, such as being fair and throwing to whoever had not gotten the ball for a while. Why, then, did these participants not throw the ball more often to Player C?

One possible explanation is that these two groups of participants had different conceptions of what was fair or needed during the game. The Specific Reasoning participants may have believed that since Player C was being completely excluded by the other two players, throwing more often than normal to Player C was needed to help or compensate Player C. This type of compensating behavior has been found in some studies of ostracism with adult participants (Wesselmann, Wirth, Pryor, Reeder, & Williams, 2012). The General Reasoning participants, on the other hand, may have felt that being fair in this situation meant throwing equally to all players and making sure no one was completely left out. These participants may not have felt that compensating Player C was necessary. Thus, the differences between these groups of participants may be a reflection of different ideas about fairness or ethical behavior. However, because a brief free response question was the only data collected about participants' reasoning regarding Cyberball, we do not know how participants understood the game or what they considered ethical behavior in this context.

There are several important limitations to this study's findings. First, data collected was limited by the choice of measures. Only one measure of empathy was used, and that measure may not have been appropriate for this age group. During post-study semi-structured interviewing regarding the empathy scale, many participants misinterpreted the scale's reverse-coded items. For example, marking Agree for the item "Sometimes I don't feel very sorry for other people when they are having problems" was described by some participants as meaning that the individual did feel sorry for others. Thus, this scale may not have been an accurate measure of our participants' empathy. Future research should incorporate multiple measures of empathy in order to gain a more nuanced picture of participants' empathy. In addition, no data were collected regarding participants' understanding of the Cyberball game and how they conceived of fairness and ethical behavior in that specific context. Thus, although we know how often participants threw the ball to Player C and their stated reasons for doing so, we do not know what being fair meant to participants or how often they thought a player should receive the ball. The study also did not collect any data on participant engagement in Cyberball. Thus, there is no way to know whether some participants threw the ball to Player C less often because they simply were not very engaged by the game and thus did not pay close attention to what was occurring. Such additional data would be necessary to fully understand why participants behaved as they did during Cyberball. Future research should make use of qualitative data, such as participant interviews and free-response survey questions, to explore how participants understand the Cyberball scenario, what fairness means in this context, and participant engagement in Cyberball,

In addition, Cyberball is a minimal situation, that is, it deliberately removes many characteristics of an actual episode of ostracism (e.g., prior relationships between the individuals involved, availability of help from bystanders, characteristics of the individuals involved, etc.) in order to eliminate the influence of these characteristics. However, Cyberball cannot account for contextual factors such as the individual's assessment of the risks and consequences of intervening, the race and gender of the victim, aggressor, and potential intervener, and so on. Future research should incorporate observational data of actual episodes of exclusion and bullying in order to triangulate participants' responses with multiple types of data and explore how behavior in Cyberball relates to behavior in a real-life situation.

A further limitation is found in sample characteristics. The sample used in this study came from a single class at a single school and was fairly homogenous in demographic characteristics like race and SES. Thus, it is not possible to generalize from this sample to a general population. Furthermore, we do not know the characteristics of this sample with regard to their experiences of relational bullying and school-based curricula or programs about bullying. Such experiences might influence an individual's perception of and behavior towards Player C during Cyberball.

Despite these limitations, this study adds to the literature on bullying and empathy by suggesting that empathy alone may not always predict helping behavior. In addition, although questions still remain in terms of why individuals behave the way they do during Cyberball, this study serves as a pilot for using Cyberball to study helping behavior. Although further research is needed, the results suggest that this task may be

useful as an inexpensive, easy to administer task that captures helping behavior and reasoning about social exclusion.

Social exclusion is a serious issue, and developing new ways to help victims of exclusion and prevent exclusion from occurring is an important topic. If we can understand why some individuals choose to take action and aid victims of social exclusion while others do not, we might be able to train people how and when to take action. Although there is still much we do not know, this study serves as a first step towards further understanding the characteristics of individuals who intervene and developing a task to measure helping behavior.

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Table 1

Means, standard deviations, and correlations for Cyberball Score, empathy, perspective taking, age, and gender in adolescents ages 10 to 12 (N = 53).

<i>Measures</i>	1	2	3	4	5	Mean (SD)
1. Cyberball Score	—	-.01 .48	.07 .32	.03 .43	-.41 .001**	.36 (.16)
2. Empathy		—	.68 < .001**	.25 .04*	-.17 .12	3.77 (.58)
3. Perspective Taking			—	.18 .10	-.06 .34	3.66 (.63)
4. Age				—	-.02 .46	11.5 (.54)
5. Gender					—	.49 (.50)

Key: * $p < .05$, ** $p < .001$