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Causes and Consequences of Bullying

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BY

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ABSTRACT

What causes people to bully others? Some evidence suggests that being the victim of bullying can cause a person to become aggressive, but research on the topic is flawed. The current research attempts to improve on prior research to examine (1) whether being bullied causes individuals to become bullies, themselves, and (2) whether there are personality traits or situational variables that predispose individuals to respond to bullying by becoming aggressive. Participants were either included in all three rounds of an online game (Cyberball; Williams et al., 2012), or ostracized to varying degrees. I hypothesized that participants who were ostracized would, in turn, ostracize a bystander in the third round of Cyberball (a measure of relational aggression). Results indicated that after being ostracized themselves, individuals higher in narcissism were more inclusive in the third round, whereas those lower in narcissism were more exclusive. These results challenge prior findings that higher narcissism leads to aggressive behavior, suggesting instead that higher narcissism may in some cases be a protective factor, such that it leads individuals to feel that they will be re-included and therefore should not aggress against peers. This research also suggests that individuals' expectations (e.g., for re-inclusion) may be an important factor to consider in assessing risk for peer-violence.

Keywords: bullying, ostracism, aggression, narcissism

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Bullying: Cause and Consequence?

For decades, it has been a commonly held assumption that those who suffer violence will be more likely to aggress against others (Firestone, 2012). What began as circulating anecdotal evidence has since grown into a robust literature documenting this so-called "cycle of violence" (Reckdenwald, Mancini, and Beauregard, 2013). Evidence supporting the cyclical nature of violence indicates that victims of child abuse are at increased risk for abusing their own children (Craig & Sprang, 2007), as well as perpetrating general acts of violence or criminality (Fagan, 2005). The cycle of violence has been, moreover, implicated in intimate partner violence, whereby victims of earlier mistreatment are more likely to abuse current romantic partners (Brown, James, & Taylor, 2010). Although plagued by methodological limitations—most notably, a dearth of experimental evidence—the "cycle of violence" literature holds promise in providing a framework for examining and understanding a related phenomenon: bullying.

For various reasons, not the least of which being the increasing incidence of school shootings in recent years (Bockler et al., 2013), much scholarly attention and public policy making has turned towards understanding one particularly common type of violence: bullying. Researchers have been especially concerned with the causes and consequences of bullying, including the relationship between acts of bullying and either previous or future incidences of peer-aggression. Surprisingly, virtually no research has systematically examined bullying through the cycle of violence lens; however, anecdotal and correlational evidence (Sommer, Leuschner, & Scheithauer, 2014) suggest that bullying, like child and intimate partner abuse, may be cyclical in nature. In the first comprehensive empirical examination of school shooters, Leary et al. (2003) reviewed the characteristics of fifteen school shootings between 1995 and 2001, conclud-

ing that social rejection was influential in thirteen of the cases, therefore suggesting that peer aggression may indeed be both cause *and* consequence of peer-aggression.

The current research augments prior research by experimentally investigating the cycle of violence as it pertains to peer relationships. I assess whether individuals who are bullied in a laboratory simulation (using "Cyberball," Williams et al., 2012) are more likely to bully individuals who were uninvolved in the bullying incident (bystanders). Augmenting previous research, the present research, moreover, investigates whether situational factors—namely, whether repeated bouts of ostracism or ostracism combined with an ego threat (e.g., an insult)—differentially affect the transition from victim to perpetrator of violence. Last, employing a broad theory of psychological defense, I explore the potential role of a number of individual difference variables in the victim-perpetrator cycle, positing that multiple mechanisms likely underlie violence in response to violence. Ultimately, the current research will shed light on whether bullying can lead to bullying and if so, what variables make this phenomenon particularly likely.

Bullying: Construct, Prevalence, Causes and Consequences

The most widely accepted definition of bullying comprises three characteristics: (1) *repeated* acts of aggression towards other(s) that are (2) *intentional* and (3) involve a *power imbalance* (Wang, Iannotti, & Nansel, 2009). Power differentials need not be physical in nature, such that perpetrators are physically stronger than or outnumber victims; they may be social, resulting from a disparity of social status or "popularity" between perpetrator and victim. The once-favored belief that bullying only refers to *physical* repeated and intentional acts of aggression has been refuted in recent years, as research has yielded at least three different types of "traditional" bullying: physical, relational (i.e. social exclusion or damaging others' reputations), and verbal (i.e. threats or psychological intimidation; Merrell et al., 2008). Technological changes in the

past decade have also engendered another form of bullying: cyberbullying (i.e., bullying carried out by electronic means). Examples include the use of social media or cell phones to repeatedly and intentionally harass, intimidate, or stalk others who cannot easily defend themselves (Smith et al., 2008).

Because of the variance in definitions and types of bullying, reported prevalence rates vary greatly. Most, however, suggest that the phenomenon is quite prevalent. A recent national-ly-representative survey indicated than in the span of two months, 53.6% of school-aged persons reported being verbally bullied, while 51.4% reported being socially bullied, 20.8% reported be-ing physically bullied, and 13.6% reported being electronically bullied (Wang et al., 2009). Bul-lying's prevalence is, moreover, indicated by the reality that bullying has been identified as the primary concern among children and adolescents, more so than racism, AIDS, and the peer pres-sure to try drugs and alcohol (Jimerson et al., 2010). The widespread presence of bullying is es-pecially salient given the myriad negative consequences for both the perpetrators and victims of bullying. To name just a few examples from a vast literature, evidence suggests that bullying vic-timization is related to suicidal ideation and risk for suicide (Gianluca, 2014); the probability of suffering depression (up to 36 years) later in life (Ttofi et al., 2011a); and physical health prob-lems, symptoms of post-traumatic stress, and increased intentions to leave settings in which the bullying occurs (Nielsen & Einarsen, 2012). Bullying perpetration, on the other hand, has been most robustly associated with later violence and criminality (Ttofi et al., 2011b).

Of particular interest to the current research, both bullying victimization and perpetration predict future violence. In a recent review, Ttofi, Farrington, and Losel (2012) analyzed whether bullying (perpetration or victimization) predicted later violence, even when other risk factors were controlled. In their meta-analyses, the researchers demonstrated that bullying perpetration

accounted for two-thirds of individuals' later violence and aggression, whereas being the victim of bullying was less robustly related to but still significantly predicted one-third of individuals' violence later in life. Importantly, the researchers also note that the effect size in their study is of the same magnitude as those found in studies comparing bullying perpetration with criminal offending and delinquency. While significant, Ttofi, Farrington and Losel's (2012) study is correlational and as such, cannot speak to the causes of bullying. Because correlational research is not controlled in such a way as to account for extraneous variables or reverse relationships, it cannot be used to infer whether one variable causes another. It could be, for example, that those who are bullied are bullied because they are dispositionally more aggressive and so their subsequent aggression against others may not be a result of their having been bullied, but other factors, such as their dispositional aggression.

The limitation of Ttofi, Farrington and Losel's (2012) study is characteristic of and underscores the limitations and ambiguity of the current literature on bullying. Given the correlational nature of most investigations of bullying, it is impossible to understand the causes of the phenomenon. One approach, to which Ttofi, Farrington and Losel (2012) allude, is to consider personality characteristics, such as antisocial dispositions, of bullies and victims. Most research on the causes of bullying, in fact, explains cause in such terms. As noted earlier, parenting behaviors have been linked to bullying, such that children exposed to abuse, neglect, or maladaptive parenting are at increased risk for becoming either a bully or victim, whereas those exposed to affectionate, communicative and responsive parenting are less likely to be involved in bully-victim relationships (Lereya, Samara & Wolke, 2013). Maladaptive parenting behavior is most strongly related to children's future bullying perpetration. Psychiatric disturbances are also suspected causes and consequences of bullying. Attention-deficit hyperactivity disorder and depres-

sion often occur concurrently with bullying perpetration and victimization in young children, and anxiety disorders are common in male victims and personality disorders are commonly seen in perpetrators and victims in young adulthood (Kumpulainen, 2008). Of course, it is unclear the degree to which psychiatric disturbances cause bullying, or are an effect of it.

In one of the only meta-analyses examining characteristics of bullies and victims, Cook et al. (2010) identified both individual and contextual predictors of bullying across 153 studies, such that they could define perpetrator and victim "types." According to their typology, both bullies and victims tend to experience internalizing and externalizing symptoms, have negative self-related cognitions, experience difficulty in solving social problems, and come from negative community, family, and school environments. Bullies, however, also have negative other-related cognitions, demonstrate more significant externalizing behaviors, possess greater social competence, perform worse academically, and are influenced significantly more by peers. Victims tend to experience more significant internalizing symptoms and are noticeably isolated and rejected by peers (Cook et al.).

In sum, bullying is defined as repeated, intentional acts of aggression against someone who cannot easily defend him- or herself. It is a highly prevalent phenomenon that is correlated with a number of deleterious outcomes for both victims and perpetrators. Rigorous scientific investigation, though largely correlational, has uncovered a number of variables (i.e. psychopathology) that predict an individual's status as either bully or victim and has afforded us typologies for both classes. Although traditionally, only profiles for "bullies" and "victims" existed in the literature, recent investigation has revealed the existence of a third type of bullying status, which comprises individuals who both bully and are bullied. Given that this appropriately named

"bully-victim" class underscores the fundamental connectedness between victimization and perpetration, it is highly relevant to the current research.

Bully-Victims

Recent research has uncovered various commonalities between bullying victims and perpetrators. In Cook et al.'s (2010) meta-analysis, the researchers identified a number of shared predictors of bullying across perpetrator and victim groups, supporting the notion that victims and bullies derive from a common cause. Moreover, both bullying perpetration and victimization are positively associated with measures of Machiavellianism, narcissism, psychoticism, and aggression (Linton and Power, 2013).

As suggested by the label, bully-victims can be understood as a hybrid of victims and bullies. They tend to have comorbid internalizing and externalizing problems, hold negative attitudes about themselves, be low in social competence, perform poorly in school, lack social problem-solving skills, and be both rejected and also influenced by peers (Cook et al., 2010). They also score low on measures of self-control and prosocial behavior (Veenstra et al., 2005). Notably, bully-victims have the greatest number of risk factors and appear to face the most significant challenges, compared to bullies, victims, and those uninvolved in bully/victim relationships (Cook et al.; Stein, Dukes, and Warren, 2007).

Bully-victims are distinct from bullies and victims in terms of their experiences with bullying in school, as well as their psychosocial and behavioral characteristics. Bully-victims experience more frequent bullying than victims; specifically, they are more likely to experience name-calling or teasing, physical assault, having property stolen or damaged, and being bullied based on identifiers such as race (Dulmus, Sowers, and Theriot, 2006). Compared to bullies, victims, and those uninvolved in bully/victim relationships, bully-victims, moreover, report the

poorest psychological health, the most physical injury, the most problem behaviors, and the poorest attitudes towards school (Stein, Dukes, and Warren, 2007).

Of particular interest to the current research, bully-victims also differ from bullies and victims on aggression-related variables. Bullies and bully-victims are higher in criminal thinking, aggression, psychopathy, and criminal behavior than victims or those uninvolved in bully/victim relationships (Salmivalli & Nieminen, 2002); they differ, however, in the types of aggression in which they engage. Researchers often distinguish between two types of aggression: reactive and proactive aggression. Reactive aggression arises in reaction to some actual or perceived frustration (Dodge & Coie, 1987). By contrast, proactive aggression—a construct derived from social-learning theory, which sees aggression as acquired behavior that is reinforced primarily through external rewards—involves aggressing against others for the purpose of gaining some external reward (Dodge & Coie, 1987). Bully-victims differ from victims in reactive aggression, as bully-victims tend to be higher in proactive aggression than victims. This distinction between bully-victims and victims is in line with the findings of Salmivalli and Nieminen (2002) who, moreover, indicated that victims are exclusively high in reactive aggression, though still to a lesser degree than bully-victims. Salmivalli and Nieminen's (2002) analysis also indicated that male bully-victims were unique in being comparatively high in both reactive and proactive aggression. Male bully-victims, moreover, tend to report higher criminal-thinking and higher reactive aggression than bullies (Ragatz et al.).

As more scientific evidence mounts to support the existence of this third class of bully-status, a conceptualization of the victim as offender (and vice versa) becomes conceivable; at a fundamental level, bully-victim research supports the notion that peer-aggression may be cyclical. Bully-victim research has, moreover, increased our understanding of the "type" of bullied

person who may also be a bully. We know that bully-victims tend to have comorbid internalizing and externalizing symptoms, negative self- and other-related cognitions, are both rejected and influenced by peers, lack social problem-solving skills, perform worse than others academically, report higher criminal-thinking, and are likely high in both reactive and proactive aggression. Bully-victims experience bullying, moreover, differently than bullies or victims; notably, they are bullied more frequently than bullies or victims.

Still, like the bullying research discussed above, bully-victim research is largely correlational. While the bully-victim typology affords us greater power in predicting who may likely become a bully after having been bullied, it does not allow us to speak about bullying having *caused* future bullying. Most of what we understand about the causal relationship between peer-aggression and violence, instead comes from research on a construct that is closely related to bullying: ostracism. Ostracism, also commonly referred to as social rejection, social exclusion, or being ignored, has been robustly researched over the past few decades and identified as a cause of various anti-social behaviors among victims. Researchers have been concerned with both the manifestations of this anti-social behavior—one of which is direct aggression against others—and the variables that may mediate and moderate anti-social behavior following ostracism. Thus, explorations of the ostracism-aggression relationship provide evidence that aggression following ostracism is conceivable, while also furthering our understanding of the variables by and for which rejection-elicited aggression may occur.

The Ostracism-Aggression Link

In a review of the literature examining the ostracism-aggression relationship, Leary, Twenge and Quinlivan (2006) outlined various exclusion paradigms used in experimental studies on ostracism. Most often, researchers manipulate ostracism by leading participants to believe that

they will end up alone in life, or that others chose not to work with them based on false personality evaluations or brief social interactions. In one of the earliest experiments investigating the effects of ostracism on antisocial behavior, Twenge et al. (2001) used both of these paradigms to manipulate ostracism across seven separate experiments and found that participants were more aggressive following ostracism, both against individuals that they were led to believe ostracized them and against those that they were led to believe were uninvolved in the act of ostracism (bystanders). Participants' reactive aggression ranged from issuing others more negative job evaluations to blasting others with aversive noise at greater decibels and for longer lengths of time. Other research has, likewise, indicated that ostracism decreases pro-social behavior (Twenge et al., 2007a) and self-regulation (Baumeister et al., 2005).

The research cited above clearly indicates that ostracism increases aggressive tendencies, yet drawing on belongingness theory (Baumeister & Leary, 1995), researchers and theorists remain perplexed by anti-social responses to ostracism. Belongingness theory asserts that belonging to some social community is essential for humans' survival and well-being; thus, when this need is threatened individuals should behave in pro-social ways that will secure their re-inclusion into some social group. While research indicates that in some instances, ostracized individuals do behave pro-socially (Carter-Sowell, Chen, & Williams, 2008), in many instances, individuals will behave anti-socially and aggressively following ostracism. Implicating situational variables, Williams and Wesselmann (2011) offer one possible explanation for this incongruity. They assert that humans' need for belonging only functions when individuals expect to be included or re-included into some social group. If individuals expect, on the other hand, that other individuals will not accept them, they will be less likely to behave pro-socially and therefore, more likely to react aggressively to ostracism. Bolstering this theory, Twenge et al. (2007b) demonstrated

that reminding individuals of social activity reduced aggression following ostracism (whereas reminding them of other positive topics did not have the same effect).

Other attempts at explaining the rejection-elicited aggression paradox have focused on the psychological mechanisms that may underlie aggression following ostracism. Prior research has indicated that the transition from victim of ostracism to perpetrator of aggression is not mediated by emotion (Twenge et al., 2001; but see Chow, Tiedens & Govan, 2008, for contrary evidence) nor self-esteem (Twenge et al., 2007a), but is mediated by (reduced) feelings of empathy (Twenge et al., 2007a). Alternative theories, such as the theory that aggression helps reestablish efficacy and control (Warburton et al., 2003), is an act of revenge (Leary et al., 2003), a loosening of social inhibitions (Twenge et al., 2001), or lowered self-control (Baumeister et al., 2005), are still being considered and investigated.

Still other examinations of the phenomenon implicate individual differences as moderators of rejection-elicited aggression. Aggression following ostracism has been most robustly linked to narcissism. In an early exploration of narcissism's role in rejection-elicited aggression, Bushman and Baumeister (1998) used an ego-threat paradigm in which participants received either negative or positive feedback, ostensibly from peers, on an essay they had written. In two experiments, they demonstrated that those who suffered an ego threat from negative feedback and were also high in narcissism showed particularly high levels of aggression against those who had ostensibly insulted them. By contrast, self-esteem proved irrelevant to aggression following the ego threat, and neither ego-threat nor self-esteem or narcissism affected participants' likelihood of aggressing against an innocent third party. In another exploration of rejection elicited aggression, Twenge and Campbell (2003; Experiment 4), found that ostracism—simulated by leading participants to believe that others had chosen not to work with them after a short interac-

tion—can in the same manner of an ego threat, lead to aggressive responses. Like Baumeister and Bushman (1998), their experiment indicated that narcissism, more so than self-esteem, predicted aggression following ostracism against those who had ostracized participants and also against innocent third parties (displaced aggression).

In sum, prior research has shown that anti-social behavior, such as direct aggression against aggressors or bystanders, may follow ostracism or ego threat. Given that rejection-elicited aggression is antithetical to a well established psychological theory—belongingness theory—researchers have been particularly concerned with addressing the phenomenon, especially by identifying the mechanisms by and for which it occurs. This concern is closely related to questions regarding whether experiencing aggression will cause individuals to aggress against others and as such, is particularly relevant to the two overarching questions of the present research: (1) Does bullying cause bullying, and (2) What makes this cycle of violence particularly likely? Various theories implicating situational variables, underlying psychological mechanisms, and personality variables have been proposed and either refuted and/or are being continuously investigated. The theory that individuals' expectations for re-inclusion in social situations (Williams and Wesselmann, 2012), as well as evidence suggesting that individual differences, specifically narcissism, may play a role in rejection-elicited aggression are particularly relevant to and will be built upon in the current research.

The Present Research

The purpose of the present research is to investigate whether, when, and for whom, being the victim of bullying will cause bullying victims to become bullies themselves. Hence, in the study reported below I manipulated the frequency with which participants were bullied in the laboratory and examined a number of plausible personality moderators of its effect on subse-

quent peer-aggression. This experimental design augments prior research in two important ways: by investigating numerous personality moderators simultaneously, and by examining whether bullying is an additive threat. It also allows for an examination of the paradoxical effects of os-tracism, because in exploring the potentially additive nature of bullying this methodology inves-tigates whether individuals' expectations of re-inclusion (Williams and Wesselmann's, 2012) affect subsequent aggression.

Previous research shows that psychological resources—such as attachment security, self-esteem, and meaning (e.g., Hart, Shaver, & Goldenberg, 2005)—provide security to people and that aggression sometimes results when these resources are threatened. People are most likely to respond to psychological threats with aggression if they have a preexisting personality vulnera-bility, such as attachment insecurity (Mikulincer, 1998) epistemic insecurity (e.g., Right Wing Authoritarianism, Duckitt, 2006), or as Bushman and Baumeister (1998), and as Twenge et al. (2004) demonstrated, narcissism. Based on these robust and well established findings, it seems that there is no one variable that will necessarily explain aggression following psychological threat; rather, there are several factors that contribute to a feeling of psychological insecurity that when threatened, may consequently result in aggression (Hart, 2014).

In the present research, I bring this broader theory of psychological defense to bear on bullying, exploring what personality vulnerabilities and threats are particularly likely to com-promise individuals' psychological defense systems, thus eliciting aggression. In doing this, the present research synthesizes and builds upon the bully, bully-victim, and ostracism literatures discussed previously. While bully and bully-victim research takes a broad approach to examining the personality characteristics of bullies, victims, and bully-victims, the literatures are largely devoid of experimental evidence. Research on ostracism, on the other hand, is chiefly experi-

mental, but may take too narrow an approach to examining the role of individual differences in rejection-elicited aggression. In the present research, I take a broad, theory-driven approach (akin to that of the bully and bully-victim literatures), but in the context of an experiment.

Participants were randomly assigned to either be included in all three rounds of an online game (Cyberball; Williams et al., 2012), ostracized in one of the rounds, ostracized in two of the rounds, or ostracized in two of the rounds and also insulted (i.e., receive an ego threat). Across all conditions, participants' exclusionary behavior against a bystander in the third round of the game served as the dependent variable. This design improves on prior ostracism paradigms by allowing us to examine whether repeated ostracism, or ostracism and an ego threat—a different and potentially more threatening form of bullying—affect individuals' tendency towards subsequent aggression differently.

Hypotheses

1. Based in prior research indicating that ostracism predicts future violence (Leary et al., 2003) and causes aggressive behavior (Twenge et al., 2001), I hypothesized that being a victim of ostracism would make individuals more aggressive. Thus, I hypothesized that participants in any of the ostracism conditions would be more exclusive in the third round of Cyberball than those in the all-inclusive (control) condition.

2. Based on the assumption that ostracism is an additive threat (Williams & Wesselmann, 2012), I hypothesized that participants in the single ostracism condition would behave more aggressively than those in the all-include, but not as aggressively as those who are ostracized twice, or ostracized twice and experience an ego threat. Participants who experience (what I assert is) the greatest degree of aggression from peers by being both ostracized and insulted should behave most aggressively.

3. Last, I hypothesized that aggression following ostracism (of any degree) would be moderated

   by individual differences. The investigation of individual differences in the present research is

   partly exploratory, but theory-driven; in seeking to contribute to literature that attempts to

   "typify" those likely to bully others after having been bullied, I explore the role of a number

   of potentially relevant personality variables. Based on prior research, I hypothesized that self-

   esteem would be unrelated to participants' aggression (Twenge et al., 2007a); that narcissism

   would be associated with greater aggression (Twenge and Campbell, 2003; Experiment 4);

   and that neuroticism may also be associated with greater aggression (Leary et al., 2003).

Method

Participants

The sample consisted of 64 male and 116 female college students, aged 17-22 ($M =$

19.20, $SD = 1.24$). Participants identified themselves as 81.7% Caucasian, 1.8% African-

American, 4.3% Hispanic/Latino, 10.4% Asian-American, 1.8% Native-American, or "other."

All participants were compensated for their participation in the experiment; some elected to gain

credits in a psychology course, while others were compensated $6. Six participants were exclud-

ed from statistical analyses because they were highly suspicious of both the independent and de-

pendent variables. When prompted, these six individuals indicated knowing both that I was try-

ing to make them feel excluded and the other players were not real, and that I was measuring

their exclusionary behavior in the third round of Cyberball. Two other participants were also ex-

cluded from analyses, because their behavior in the third round of Cyberball (the dependent vari-

able) was not properly logged due to a computer glitch. A final participant was excluded during

statistical analyses, due to being an extreme outlier.

Materials and Procedure

Participants took part in the study in groups ranging from 1 to 4 people. They were led to believe that they were taking part in a study on the effects of personality variables and mental visualization skill on task performance. To this end, they were under the impression that the study contained three separate phases: personality assessment, a game for "practicing their mental visualization skills," (i.e., the Cyberball game) and some subsequent task. Upon entering the lab, they were asked to complete the first part of the study—a packet of questionnaires designed to measure individual differences.

Individual Difference Variables

Narcissism. Narcissism was measured using the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988). The Inventory is a 40 question forced choice survey which asks respondents to choose which statement from a pair of opposing responses—one representing high and the other representing low narcissism—was closest to their own feelings and beliefs. For instance, respondents would indicate whether "I have a natural talent for influencing people," or "I am not good at influencing people," was more representative of their beliefs.

The Big Five. The Big Five personality traits were assessed using the Ten Item Personality Inventory, a brief version of the Big Five Inventory (Gosling, Rentfrow & Swan, 2003) that includes questions assessing each of the Big Five traits--openness, conscientiousness, extraversion, agreeableness, and neuroticism. Participants were asked to rate the degree to which they saw the adjectives as reflecting themselves, such as "extraverted, enthusiastic" (extraversion) and "sympathetic, warm" (agreeableness), on a 7-point Likert scale anchored by "disagree strongly" and "agree strongly."

Attachment. Attachment was measured using 10-item version of the Experiences in Close Relationship Scale (Brennan, Clark, & Shaver, 1998). The scale comprises statements rep-

resenting the two dimensions of attachment insecurity, anxiety and avoidance. Participants were asked to rate the degree to which they agreed or disagreed with statements, such as "I worry about being abandoned" (anxiety) and "I try to avoid getting close to others" (avoidance), on a 7-point Likert scale anchored by "disagree strongly" and "agree strongly."

Self-Esteem. Self-esteem was assessed using the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). The scale comprises statements reflecting either high self-esteem, "I feel that I have a number of good qualities," or low self-esteem, "I feel that I do not have much to be proud of," with which participants are asked to agree or disagree. In the current research, participants were given a 7-point Likert scale anchored by "strongly disagree" and "strongly agree" with which to answer.

Neuroticism. Neuroticism was assessed using the neuroticism subscale of the Big Five Personality Inventory (John & Srivastava, 1999). The subscale comprises eight questions that assess peoples' tendency towards negative emotion. In the current research, participants were asked to rate the degree to which they agreed or disagreed with statements, such as "I see myself as someone who is depressed, blue," or "…can be tense," with a 7-point Likert scale anchored by "strongly agree" and "strongly disagree." An additional measure of neuroticism was included, in order to assess and control for possible mental illness among participants; other research has indicated a correlation between mental illness and aggressive behavior (Leary et al., 2003) and I believed the two-item subscale of the BFI to be an insufficient measure of a trait of such importance to the current research.

Psychopathy. Psychopathy was assessed using the psychopathy subscale of the Dark Triad Dirty Dozen Scale (Jonason & Webster, 2010). The subscale assesses the degree to which people possess psychopathic traits with statements such as, "I tend to lack remorse" and "I tend

to not be too concerned with morality or the morality of my actions." In the current research, participants were asked to agree or disagree with four statements of this type using a 9-point Likert scale anchored by "strongly disagree" and "strongly agree."

After completing questionnaires, participants were led to separate rooms where they were positioned at a computer and told they would be playing a game called Cyberball (Williams et al., 2012) that would allow them to practice their "mental visualization" skills; this is the standard cover story for Cyberball (see Appendix A). Cyberball is a recently developed computer game that simulates ostracism by engaging participants in a virtual game of ball toss (much like one would see in a school yard). The program allows for two different conditions: inclusion and ostracism. In an inclusion condition, participants are tossed the ball by the other "players" and this tossing continues for a total of 30 tosses. In an ostracism condition, participants are tossed the ball a total of three times, after which point the other two or three "players" begin to throw the ball amongst themselves, ostracizing the participant.

In the current research, participants were told that they would be playing three games of Cyberball with other students at the college who were participating in similar studies, but in other labs. The program was adapted such that the hypothetical "players" were denoted by both names and a label with the college's name in order to increase the likelihood that participants would believe they were playing with their peers. At least two of the players' names were the same in both of the first two games, while all of the players' names were changed in the third game, so as to make it seem as if the participants were now playing with new players. This was essential for measuring aggression against someone who wasn't initially involved in the attack against the participant (displaced aggression). The names of the players in games one and two were held constant in order to reduce suspicion in the condition in which participants would be

ostracized in two out of the three games; it would be more likely that participants would believe they were being ostracized twice by the same group of people than by two different groups of people. To control for any effect of gender, male participants only played with male players and female participants only played with female players.

Cyberball was, moreover, modified in order to make it possible to investigate the effects of a single bout of ostracism compared with repeated ostracism, and ostracism combined with an ego threat. Participants were randomly assigned to one of four experimental conditions: 1) be included in all games of Cyberball (all-include condition); 2) be included in game one, ostracized in game two, and re-included in game three (ostracism condition); 3) be ostracized in both games one and two, but re-included in game three (repeated ostracism condition); 4) be ostracized in both games one and two and be insulted by another "player" in game two via a chat room (ostracism and ego threat condition). After running 34 participants through the fourth condition—ostracism and ego threat—and talking to participants about the purpose of the study during debriefing, it became clear that participants' suspicion of the true purpose of the study (e.g., excluding individuals and testing their subsequent aggression) was especially high in this condition. Consequently, in order to maximize the sample size in the other conditions, I decided to discontinue this condition and treat any analyses and findings of this condition as exploratory. Across all conditions, the participant played against three "players" in game one, two "players" in game two, and two "players" in game three. The variation in number of players served to make the double ostracism condition, in which participants are ostracized in games one and two, seem more realistic and less the product of programmed pattern.

Last, the game was programmed so that in game three, participants could ostracize another player. This was achieved by setting the program so that Player 1 always threw the ball to the

participant, while Player 3 always threw the ball to Player 1. If the participant wanted to ostra-

cize, he/she could choose to only throw the ball to Player 1, who would always throw the ball

back to the participant; thus, a game of toss that excluded Player 3 would ensue. Otherwise, the

participant could always throw the ball to Player 3, which would create a game of toss in which

all players caught and threw the ball an equal amount of times, or, he or she could choose to

throw the ball randomly to either Player 1 or Player 3. For the purposes of measuring aggression,

the situation in which the participant always or significantly more often threw the ball to Player 1

was considered an attempt to bully a bystander as demonstrated through his/her excluding Player

3 from the game. In order to quantify this exclusionary behavior, I created a ratio of the number

of times the participant threw the ball to Player 1 (thus, excluding player 3) divided by the partic-

ipants' total number of throws in that round ($M = .37$, $SD = .25$).

After playing all three rounds of Cyberball—which lasted approximately five to ten

minutes—participants were given another packet of questionnaires to complete. This final packet

contained a demographic questionnaire, which assessed variables of interest such as age, years of

education, ethnicity, and current GPA. Last, the final questionnaire also contained a question that

evaluated the degree to which participants were suspicious of the purpose of the research.

Results

Aggressive Behavior

I conducted multiple regression analyses to assess the different effects of ostracism, re-

peated ostracism, and repeated ostracism with ego threat on exclusionary behavior in the third

round of Cyberball as a function of narcissism, while controlling for self-esteem[1]. I created

dummy variables for each of the ostracism conditions (1 = ostracism; 0 = inclusion) and entered

them in the first step of the regression analysis along with standardized narcissism and self-esteem scores. In the second step, I entered all the two-way product terms.

There were two main effects and three interactions. Participants in the ego threat condition were less aggressive than participants in the all-include condition, $t = -2.52$, $\beta = -.22$, $p = .01$. Participants higher in narcissism were more aggressive, $t = 2.09$, $\beta = .17$, $p = .04$. The main effects were qualified, however, by an Ostracism X Narcissism interaction, $t = -3.75$, $\beta = -.34$, $p < .001$, a Repeated Ostracism X Narcissism interaction, $t = -4.07$, $\beta = -.38$, $p < .001$, and a Repeated Ostracism with Ego Threat X Narcissism interaction, $t = -2.11$, $\beta = -.19$, $p = .04$. Across all ostracism conditions, compared to their counterparts in the all-include condition, participants higher in narcissism were less exclusionary in the third round of Cyberball, whereas participants lower in narcissism were more exclusionary. Expressed another way, narcissism predicted higher levels of exclusionary behavior, but only in the all-include condition; this difference was eliminated in the ostracism conditions[2]. Figure 1 displays these results.

Discussion

The present research examined whether being a victim of bullying would cause individuals to become bullies themselves, and if so, whether certain situational or individual difference variables would make the transition from victim to perpetrator more likely. Participants completed personality measures and were then randomly assigned to be included in all three rounds of Cyberball, ostracized once, ostracized twice, or to experience what I asserted to be a potentially greater threat, wherein they were ostracized twice and also insulted. Participants then had an opportunity to ostracize a bystander in a third round of Cyberball.

As prior research has indicated that ostracism makes individuals more aggressive against bystanders (e.g., Twenge et al., 2001), I hypothesized that in all ostracism conditions participants

would be more aggressive against a bystander than those in the all-include condition. I also hy-

pothesized that this effect would be additive, such that participants in the double ostracism or

ostracism and ego threat conditions would be even more aggressive than those in the single os-

tracism condition. Last, I hypothesized that participants' personality vulnerabilities would mod-

erate the relationship between bullying and aggression; based on prior research, I specifically

hypothesized that narcissism (e.g., Twenge & Campbell, 2003; Experiment 4) and neuroticism

(Leary et al., 2003) would be associated with more aggressive behavior, while self-esteem would

not be associated with aggression (Twenge et al., 2007a).

These hypotheses were partially supported. Results indicated that bullying was not an

additive process; participants in the double ostracism or ostracism and ego threat conditions were

not more aggressive in the third round of Cyberball than participants in the single ostracism con-

dition. I found support—albeit in an unexpected way—for the role of individual differences in

aggression following bullying, such that participants who were lower (not higher) in narcissism

were the most likely to respond to ostracism with aggression, while individuals higher in narcis-

sism responded (in direct opposition to prediction) more aggressively in the third round. (There

was also no association between attachment or psychopathy and reactive aggression, contrary to

predictions).

Implications

The most significant (and surprising) result of the present research was the association

between narcissism and aggression. Intuition and theory arguing that self-esteem is more salient

and vulnerable among narcissists suggest that narcissists should behave more aggressively after

suffering an ego threat or ostracism than those for whom self-esteem is less salient (i.e., low nar-

cissists). My findings challenge these intuitions and theories, as well as some prior research

(Twenge & Campbell, 2003; Experiment 4), by suggesting that narcissism may actually be a mitigating factor for individuals experiencing bullying or social rejection. What could explain this surprising result? One answer may be Williams and Wesselmann's (2012) theory that expectations of re-inclusion mediate rejection-elicited aggression. According to this view, narcissists' inflated sense of self may lead them to consistently expect to be included in social groups, despite recent rejection experiences. Another explanation could be that participants higher in narcissism were less aggressive because the players in the third round of Cyberball were bystanders. While Twenge & Campbell (2003; Experiment 4) demonstrated that greater narcissism led to aggression against bystanders, Bushman & Baumeister (1998) demonstrated that greater narcissism led to aggression against aggressors, but not bystanders. Hence, the relationship between narcissism and aggression may be nuanced, such that the possible target affects subsequent aggression.

The finding that low narcissists were the most likely to aggress against others is somewhat more difficult to explain, because no prior research has suggested that low narcissism might be associated with more aggression in response to ostracism or bullying. It is, furthermore, unclear what low narcissism is as a personality variable; that is, whether it is simply the opposite of high narcissism or whether it reflects unique attributes. One potential explanation is that the type of aggression measured in the present research—exclusionary behavior in a cyber-environment—is a specific sort of aggression that modest, or less narcissistic individuals, feel comfortable expressing. Another potential explanation is that a portion of the individuals who scored lower in narcissism in the present research were actually covert narcissists (Wink, 1991)—a subtype of narcissist who is characterized by hypersensitivity, insecurity, conceit, and arrogance—as opposed to the overt narcissist—characterized by exhibitionism, self-importance,

and preoccupation with receiving admiration from others—that the NPI was designed to detect. Although the literatures dealing with the aggressive correlates of both types of narcissism are in their infancy, there is preliminary evidence that overt and covert narcissism are associated with different types of aggression. For example, Fossati et al. (2010) demonstrated that overt narcissism was related to both proactive and reactive aggression, whereas covert narcissism was only related to reactive aggression. Hence, covert narcissism—if present in the subset of individuals who scored lower in narcissism—could have explained low narcissists' aggression in the present research. Future research should examine this possibility by measuring covert narcissism.

It was also surprising that other predicted personality variables, such as attachment or psychopathy, played no role in participants' aggression in response to bullying. It is notable that our scales for both attachment and psychopathy were shortened scales that may not have been sensitive enough to reliably detect individual differences. However, it is possible that other personality traits simply do not play a role in rejection-elicited aggression, in which case studies that more narrowly examine the role of one or a few personality traits in rejection-elicited aggression (e.g., akin to that of Twenge & Campbell, 2003) may have the correct approach.

The present findings, moreover, suggest that bullying may not be an additive threat, at least in the context of a single laboratory session. Participants who experienced what I hypothesized to be greater psychological threats—repeated ostracism or ostracism and an ego threat—were not more likely to aggress. However, the finding that bullying was not additive could also be due to the manipulations of repeated ostracism or ostracism and ego threat in the present research, which may have been to weak to adequately examine additive effects. For example, two bouts of ostracism may not really qualify as repeated ostracism; more frequent ostracism may be necessary to really observe additive effects. As previously mentioned, participants' potential

suspicion of the ostracism and ego threat conditions, furthermore, compromised my ability to confidently analyze the effects of this form of bullying.

The ultimate purpose of the current research was to explain the variables that make aggression following bullying likely so as to predict risk for peer violence. In this regard, the present research provided two important pieces of information: (1) greater narcissism might be a protective factor for individuals following bullying, while (2) low levels of narcissism may place individuals at higher risk for aggression following bullying. Hence, as previous research suggests, narcissism and experiences with ostracism are two important factors to consider when assessing individuals' risk for peer aggression—but the relationship between these factors may be more nuanced than previously reported. Contrary to intuition, lower levels of narcissism may be a substantial risk factor for violence following experiences with violence.

Strengths

The most notable strength of the present research was that it attempted to experimentally manipulate bullying by repeating ostracism experiences in two of the four conditions. Although there is substantial evidence that single bouts of ostracism cause individuals to aggress against others (Twenge et al., 2001; Twenge et al., 2007a; Bushman and Baumeister, 1998), repeated ostracism has been ignored by researchers, despite the fact that bullying is, by most definitions, a repeated act. This research showed it is feasible to experimentally manipulate different forms of bullying (i.e., repeated ostracism). (Though the higher-level threat condition—wherein participants were ostracized twice and also suffered an ego threat—was terminated early due to participants suspicion, the results from that condition did show significant effects similar to those of the other conditions.) It is, moreover, noteworthy that bullying was positively correlated with psychopathy ($r = .17$, $p = .03$) and narcissism ($r = .15$, $p = .04$), which is what one would expect

based on theory and prior research. Hence, the operationalization of bullying in the present research seems to have been effective.

Another strength of the current study is that it was situated in an overarching, broader theory of psychological defense. Prior investigations of the causes and consequences of bullying have been chiefly correlational and often explore the role of disparate, sometimes atheoretical, personality characteristics (Cook et al., 2010). Prior ostracism research, on the other hand, has taken a predominantly narrow approach to the role of individual differences in rejection-elicited aggression (Twenge & Campbell, 2003). The present research improved upon both of these strategies, by taking a broad, theory-driven approach to investigating the role of personality vulnerabilities in aggressive responses to ostracism or bullying. By measuring many variables, it is possible to determine which of a number of personality traits are relevant or irrelevant to aggression following bullying. The theory-drivenness, moreover, allows us to determine which theories are best used to understand and predict cycles of peer violence.

Limitations

The most notable limitation of the present research was that although I have speculated that participants' expectations for re-inclusion were manipulated (by the number of times they were ostracized), there was no direct measure of participants' expectations. Because of this, my post-hoc interpretation of the unexpected results—that narcissists' inflated sense of self may lead them to consistently expect to be included in social groups—cannot be directly assessed with the present data.

Another noteworthy limitation of this research was participants' suspicion of Cyberball. When questioned about what the study was about, 48 participants indicated that they knew that the other players were not real and that the study was designed to make them feel excluded

(26.8% of the sample), or they suspected that we were measuring their subsequent exclusionary behavior in the third round (19 participants, or 10.6% of the sample). As previously noted, six participants were excluded from analyses due to the fact that they knew both the independent and dependent variables. Based on the findings of prior research that indicate that participants feel the effects of ostracism during Cyberball even when they are told beforehand that the other players are not real (Zadro, Williams, & Richardson, 2004), I decided before the study that I would not exclude participants who were only suspicious of the independent variable. Still, participants' suspicion of the actual purpose of the study could have impacted their behavior in the third game of Cyberball. For example, it could have introduced a demand characteristic, or conversely, incited them to behave contrary to what they may have suspected was my expectation.

Directions for Future Research

Future research should examine whether individuals' expectation for re-inclusion into some social group mediates either their pro- or anti-social behavior following social exclusion or ego threat. The current research offers preliminary evidence for the theory that narcissists are less likely to behave aggressively after being ostracized, because their narcissism leads them to believe that they will be re-included in some social group and therefore, they have no reason to behave aggressively. A more direct manipulation of individuals' expectations is necessary, however, to conclude that individuals' expectations mediate their behavior following ostracism. Experiments (akin to this one) that attempt to manipulate individuals' expectations *and* measure the effectiveness of this manipulation, as well as longitudinal studies that measure fluctuations in bullying victims' expectations over time, are two ways this may be accomplished. Moreover, the current literature on Williams and Wesselmann's (2012) theory that individuals' expectation for re-inclusion mediates aggressive behavior following social exclusion is largely lacking in exper-

iments that directly manipulate participants' expectations. Twenge et al. (2007b) is often cited as evidence for Williams and Wesselmann's (2012) theory, but in their studies, the researchers don't manipulate participants "expectations," rather they actually re-include participants in a social relationship. Thus, research that directly manipulates and measures individuals' expectations about re-inclusion, as well as examines their interaction with narcissism, is imperative.

Future research should also examine whether the aggressive effects we observe in experimental manipulations of social exclusion are specific to peer-relationships or can transfer from other relationships to aggression towards peers. As discussed throughout the introduction of this paper, there is a great deal of correlational research indicating that having experienced violence in earlier relationships predisposes individuals to behaving more violently in future relationships. Still, this correlational evidence cannot speak to whether experiencing violence in early relationships (i.e. child abuse) will cause individuals to behave violently with peers in the future. In terms of understanding those likely to become bullies, or to perpetrate general acts of school violence (i.e. school shootings), it would be advantageous to know whether child abuse or relationship abuse would cause individuals to become aggressive in the same way that social exclusion or bullying from peers would. Longitudinal studies that follow child or relationship abuse victims and explore their subsequent aggression against others over time may be especially valuable for investigating potential violence transference.

Conclusion

Prior research has indicated that perpetrators of school violence often have histories of being bullied, that victims and bullies share a number of common traits, and that ostracism can lead to aggressive behavior against peers. Correlational and experimental evidence moreover suggest that a number of personality variables, such as attachment, psychopathy, and narcissism,

play a role in cycles of aggression such as these. The present research augmented this prior research by suggesting that lower narcissism, but not other relevant personality characteristics nor the frequency and intensity of bullying, causes individuals to aggress against bystanders following bullying victimization. Moreover, higher narcissism leads to less aggression following experiences with bullying. I suggest that in certain contexts, higher narcissism might be a mitigating factor, such that narcissists' inflated sense of self leads them to consistently expect to be re-included in social groups and therefore, less likely to behave aggressively against others following bullying. This research informs predictions of peer violence by suggesting that experiences with bullying and narcissism are especially important factors to consider. Importantly, the present research also suggests that individuals' expectations (e.g., for re-inclusion) may be the most important factor of all to consider in predicting peer violence.

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Endnotes

1. I tested other individual difference variables, none of which moderated the effects.

2. There were significant neuroticism interactions in the ostracism conditions, but not when controlling for the narcissism interactions. This suggests that these interactions were due to shared variance between narcissism and neuroticism and hence, the more important variable was narcissism.
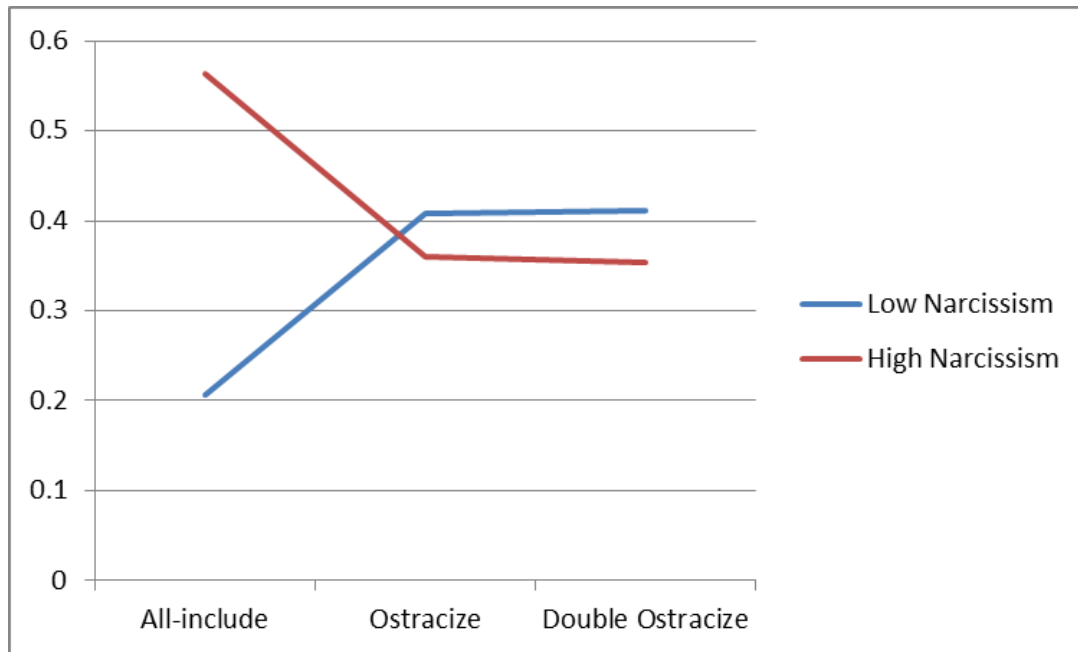
Figure 1. The effect of ostracism on aggression as a function of narcissism.

Appendix A:
Cyberball Instructions

"Welcome to Cyberball, the Interactive Ball-Tossing Game Used for Mental Visualization!
In the upcoming experiment, we test the combined effect of personality variables and practicing
mental visualization on task performance. Since we have already evaluated personality variables,
we now need you to practice your mental visualization skills. We have found that the best way to
do this is to have you play an on-line ball tossing game with other participants who are logged on
at the same time.

In a few moments, you will be playing a ball tossing game live with other students who are
logged on over our network from another lab room. The game is very simple. When the ball is
tossed to you, simply click on the name of the player you want to throw it to. When the game is
over, another screen similar to this one will appear and give you further directions.
What is important is not your ball tossing performance, but that you MENTALLY VISUALIZE
the entire experience. Imagine what the others look like. What sort of people are they? Where are
you playing? Is it warm and sunny or cold and rainy? Create in your mind a complete mental pic-
ture of what might be going on if you were playing this game in real life."