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When and Why Aggression Fortifies the Needs of Ostracized Individuals

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Abstract

Ostracism is a painful event that many individuals experience. Research has demonstrated that aggression is a common response by those who experience the pain of ostracism and that aggression may play an important role in recovery from the pain of these events. We first review social psychological theories that suggest an evolved ostracism detection system, highlighting current evidence that supports such a system. We then review the literature on the ostracism→aggression relation, and focus on research arguing that aggression severs as a way for ostracized individuals to fortify their threatened basic needs. Finally, we propose an extension to Williams's (2009) need-recovery hypothesis on how to predict whether individuals will respond with pro- or anti-social behaviors in response to ostracism. We argue that an important factor in ostracized individuals' attribution processes is their likelihood of being re-included by the target of their subsequent behavioral responses. Future areas of research are proposed to investigate how this extension informs research on individuals respond to both short-term and extended episodes of ostracism.

KEYWORDS: Ostracism, Aggression, Coping, Need to Belong, Attributions

When and Why Aggression Fortifies the Needs of Ostracized Individuals

> "Socially, Mack and the boys were beyond the pale. Sam Malloy didn't speak to them as they went by the boiler. They drew into themselves and no one could foresee how they would come out of the cloud. For there are two possible reactions to social ostracism--either a man emerges determined to be better, purer, and kindlier or he goes bad, challenges the world and does even worse things. This last is by far the commonest reaction…" John Steinbeck, Cannery Row (1987/1945, pp. 250-251)

Ostracism[1] - being ignored and excluded - is a painful situation that the majority of individuals have experienced at least once in their lives, and sometimes is a daily occurrence (Nezlek, Wheeler, Williams, & Govan, 2004; Williams, 2009). These experiences can be psychologically and emotionally damaging to the target: they can lead to self-defeating behavior (Twenge, Catanese, & Baumeister, 2002), impaired self-regulation (Baumeister, DeWall, Ciarocco, & Twenge, 2005; Oaten, Williams, Jones, & Zadro, 2008), and self-perceptions of dehumanization (Bastian & Haslam, 2010). Furthermore, ostracism has been shown to activate the same regions of the brain associated with physical pain (Eisenberger, Lieberman, & Williams, 2003), and lower significantly the targets' perceptions of four basic human needs: belonging, control, meaningful existence, and self-esteem (Williams, 2001; 2007a; 2009 Williams, Cheung, & Choi, 2000; Zadro, Williams, & Richardson, 2004).

Why Ostracism Hurts the Individual

Social psychologists have theorized that humans are equipped with an evolved mechanism for detecting and responding to cues of ostracism (Kerr & Levine, 2008; Leary,

Tambor, Terdal, & Downs, 1995; Spoor & Williams, 2007). These systems are adaptive because at one time in our evolutionary history being ostracized from a social group could harm an individual's chances at survival – a form of "social death" (see Williams 2007b; also Baumeister & Leary, 1995). Williams (2009) argues that these systems should be quick and crude, reacting at the slightest cue of ostracism, so that the individual can preemptively forestall or avoid permanent expulsion. Williams (2009) posits these cues set off the detection system, which elicits the experience of pain in the target individual (see Chen, Williams, Fitness, & Newton, 2008, for a discussion of social and physical pain; also MacDonald & Leary, 2005). This social pain then leads these individuals to perceive a threat to their basic human needs (i.e., belonging, control, meaningful existence, and self-esteem) and thus report lower satisfaction of these needs.

Recent Evidence for the Ostracism Detection System. Several recent studies have examined the sensitivity of the ostracism detection system by examining the minimal cues and boundary conditions that exist for individuals to feel the sting of ostracism. Previous research had focused on studying ostracism in various types of face-to-face (Williams & Sommer, 1997) or electronic social interactions (Smith & Williams, 2004; Williams et al, 2000; Williams, Govan, Crocker, Tynan, Cruickshank, & Lam, 2002). Wirth and colleagues (Wirth, Sacco, Hugenberg, & Williams, in press) decided to focus on how simple non-verbal cues of ostracism, such as lack of eye contact, influenced the detection system. These researchers found that even non-verbal cues can activate the detection system - participants who received less eye-contact from a virtual confederate were more likely to feel ignored and excluded, exhibiting the typical ostracism effects of threatened need satisfaction and worsened moods (see Williams, 2009).

Kassner, Law, and Williams (in preparation) argue that even the most minimal cues can trigger the detection system as long as social information is implicit in these cues. They utilized a

virtual reality-based paradigm called Minimal World to ostracize participants in a situation where there was no social information present. Minimal World placed participants in a virtual environment where they saw two squares and a sphere in front of them (non-social versions of the player avatars and ball in Cyberball; Williams et al, 2000). The sphere moved back and forth between the two squares, and occasionally moved towards the participants' point of view and disappeared. Participants were instructed to press one of two buttons when the sphere disappeared – one button sent the sphere back to the left square, and the other button sent the sphere to the right square. Participants were randomly assigned to one of four conditions in a 2 (ostracism/inclusion) × 2 (social information/no information) design. In the *inclusion* conditions, they were given the opportunity to control the sphere 33% of the time (similar to inclusion manipulations in other ostracism paradigms). Participants in the ostracism conditions only had control over the sphere twice at the beginning, and then never again for the duration of the study. The researchers manipulated the *social information* by instructing half of the participants to mentally visualize a "coherent story" about the movement of the shapes; the other participants were not given these instructions. Results demonstrated that participants who were ostracized and given the social information experienced distress akin to ostracism in other paradigms, whereas participants who were not given the social information did not have different experiences from the inclusion conditions. These researchers concluded that as long as there is social information present, cues of ostracism will activate the detection system and thwart individuals' need satisfaction.

Other research suggests cues of ostracism do not have to be directed specifically at the individual to activate their detection system. Wesselmann and colleagues (Wesselmann, Bagg, & Williams, 2009) investigated how individuals respond to witnessing a stranger being ostracized

(i.e., not thrown to during a virtual ball-toss game). Not only did participants recognize the ostracized individual would feel the effects of ostracism (i.e., thwarted need satisfaction and worsened mood), but these participants demonstrated similar distress, as if they are experiencing the ostracism themselves. These results, taken with the other research on boundary conditions for ostracism, lend credence to the argument that the ostracism detection system should crudely and quickly react to even the most minimal cues of ostracism (Williams, 2009).

Why the Ostracized Individual Hurts Others

Williams (2009) argued that behavioral responses to ostracism serve a fortification function for the need satisfaction threatened by ostracism (see also Leary et al., 2006; Warburton et al., 2006; Williams & Govan, 2005). A substantial amount of research has been dedicated to examining the effects of ostracism on individuals' subsequent behavior, specifically aggressive behavior. Individuals are more likely to behave aggressively towards another person after being ostracized, regardless of whether the person was involved or uninvolved in the targets' ostracism (Buckley, Winkel, & Leary, 2004; Carter-Sowell, Van Beest, van Dijk, & Williams, under review, Chow, Tiedens, & Govan, 2008; Twenge, Baumeister, Tice, & Stucke, 2001; Twenge & Campbell, 2003; Warburton, Williams, & Cairns, 2006; Williams, 2001). In a more extreme example, research suggests long-term ostracism was a potential impetus for the violent behavior of many of the school shooters over the last decade (Leary, Kowalski, Smith, & Phillips, 2003). The ostracism→aggression link is not limited to current ostracism experiences – even recalling a previous experience of social pain is enough to increase individuals' temptations for aggressive behavior (Riva, Wirth, & Williams, in preparation).

Restored Control Reduces Aggression after Ostracism. Some researchers have begun to explore the potential that aggressive responses to ostracism may have for need fortification.

Warburton and colleagues (2006) argued that if aggressive responses to ostracism served to fortify threatened needs (e.g., need for control), aggressive responses should decrease if individuals were given a non-aggressive option to fortify themselves after ostracism. The researchers manipulated this non-aggressive option by having participants listen to a series of aversive noise blasts. Half of the participants were given control over the onset of the blasts; the other half had no control over blast onset. Warburton and colleagues (2006) found that ostracized participants who were not given the chance to fortify themselves by having control over the noise task responded most aggressively to ostracism. Ostracized participants given control over the noise task were no more likely to aggress than non-ostracized people. The researchers concluded that giving ostracized participants control over an aspect of their environment fortified their threatened needs and reduced their reliance on aggression as a means of fortifying these needs.

Predictive Control, Ostracism, and Increased Aggression. Wesselmann and colleagues (Wesselmann, Butler, Williams, and Pickett, under review) extended the argument that control needs have an important function in the ostracism→aggression relation. These researchers argued that unpredictable ostracism (typically the type experienced in laboratory studies, see Twenge et al, 2001) provides a double-threat for targets – not only does this type of ostracism threaten need satisfaction, but it also shakes their confidence in their *sociometer*. Sociometer theory (Leary et al., 1995) is one of the social psychological theories that propose the existence of a psychological mechanism (i.e., a sociometer) that enables individuals to detect cues of potential ostracism during social interactions; a properly working sociometer affords an individual predictive control over an interaction.

Wesselmann and colleagues hypothesized the lack of predictive control inherent in unpredictable ostracism should increase participants' aggressive responses; participants who can predict ostracism should still perceive some predictive control and be less inclined to respond aggressively. They manipulated predictive control by varying confederate behavior towards participants before an ostracism manipulation. Confederates were trained to treat each participant either in a *friendly* or *unfriendly* manner during a group discussion. After the discussion, participants were informed that either everyone (*inclusion*) or no one (*ostracism*) wanted to work with them in an upcoming activity. In either of these conditions, participants were informed that the task would not accommodate that outcome so they would be working with a new participant who arrived late for a different study (thus not part of the participants' group discussion). Participants were instructed to prepare a sample of hot sauce for their partner to consume (the aggression measure). Participants were told that their partner did not like spicy foods, and their partner would have to consume however much the participant allocated. Results indicated that participants who were treated friendly but subsequently ostracized (*unpredictable ostracism*) perceived that they were less capable of predicting others' behavior (i.e., had a broken sociometer), and subsequently allocated more grams of hot sauce than participants who were treated unfriendly before being ostracized (*predictable ostracism*). Wesselmann and colleagues interpreted these findings as further evidence for the importance of control needs in how aggressively individuals may respond to ostracism.

Are Ostracized Individual Always Anti-social?

Anti-social or aggressive reactions are not the only way individuals respond to ostracism. Several studies have found that ostracized individuals may respond to their treatment in pro-social ways, perhaps striving to become re-included. Ostracized individuals have been found to

work harder on a collective group task (Williams & Sommer, 1997), conform (Williams et al., 2000), like or show interest in new groups (Maner et al, 2007; Predmore & Williams, 1983), and attempt to gain social reassurance by remaining a member of a group (Snoek, 1962) than included individuals. Research also finds these individuals more likely to emulate a cooperative group member (Ouwerker et al., 2005) and engage in non-conscious mimicry (Lakin & Chartrand, 2005; Lakin, Chartrand, & Arkin, 2008). Finally, ostracized individuals are more socially attentive (Bernstein, Young, Brown, Sacco, & Claypool, 2008; Gardner, Pickett, & Brewer, 2000; Pickett, Gardner, & Knowles, 2004).

How do we make sense of these seemingly contradictory behavioral response patterns? Recall that Williams (2009) argued that behavioral responses to ostracism are focused on fortifying their basic needs that have been threatened. Williams (2009) argued further that specific behavioral responses to ostracism should depend upon the types of needs individuals are motivated to refortify. Pro-social responses likely focus on fortifying needs for belonging and self-esteem (*inclusionary* needs), and aggressive responses likely focus on fortifying needs for meaningful existence and control (*power/provocation* needs).

This premise has yet to be tested directly in an experimental setting, but there are several studies that could be reinterpreted within this framework. First, Warburton and colleagues (2006) found that ostracized participants who had their control needs restored before the aggression measure were no more likely to aggress than included participants; ostracized participants who were not afforded this restoration replicated the typical ostracism→aggression relation. According to Williams (2009), ostracized participants who were fortified subsequently would not need to respond aggressively because they had already recovered their need satisfaction. The research by Wesselmann and colleagues (under review) also support this idea – because

predicted ostracism is less of a threat to needs than unpredicted ostracism, less aggression would be necessary to recover.

Other research offers support for Williams's (2009) need fortification argument from a different perspective. Twenge and colleagues (Twenge, Zhang, Catanese, Dolan-Pascoe, Lyche, & Baumeister, 2007) found that ostracized participants who were either reminded of a positive social relationship or had a pleasant interaction with an experimenter before an aggression measure were subsequently less likely to respond aggressively. Finally, Bernstein and colleagues (Bernstein, Sacco, Brown, Young, & Claypool, 2010) demonstrated that participants' needs for belonging and self-esteem had important impact on their pro-social responses to ostracism. These researchers found that higher need threats to belonging and self-esteem mediated the relation between ostracism and participants' preferences for interacting with potential sources of affiliation.

What Factors Determine which Needs are Salient?

Williams (2009) argues that attributions based upon situational context and individual differences are likely to to be an important predictor in how individuals choose to fortify their threatened needs behaviorally. These attributions will dictate which types of needs (inclusionary or power/provocation) are most salient, and thus the primary focus for fortification. For example, if inclusionary needs are most salient, ostracized individuals should choose to behave in pro-social ways, which elevate their chance for satisfying belonging and self-esteem. Alternatively, when power/provocation needs are most salient, ostracized individuals should choose anti-social (e.g. aggressive) behaviors to elevate their chance for satisfying control and meaningful existence.

There are several different situational and individual difference factors that can influcence attributions for ostracism, and ultimaltey the behavioral reponses from individuals (see Figure 1). [THIS IS WHERE WE WILL DO A QUICK REVIEW OF THE DISCUSSION OF PERSONALITY, AND SOURCE MOTIVES/IDENTITY THAT WAS IN WILLIAMS 2009].

An Additional Factor: Opportunities for Re-Inclusion.

We propose an important factor in ostracized individuals' attribution processes is their likelihood of being re-included by the target of their subsequent behavioral responses. The potential for re-inclusion by another individual or group should make inclusionary needs most salient; if there is little chance for re-inclusion than the needs that are most likely to be focused on are power/provocation. We will now discuss how this potential for re-inclusion (or lack thereof) may have facilitated anti-social responses to ostracism due to making the power/provocation needs most salient.

General Descriptions of the Typical Ostracism Paradigms. There are several paradigms that are used to investigate the ostracism→aggression relation in experimental settings. We will now describe the general elements of each of these paradigms. One is the *life-alone* paradigm (Twenge et al, 2001), in which participants fill out a personality inventory and are first given accurate feedback about their introversion/extraversion. Following this, they are randomly assigned to receive a prognosis about their future lives: they are told they will have a life characterized by strong close relationships or that they will live a life alone, devoid of strong continuous relationships. For participants in the life alone condition, the feedback informs them that they are powerless to do anything about their lack of inclusion.

Another paradigm is the *get-acquainted* paradigm (Buckley et al, 2004; Chow et al, 2008; Twenge et al, 2001; Twenge & Campbell, 2003; Wesselmann et al, under review). Researchers that use this type of paradigm typically ask participants to engage in a group activity designed to allow members of the group to get to know each other. Following this interaction, participants are either told that they had been rejected by members of this group or had been accepted by them.

The third common paradigm in ostracism research is the *ball tossing* paradigm (Carter-Sowell et al, under review; Chow et al, 2008; Warburton et al, 2006). Studies using this paradigm engage participants in a ball-tossing game with other confederates, either in a face-to-face format (originally used in Williams & Sommer, 1997) or via an electronic-based computer program (originally used in Williams et al, 2000). Regardless of format for ball tossing, participants either are included by the confederates (i.e., tossed the ball 33% of the time), or ostracized by confederates (i.e., tossed the ball twice at the beginning of the game, and then never again). A typical game lasts between three and five minutes.

Each of these paradigms has been adapted in various studies, manipulating different situational factors to elucidate the processes and nuances of the ostracism→aggression relation. We will now discuss these studies in detail, focusing on how these different situational factors may have influenced participants' perceptions of no potential for re-inclusion, making the power/provocation needs more salient than the inclusionary needs.

Aggression towards the Source of Ostracism. [we will discuss here each of the studies that involved aggression towards a source of the participant's initial ostracism, and why it makes sense that power/provocation needs are more salient than inclusionary needs. Buckley et al,

2004; Carter-Sowell et al, under review; Chow et al, 2008; Twenge & Cambell, 2003; Warburton et al, 2006].

Aggression towards a Stranger. [we will discuss here each of the studies that involved aggression towards a stranger, who was unrelated to the participant's initial ostracism, and why it makes sense that power/provocation needs are more salient than inclusionary needs. Twenge et al, 2001; Twenge & Campbell, 2003; Wesselmann et al, under review].

[SUMMARY PARAGRAPH.]

The Influence of Attributions in the Resignation Stage

Williams (2009) argues that if ostracism persists over an extended period of time, individuals will progress to a third stage – *resignation*. Extended ostracism can be from the same individual or group, or by any number of different sources. If individuals find that their behavioral responses to ostracism fail to restore their need satisfaction, they learn that any attempt to recover from ostracism is likely futile. These individuals will then develop feelings of alienation, depression, helplessness, and unworthiness.

[Discuss how previous experience with ostracism from a particular (or multiple) sources can influence the attributional process, particularly perceptions of the potential for re-inclusion. Discuss the life alone paradigm as an experimental analogue. Because there is so little research in the stage 3 area, we can speculate based on work from the stigma literature, particularly how stigma/long-term "ostracism" influence attributions].

[It could also be interesting to discuss how attributaional biases (such as the hostile attribution bias) can be developed from long-term exposure to ostracism (much like hostile bias develops from long-term exposure to aggression) – this could then influence attributions about short-term ostracism episodes as well (cyclical?)].

Resignation Stage, Need Salience, and Extreme Aggression

Perhaps one reason for the current fascination with the ostracism→aggression relation is that we are searching for explanations for a recent surge in seemingly irrational and socially intolerable behaviors that have appeared worldwide: random acts of monstrous violence. In news reports that we consider almost routine now, we are bombarded with stories of countless incidences in which individuals, often students in high school or college, have wielded weapons and, without apparent concern for their own survival, shot and killed many of their peers and teachers. We have witnessed peoples' willingness to conduct terrorist acts against countless and unknown others, again with plausible certainty that in carrying out these acts, they will perish with the victims.

School Violence. Since 1994, in US schools alone, there have been over 220 separate shooting incidents in which at least 1 person was killed, and 18 episodes that involved multiple killings (Anderson et al., 2001). Mass shootings at schools and other public places are occurring with increasing frequency, and in a growing number of other countries. Reasons for this upsurge in violence are still not clear, but a recent line of investigation has linked such incidents with growing social isolation (Twenge, 2000), and further evidence is beginning to emerge that prolonged experiences of ostracism may have played a significant motivating role in the actions of many perpetrators. In their case analysis of 15 post-1995 US school shootings, Leary, et al. (2003), suggest that chronic ostracism was a major contributing factor in 87% of cases. Studies of Martin Bryant, who, in 1996, killed 35 people at a popular tourist attraction at Port Arthur in Tasmania, suggest that he felt lonely and isolated (Bingham, 2000; Crook, 1997), and Robert Steinhauser, who killed 16 people at his ex-high school in Erfurt, Germany, in 2002, though not a social outcast (Lemonick, 2002), had been greatly upset by a significant act of ostracism –

expulsion from his school. Very recently, at Valparaiso High School in Indiana, a 15-year old boy held hostage and slashed with two sharp-edged blades—one described as a machete—seven of his classmates. When peers were asked about this boy, it was reported, “He was so invisible at Valparaiso High School this fall that students who sat next to him in Spanish class didn’t know his name” (“7 Valparaiso High Students Hurt in Stabbing Rampage,” Indianapolis Star, November 25, 2004). The consequences of being ostracized, either intentionally or unintentionally, seems to be a thread that weaves through case after case of school violence.

[recast the Leary et al 2003, Williams 2001 (silent treatment examples), and the other examples above in a discussion of extreme violence/aggression as a result of having the power/provocation needs most salient for an extended period of time -a result of the resignation stage (if one thinks they’ll *never* have the opportunity to get re-included, why be pro-social at all because it will ultimately be ineffective at fortifying needs)]

Extremist Groups. Many instances of school violence involve lone perpetrators, or at most a small group of perpetrators (e.g., the perpetrators of the Columbine High School massacre). There are other acts of violence perpetrated by larger groups of disaffected individuals in different social settings that may be relevant to our discussion of how extended exposure to ostracism can facilitate violence. Wesselmann and Williams (2010) argued that individuals who are consistently ostracized by individuals or groups may become potential candidates for recruitment by dubious groups, such as cults, gangs, and even terrorist organizations. In general, ostracized individuals are more likely to comply with social influence tactics (Carter-Sowell, Chen, & Williams, 2008) or conform to group norms and expectations (Ouwerkerk et al., 2005; Williams & Sommer, 1997). This striving for acceptance extends beyond controlled behaviors; ostracized individuals are more likely to mimic other individuals in

a non-conscious manner (Lakin & Chartrand, 2005; Lakin, Chartrand, & Arkin, 2008). What if ostracized individuals strive to be re-included so much that they do not rationally appraise the motives behind or consequences of being willingly influenced by the potential sources of re-inclusion?

We propose that long term ostracism can cause such a strong desire to belong, to be liked, by someone, perhaps anyone…that individuals' ability to discriminate good from bad and right from wrong may be impaired, to the point that they may become attracted to cults and extremist groups who could ultimate influence them to acts of violence. Political scientist Paul James of Royal Melbourne Institute of Technology indicated in a television interview (14 January 2003) that the profile of Australian citizens who had recently joined terrorist groups like Al Qaeda is of individuals who feel isolated, marginalized, or ostracized within their society and who are attracted to the intense face-to-face connectedness that these extremist groups have to offer. Joining and following the dictates of extremist groups not only fulfill needs for belonging and self-esteem, but can also fulfill needs for control and recognition because these groups promise retribution and worldwide attention.

Conclusions and Future Directions for Research

[Close with a call to research on resignation stage, particularly how it relates to attributions and perceptions of re-inclusion, need salience, and aggressive responses. Make a note that research on aggressive responses to long term ostracism, either from individuals or larger extremist groups, is either based on anecdotes or correlation – this area in particular needs to move into the experimental realm]

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Footnotes

[1]Research is unclear on the specific differences between ostracism, rejection, and social exclusion; often times these three terms are used interchangeably. We acknowledge there are debates about the relations between these terms (see Leary, et al, 2006; Williams 2007a), but for the sake of simplicity we will use the term ostracism throughout this manuscript.