Cast Away: Social Exclusion and Social Aggression – The Roles of Self-Esteem and Anger

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Abstract:
Although some research has demonstrated that people with lower self-esteem are more aggressive, a review of this literature has suggested that aggression is also a high self-esteem trait, especially when considering the impact of social exclusion. Specifically, anger and aggression may result from the conflict experienced by individuals who are socially excluded but who have a high self-esteem. To examine this possibility, we tested a group of college students in which half were socially excluded and the others were not. We then measured anger and social aggression toward the excluders and toward a stranger. Students reporting relatively high levels of self-esteem were significantly more angry, but not aggressive after being excluded. In general, low self-esteem participants showed higher social aggression than those with high self-esteem. Also, socially excluded participants were more socially aggressive towards the excluders and non-socially excluded participants were more aggressive towards a stranger. The social aggression in lower self-esteem participants is seen as part of their overall critical nature and instead, an increase in anger is a more indicative reaction to social exclusion for those with higher self-esteem.

Keywords:
Social Exclusion; Aggression; Anger

Aggression is a critical, but as of yet unpreventable problem throughout American schools [1, 2]. The aggression seen in schools today may be partially due to their self-esteem level. Since aggression is a mechanism used to protect one’s level of self-esteem [3], students may be becoming aggressive in order to maintain their self-esteem. It is crucial that this aggression problem in our schools is addressed and prevented so that other children do not become victims. Today’s youth are exhibiting two types aggression: physical and social aggression. Although they are both forms of anger expression, physical aggression involves physically injuring someone whereas social aggression seeks to damage another’s self-esteem or social standing [4]. Also, social aggression has been shown to be a precursor to physical aggression [5, 6]. Currently in aggression research, there is a critical gap in understanding the relationship between self-esteem and aggression, especially in regards to social exclusion [7–9]. Also, the role of anger and self-esteem in a social exclusion context is unclear. Most of the research on aggression resulting from social exclusion does not address whether or not the participants become angry from being cast away.
Also, previously used methods for manipulating social exclusion are neither direct nor immediate. Instead, often social exclusion is manipulated by leading participants to believe they will be alone in the future [3, 11, 12]. It is also unclear what types of aggression are being elicited in studies examining the relationship between self-esteem and social exclusion [11, 13].

1. SOCIAL, INDIRECT, AND RELATIONAL AGGRESSION

Before beginning a discussion on these non-physical forms of aggression, it is important to note that although all these types of aggression are similar to physical aggression (i.e. causes harm to another), and are even moderately correlated to physical aggression, physical aggression is a distinct construct of aggression [14, 15]. One of the primary foci of this paper is the non-physical form of aggression. The terms relational [16], indirect (Lagerspertz, Bjorkqvist, & Peltonen, 1988), and social [17] aggression have been used interchangeably in aggression literature. However, indirect, relation, and social aggression have some characteristics specific to each term. A brief synopsis of how these terms are defined and important findings regarding each type are explained below.

Indirect aggression involves aggressive behavior that is covert in nature and is not done face-to-face [18, 19]. It is a harmful behavior where someone is attacked in a roundabout way by manipulating a social situation (Lagerspertz, Bjorkqvist, & Peltonen, 1988). Since it is not directly enacted, it runs a lower risk of retaliation than physically aggressive behavior [18]. Young girls tend to use indirect aggression more than boys [20].

Relational aggression is an expression of anger that can be both covert and overt and damages peer relationships [16]. Relationally aggressive behaviors are both damaging and mean. Research in relational aggression has been focused mainly on children and has yielded the following findings. Relationally aggressive behaviors were detected in children as young as 3-years-old [21]. In children, relational aggression was found to be particularly damaging and this form of aggressive behavior is more common with girls than boys [21]. Relationally aggressive children attribute provocation to hostility and this is likely to lead to relationally aggressive behavior [15].

Social aggression is defined as manipulating group acceptance by actions such as alienating or ostracizing them [22]. Social aggression damages another’s social status or self-esteem and may include gossip or social rejection [17]. The term social aggression appears to be the most encompassing of all the terms and is the least problematic [17]. Also it is the only one of these terms that specifically includes non-verbal behaviors. Pursuant to this argument, the term social aggression will be used to describe the aggressive behavior measured.

2. SOCIAL AGGRESSION & GENDER

Social aggression research has been studied in a variety of ways. It has mostly been concentrated on females and children [4, 23]. In girls, social aggression such as gossip has been shown to lead to physical aggression [4]. These socially aggressive girls were interlinked at high levels in their social networks. Other research on gender and social aggression showed that girls tend to use social aggression against girls. However, boys tend to use physical aggression against boys [23].
3. THE CAST AWAY AND SOCIAL AGGRESSION

Social aggression is one way people may react to being “cast away”. For example, an aggressive behavior such as giving unfavorable job evaluations has been found in socially excluded people [11].

Why would being socially excluded lead to aggressive acts? Several findings from the literature suggest that social exclusion can lead to social aggression. Alarmingly, social exclusion - a type of social pain - may be even more hurtful than being physically injured [24]. Even being socially excluded once leads to aggressive behavior [11, 12, 25]. This aggression can be expressed in a variety of ways: inhibiting the excluders from a job position [11], aggressing towards the self [12], or verbally or physical aggressing [25].

4. SOCIAL EXCLUSION DEFINED IN STAGES

Williams, a researcher of social exclusion, defines three classes of social exclusion ([25]; Williams uses the term “ostracism”, but it will be referred to as social exclusion for this paper). The first is an immediate reaction to social exclusion. This includes increased anger and physiological arousal. These reactions are cognition-free, so that a person may act without really thinking about the costs and consequences of their behavior. The second class is the short-term effects. The short-term effects include any attempts to strengthen the relationship to others and taking control of the situation. This means the socially excluded people can react to the exclusion both inwardly and externally. These effects of social exclusion can threaten an individual behaviorally, emotionally, and cognitively. These social threats should drive the socially excluded person to regain these threatened needs. Social aggression is one possible method to reestablish these needs. The final class is the long-term effects which he describes as despair and helplessness. Our study focused on the immediate reactions and short-term effects to social exclusion. These reactions to social exclusion may be a precursor to the long-term effects of it [25].

Immediate reactions to social exclusion are determined by the needs threatened by social exclusion. Williams [25] states these needs are belonging, control, meaningful existence, self-esteem and a fear of death. In numerous interviews, people stated they used tools like “the silent treatment” to have control and power. The people that socially excluded others through “the silent treatment” stated they felt better about themselves because they were in control by not yelling or screaming back. Their goal appears to be to make the excluded have less control than they do. To examine causal relationships between social exclusion and social aggression, our study was experimental in nature and focused on the immediate (anger) and short-term (social aggression) reactions of social exclusion. Looking at the socially aggressive effects of people who have been socially excluded for years at a time (which could be assessed by asking participants how socially excluded they are in general) would only give us insight into whether or not there was a relationship, but not if social exclusion caused social aggression.

5. CONGRUENCE IN COGNITIONS

What would happen to a person who believes they are socially acceptable and is suddenly rejected by other people? A brief review of cognitive dissonance research may suggest an answer to this question. According to cognitive dissonance theory, people tend to seek consistency among their cognitions
including beliefs and opinions [26]. When there is an inconsistency between attitudes, thoughts, or behaviors, something must change to eliminate this inconsistency or dissonance. Cognitive dissonance may be resolved in a variety of ways, including elimination of the conflicting attitude or behavior.

6. RESOLUTION OF COGNITIVE DISSONANCE VIA SOCIAL AGGRESSION

Receiving feedback that one is socially rejected, when that person believes that they are socially accepted, results in dissonance. Eliminating one of the conflicting attitudes or behaviors is one method to resolve this problem. Although potentially maladaptive, aggressive behavior is a possible choice to resolve this dissonance. Children, especially males, may resolve this inconsistency through physically aggressive behavior [15]. However, when adulthood is reached, a preference to use social aggression over physical aggression has been seen among both genders [27]. In a social exclusion context, adults should prefer to use social aggression to resolve this conflict in cognitions.

7. SOCIAL EXCLUSION AND MANIPULATION METHODS

Social exclusion is the rejecting or excluding by individuals or groups [11]. There is limited research examining social exclusion through an experimental manipulation. A primary method of manipulating social exclusion is by giving participants false feedback on a personality test [11–13]. These false reports indicate that the participant will be alone later in life, without any friends or relationships. In this condition, socially excluded participants were significantly more aggressive. Distinct from physical aggression, this social aggression was measured by evaluating others for a job position and was strongest towards those who socially excluded them [11].

A more immediate method to socially exclude participants was to put them in a setting where they are with two other participants and instructed to participate in a conversation under a certain structured format [28]. Afterwards, each was asked to pick one of the other participants that they would like to work with for the experiment. Socially excluded participants were told that they were not chosen by either of the two other participants. However, this manipulation was ineffective in producing expected emotional effects among the participants.

8. SOCIAL EXCLUSION ANECDOTE & DEVELOPMENT OF THE BALL-TOSSING PARADIGM

Williams gives an anecdotal example that demonstrates the effects of social exclusion [25]. Williams took his dog to a nearby lake. While relaxing, two men were throwing a Frisbee and it accidentally landed near him. He threw it back to them and eventually Williams and the two strangers were throwing it to one another. All of a sudden, they stopped throwing it back to him. He reported feeling awkward, left out, and angry. Although he did not become outwardly aggressive, it affected him profoundly and created a deep need to show them that socially excluding him was ineffective (although apparently it was). This experience led him to develop a ball-tossing paradigm that will be used in our experiment to create the social exclusion condition [25, 29]. This paradigm allows for an immediate, direct, and effective
manipulation of social exclusion where inclusion is followed by exclusion by tossing a ball.

9. SOCIAL EXCLUSION LEADING TO SOCIAL AGGRESSION: SELF-ESTEEM’S ROLE

Self-esteem may play an interesting role in the aggressive effects of social exclusion. Rosenberg’s[30] definition of self-esteem is the broadest and most frequently cited: a favorable or unfavorable attitude toward the self. This attitude can be affected by many people, situations and contexts[3]. When a high self-esteem person is excluded, they may question their present attitude towards him or herself. For most people with high self-esteem, being socially accepted is congruent with their self-concept; being socially rejected is not[7]. Research has shown that people with different levels of self-esteem react to situations differently in order to maintain, or even increase, their self-esteem[31, 32]. On the other hand, people tend to confirm their self-conceptions even if they are negative[33]. People dismiss feedback that is inconsistent with how they view themselves whether it is positive or negative. This research supports the view that people generally want to maintain their self-esteem level.

Aggression is sometimes used to maintain stability in self-esteem[3, 7, 11, 12, 34–36]. When self-esteem is threatened, there is a need to maintain the current self-esteem level. Accordingly, social aggression is one way that people use to maintain their self-esteem level.

10. DEBATE OF HIGH VS. LOW SELF-ESTEEM AS A PREDICTOR OF AGGRESSION

Though there is evidence that low self-esteem is linked to aggression[8, 9, 37], these studies may not have measured self-esteem accurately. According to Baumeister and his colleagues, the aforementioned studies measured self-esteem with tests that had poor psychometric properties[7]. For example, a study on terrorists concluded that they had low self-esteem because they had extremely high and unrealistic demands on themselves and when they failed, they raised instead of lowered their self-expectations[8]. However, this is more characteristic of high self-esteem[38]. In another example, Oates and Forrest[37] studied abusive mothers and concluded they had low self-esteem. However, their measure of self-esteem was based on a single item asking whether these abusive mothers would want their child to be like them. A negative response to this question was indicative of low self-esteem in this study. However, these results are inherently misleading because these mothers may have been in a self-deprecating state, especially since they were referred for child abuse[7].

In spite of this research concluding that aggression is a low self-esteem trait, it is possible that a single threat to one’s high self-esteem, or ego, can lead to social aggression[7]. In this theory of threatened egotism, a socially excluded person with high self-esteem will attempt to reject the idea that they are not socially acceptable in order to maintain their self-esteem. This rejection may generate negative emotions toward the outside threat and result in social aggression or even violence[3, 11, 12].
11. LINK BETWEEN ANGER AND SOCIAL AGGRESSION

The relationship between anger and aggression is one where when anger increases, the likelihood of aggression likewise increases [39, 40]. However, the relationship between anger and (specifically) social aggression is an area of research in need of investigation. Minimally, this relationship has been investigated in young children [14]. Even in this research, often aggression is interpreted as an angry behavior although anger is not specifically measured. Often, there is an overstated assumption that aggression is caused by anger [40, 41]. In general, aggressive behavior (of all types) is considered to be an expression of anger [42–45]. Other researchers suggest that anger is not a necessary precursor to social aggression because this type of aggression may be cold, deliberate and planned [17].

Social exclusion can make a person angry. It may also cause aggressive behaviors [24, 29]. This may be especially true for those with high self-esteem [7]. Anger and social aggression are two possible and distinct reactions to social exclusion.

12. PRESENT STUDY

Social exclusion was manipulated using William’s ball-tossing paradigm. Self-esteem was measured through a self-report questionnaire with demonstrated validity [30]. Social aggression was measured as the rating that the participant made of essays written by the confederate and by an unknown person. These two targets of social aggression were used in order to test if a socially excluded person would aggress against the people who socially excluded them or to people in general. Anger was measured as a self-report of anger before and after the social exclusion manipulation.

13. HYPOTHESES

Several hypotheses were tested in this study: (1) people should be angrier and more aggressive in the social exclusion condition than the control condition; (2) this effect should be strongest for people with higher self-esteem compared to those with lower self-esteem; (3) this effect should be strongest towards the people that socially excluded them versus people they do not know; and (4) this effect should be equal for both males and females.

14. METHOD

14.1 Participants

Participants were 57 undergraduate students at a public urban college (28 males and 29 females). The participants were recruited from Psychology 100 courses to receive course credit. Participants signed up for a study called “Self-Esteem and Writing Ability – What is the Connection?”. Participants were randomly assigned into the experimental or control condition. Four participants (two males and two females) did not participate in the exclusion condition and their data was eliminated from the analyses.
14.2 Design

This experiment was designed to test the hypothesis that people with high self-esteem evidence greater social aggression after social exclusion than those with low self-esteem. The experiment was a 2 x 2 x 2 factorial design with 2 levels of self-esteem (high and low), 2 levels of social exclusion (exclusion and no exclusion), and 2 targets of social aggression (confederate and non-confederate). The targets of social aggression were within subjects factors. Each participant had 2 social aggression scores: one from rating the confederate’s essay and the second from their rating of a non-confederate’s essay (a stranger). There was 1 experimental condition of social exclusion (where participants were socially excluded through a ball-tossing paradigm) and a control condition without social exclusion (where participants and confederates wait silently for 4 minutes and do not initiate the ball-tossing paradigm). The experimental condition was a between-subject factor. In addition, the social aggression scores were based on the participants’ ratings of essays which for one essay they were told was written by someone from a previous experiment (non-confederates) and for the other that it was written by one of the people from their experiment (confederates).

14.3 Materials and Procedure

After the participants arrived, the confederates entered the lab separately afterwards. If the participant was more than 7 minutes late, the confederates were seated in the experimental area reading a book. When the participant arrived more than 15 minutes late, they were rescheduled for a later study. The participant and two confederates were always seated in a triangular formation around a round table. After the participant and confederates signed the consent forms, the experimenter administered the Rosenberg Self-Attitude Scale to measure self-esteem. On this scale, participants’ scores could range from 10 to 40. Then, everyone was given the NOVACO anger scale with Positive Affect and Negative Affect Scale (PANAS) questions interspersed between the anger questions in order to minimize the possibility of the participants guessing the experimental hypothesis (Novaco, 1975; ref52). The possible scores on the NOVACO anger scale could range from 25 to 125. Upon completion, questionnaires were collected and everyone was instructed to write a 1-page essay on the topic “My Life as a Student.” The experimenter stated, “Now it is time for the writing sample portion of the experiment, please write an essay on the topic, ‘My Life as a Student’. You have 10 minutes to write and just do your best.” The experimenter left the participant and confederates alone in the experimental area for 10 minutes to write.

The experimenter returned in 10 minutes and took the essays from the participant and the 2 confederates. Beforehand, the participants were randomly assigned to the social exclusion or control conditions. The experimental (exclusion) condition was based on Williams’ ball-tossing paradigm which manipulated social exclusion [25]. The participant and two confederates were seated in a triangular formation and the experimenter told them that a fourth participant was arriving late and to please wait a few minutes for them. This was a distraction for the paradigm; in actuality, there was no fourth participant. The participants were instructed to remain quiet to not affect the results of the study. Then, the experimenter left the room.

There was a toy box in the room marked “Child’s Play Study” in which one confederate started to look after 30 seconds and after another 30 seconds got up and searched through the box to find a racquetball. Upon retrieving the ball, this confederate grinned at both the other confederate and participant. This confederate bounced it to the other confederate who then bounced it to the participant. Williams noted
that the participant will inevitably throw it back to one of the other confederates [25]. (Three participants did not engage in the ball-tossing at all and one kept the ball to herself making the social exclusion condition impossible. All four participants’ data were not included in any analyses.) Assuming the paradigm continued as planned, the confederates included the participant in the ball-tossing for the first minute. Then, without a word, the confederates began tossing the ball to each other, hence, excluding the participant. The confederates ensured that the ball never reached the participant during the exclusion part of the experiment. The confederates at this point were not allowed to look at or respond to the participant. This lasted 2 minutes.

For the control condition, they were told to wait for the fourth participant as in the exclusion condition. However, in the control condition, the confederates did not take out the ball nor even look at the toy box. They simply waited for 4 minutes without interacting with each other. After both conditions, the experimenter then entered the room and stated that the fourth participant would not be coming. Immediately afterwards the participant was separated from the confederates (for both the experimental and control conditions). They were told that for the next questionnaires, everyone needed to be tested individually. The participant was administered the NOVACO and PANAS scales again to test for any anger differences. Participants were told that this questionnaire needed to be administered both before and after the essay.

Afterwards, the experimenter gave the participant two essays. The experimenter gave the participant a rating scale for each and was asked to read the essay and fill out the rating scale for each essay. For one of the essays, the participant was told that the essay was randomly picked and happened to be written by one of the other participants (the confederates). For the other essay, they were told the essay was randomly chosen and happened to be written by a participant from a previous experiment. In both conditions the participant graded two essays developed by the experimenter on the life of a fictitious student. Whether essay form A or B was assumed to be written by the confederate or non-confederate was counterbalanced to reduce the effects of one essay being naturally better or worse than the other. Also, the essays themselves were counter-balanced. Afterwards, the participants were debriefed. Socially excluded participants were asked if they knew that the ball-tossing was part of the experiment and if so, how confident they were in that assertion.

### 15. RESULTS

Table 1 shows means and standard deviations of anger difference scores (difference between anger scores after the essay from before the essay) and overall social aggression scores based on experimental condition (whether they were excluded or not) and their respective self-esteem level (low or high). Table 2 shows the correlations between experimental variables.

#### 15.1 Analytic plan

The dependent variables were social aggression and anger. The independent variables were: self-esteem (high and low), experimental condition (exclusion or no exclusion) and gender (female or male). A median split was calculated for self-esteem to distinguish between lower and higher self-esteem. The experimental condition was a between-subjects variable and social aggression scores (essay ratings of the confederate’s essay, the non-confederate essay, and a mean of the ratings for both the confederate and non-confederate
essays) were within-subjects. Three univariate analyses of variance (ANOVA) were performed, one with overall social aggression as the dependent variable, one with self-reported anger as the dependent variable, and another examining the difference between the ratings of confederate and non-confederate essays as the dependent variable. The ratings of each of these essays was a within-subjects variable. To be certain that social aggression and anger were positively correlated, a bivariate correlation was performed on these two variables.

15.2 Gender

Although previous research has shown that females are more socially aggressive, there was no main effect for gender. In all three analyses, gender was unrelated to both social aggression and anger, $ps > .10$. All analyses of variance reported below were initially conducted using gender as an independent variable, including their interaction with self-esteem and experimental condition. Results did not differ from those analyses without gender as a variable. Thus, only analyses without gender as another possible independent variable are reported below.

15.3 Social Aggression

There was a main effect of self-esteem: Participants with lower ($M = 4.99, SD = 1.30$) versus higher self-esteem ($M = 4.10, SD = 1.12$) showed higher levels of social aggression as measured by their ratings of confederate and non-confederate essays combined, $F(1, 53) = 6.00, p < .05$. Participants who were socially excluded did not socially aggress more than those in the social exclusion condition, $F(1, 53) = .64, ns$. These results failed to support the hypothesis that socially excluded people would be more aggressive.

15.4 Anger

There was another main effect of self-esteem: participants with higher self-esteem had an increase in anger levels compared with those with lower self-esteem, $F(1, 53) = 5.74, p < .05$. Experimental condition alone did not predict a significant increase in anger levels, $F(1, 53) = 1.08, ns$. This means that socially excluded participants in general did not become angrier from being socially excluded. There was a marginally significant interaction effect: for socially excluded participants, higher self-esteem participants had higher anger scores than those with lower self-esteem $F(1, 23) = 2.94, p = .10$. This marginal interaction trend supports the main hypothesis regarding the effects of social exclusion and high self-esteem on anger.

15.5 Anger and Social Aggression

In this experiment, anger and social aggression were not positively correlated. Instead, significant results were found for a negative relationship between anger and social aggression. A bivariate correlation was conducted between anger and social aggression. The results are shown in Table 2. Angrier participants
rated the stranger’s essays better than those who were less angry, $p < .05$. A t-test was performed to further examine the relationship between anger and social aggression. A negative relationship was found between anger levels after the experiment ($M = .11$, $SD = .61$) and overall social aggression scores ($M = 4.56$, $SD = 1.28$) so that participants with lower social aggression scores reported higher anger levels and participants with lower anger levels reported higher social aggression scores, $t(42) = -17.80$, $p < .001$. This analysis was mainly performed to explore whether aggressive people were angrier too. This finding contradicts previous research that suggests aggression is necessarily an outward expression of anger. This may mean anger may not necessarily be a precursor to social aggression. The possibility that the social aggression scores actually are not reflective aggression may also be true.

**Target of Social Aggression.** To examine the differences between social aggression against the confederate and non-confederate, the rating of the non-confederate’s essay was subtracted from the rating of the confederate’s essay. There was an unexpected main effect for the target of social aggression: non-excluded participants were more aggressive towards the confederate ($M = .49$, $SD = .97$), whereas excluded participants were more aggressive towards the non-confederates ($M = -.33$, $SD = 1.38$), $F(1, 44) = 5.01$, $p < .05$. This finding contradicts the prediction that socially excluded people would aggress more towards the ones that socially excluded them. Instead, the socially excluded people rated the social excluders higher and strangers lower.

### 15.6 Summary

The prediction that people should be angrier and more aggressive in the social exclusion condition than the control condition was partially confirmed. Contrary to predictions, participants reporting lower versus higher self-esteem showed higher levels of social aggression overall. However, the prediction that those reporting higher self-esteem would become angrier after being socially excluded was confirmed. This result supports the prediction that social exclusion generates anger in those with high self-esteem. The prediction that social aggression towards the confederate should be higher in those who were socially excluded was not confirmed. Instead, excluded participants were more aggressive to a stranger, but non-excluded participants were more aggressive towards the confederates. As expected, there were no significant differences between males or females for aggression or anger.

### 16. DISCUSSION

Results were consistent with previous research [8, 37]: participants reporting lower self-esteem showed higher levels of social aggression. However, the social aggression scores attained from this study were not positively correlated with anger scores. These results were surprising because typically when aggression increases, anger should likewise increase [7, 39–41]. Since the social aggression and anger scores were negatively correlated, the social aggression scores attained from this experiment may not be assessing social aggression. It is also possible that there are some individual differences that the experiment did not take into account, such as personality differences. Since gender was not a significant factor in angry feelings or aggressive behavior, these social aggression results are likely not a result of a gender bias. Because people with low self-esteem had higher social aggression scores across both the experimental and control conditions, it is more likely that these scores are more representative of characteristics such as criticalness or being judgmental of others. Possibly, the social aggression scores reflected a hypercritical
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Interestingly, higher self-esteem people increased in anger following the experiment, regardless of whether participants were socially excluded or not. Perhaps for those with high self-esteem, writing about one’s life as a student elicited emotions such as anger, so that they reported higher scores after writing the essay than before. By thinking about being a student, perhaps this increased their anger because of students’ usual stressors. People reporting higher self-esteem may also be more comfortable with reporting their anger and do not feel that they need to act on it aggressively. Likewise, people with lower self-esteem may not be admitting that they were angry, but expressed their aggression passively. Research has already demonstrated that females with low self-esteem tend to have verbal passive-aggressive qualities [46].

It is also likely that people with high self-esteem are adept at regulating their emotions to ensure that their anger does not lead to aggressive acts [42, 47]. Perhaps by taking the anger scale, they utilized the questionnaire as a format to regulate their anger and decrease any desire to aggress.

People who were socially excluded and had higher self-esteem reported higher anger levels than those with low self-esteem. In physical aggression research, anger and aggression are usually positively correlated because aggression is considered an expression of anger [42–45]. However, anger may not be a necessary predictor of social aggression. Instead, social aggression can be done coldly without any feelings of anger [17]. Also, someone can become angry without necessarily becoming aggressive. Instead, anger can be viewed as only a possible precursor to aggression [40]. Although not all angry people become aggressive, clinically aggressive people have anger problems. In fact, people with aggression problems tend to be treated for the anger and not necessarily the aggression per se. Perhaps with a different measurement of aggression (or a certain type of aggression) high aggression levels will be found with high self-esteem individuals as well [44].
Social aggression was directed towards different targets, depending on whether it was the control or experimental condition. Surprisingly, excluded participants were more socially aggressive towards a stranger than the people that actually excluded them. This may be explained by the proximity of the confederates. Perhaps because the confederates were located in a nearby room, they felt uncomfortable with aggressing against them and instead aggressed against a stranger. They may have been fearful of further retaliation in addition to the exclusion they had already endured. Since there was some ambiguity as to whom the essay was written by, their ability to directly aggress may have been affected. Perhaps the participants felt that one confederate was more responsible for the social exclusion that another. With this ambiguity, they may have felt less inclined to aggress against one of them.

It is important to emphasize that this study examined social aggression, and thus findings may not be relevant to physical aggression and violence. However, the current study ties into the literature on several forms of social aggression such as gossip [48], giving poor job evaluations [11], and social ostracism [4]. If social aggression is a precursor to physical aggression and violence, this study may hint at indicators of the rise in aggression in schools today. Because it is crucial to understand the underlying factors of this rise in aggression, research should be focused on explaining any possible factors to explain this problem.

There were several limitations to this study. While statistically significant results suggest that findings were robust, a larger sample size would have allowed for more sophisticated multivariate analyses, including interactions with gender. Although confederates were always the same sex as the participants, the confederates themselves varied. This inconsistency should be avoided when possible in future research. The data from participants who did not participate in the ball-tossing paradigm were not included in the

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**Figure 2.** Overall Mean Scores Anger Difference Scores (after the Essay Minus before the Essay) for the Experimental and Control Conditions Based on Self-esteem Level (Low or High)
analyses (four participants of a total 57). Instead of tossing the ball back, these participants ignored the ball-tossing altogether and typically began drawing, reading, or rested their head on the table. During the debriefing, participants who stated they knew the ball-tossing paradigm was part of the experiment were asked how confident they were. The only participant who stated that they were more than 90% confident that it was an experimental procedure did not participate in the ball-tossing anyway, so this data were likewise not included in the analyses. There may be an important difference between the participants who more easily realized the deception and those that believed the deception. Although Williams [25] does not report any of these problems, an effort to create a more convincing social exclusion experiment would eliminate this possible difference.

Another limitation of this study is that the anger scales may have been influencing the experience of anger. This anger measurement may have been making anger a more salient feeling. However, it is also possible that participants may attempt to report the same answers on the anger scale as before. Despite this limitation, anger effects were still seen in higher self-esteem participants. Any influence of the anger scales making participants angrier was mostly controlled because all participants in both conditions received the same measure twice.

In this study, preliminary analyses did not present statistical significance for gender. However, future studies should investigate gender effects in social aggression, because previous research has shown that females tend to be more socially and passively aggressive than males, especially in regards to tactics such as the “silent treatment” or gossip [49]. These exclusionary strategies may be more effective on females and may elicit increased aggression.

Further research should use a measurement of physical aggression to see if violence is exhibited by those with low self-esteem. This research should use reliable instruments to measure self-esteem, such as the Rosenberg Self-Esteem Scale [30]. Future research also could benefit from comparing the different types of aggression such as passive (i.e. gossiping and the silent treatment) vs. active aggression (i.e. physical and verbal fighting) especially in their relation to social exclusion and self-esteem [23, 25, 48]. When examining the differences between these types of aggression, gender should be an important variable in the analyses.

Further studies also should test whether stability of self-esteem influences reactions to social exclusion. Perhaps it is people with high, but unstable, self-esteem who are more susceptible to this exclusion and in turn act out aggressively. Very little research has assessed self-esteem stability and aggression [3]. As of yet, few if any studies have examined the relation between unstable self-esteem and social aggression in a social exclusion context.

A future direction of research should examine people’s views on violence in relation to how aggressive they are. Perhaps people who are more tolerant of violence will themselves be more violent [50]. Although the current literature on violence tolerance is mainly focused on children and the media, the media may also be making young adults more accepting of violence. This may explain the rise in aggression of all types in school environments.

It would be wise to conduct cross-cultural research on in a social exclusion context between violent and less violent cultures. A continuation of cross-cultural research on violence is key to understanding these phenomena because this comparison could give some important insight into what the key differences that may explain links between social exclusion and aggression [51, 52].

Based on current research, the hypothesis that high self-esteem people would be more aggressive and angrier when socially excluded and that this social aggression would be preferentially towards those that socially excluded them seemed plausible. Instead, this study showed that anger is a more likely reaction
Table 1. Anger Difference and Social Aggression Scores Based on Self-Esteem and Experimental Condition

<table>
<thead>
<tr>
<th>Variable</th>
<th>Social Exclusion</th>
<th>No Social Exclusion</th>
<th>Social Exclusion</th>
<th>No Social Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Low Self-Esteem</td>
<td>-06</td>
<td>.34</td>
<td>-02</td>
<td>.16</td>
</tr>
<tr>
<td>High Self-Esteem</td>
<td>.53</td>
<td>1.2</td>
<td>.14</td>
<td>.26</td>
</tr>
</tbody>
</table>

Table 2. Intercorrelations between Experimental Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Exclusion or no exclusion</td>
<td>- .03</td>
<td>- .22</td>
<td>.05</td>
<td>.11</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td>2. Self-esteem</td>
<td></td>
<td>- .30*</td>
<td>- .32*</td>
<td>- .35*</td>
<td>.29*</td>
<td></td>
</tr>
<tr>
<td>3. Aggression against Confederate</td>
<td></td>
<td></td>
<td>.63**</td>
<td>.90**</td>
<td>.30*</td>
<td></td>
</tr>
<tr>
<td>4. Aggression against the non-confederate</td>
<td></td>
<td></td>
<td></td>
<td>.90**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Total aggression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- .24</td>
<td></td>
</tr>
<tr>
<td>6. Anger difference after from before the essay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05  **p < .01

to social exclusion than social aggression, especially in those with high self-esteem. It is possible that the social aggression measure may have been measuring other factors unrelated to aggression. Indeed, the current study suggests that under some conditions, social exclusion might be an important context for anger and high self-esteem. These results might have important implications for explaining underlying factors triggering anger and aggression in cast away young people, particularly in a school environment.

References


[27] N. E. Werner and N. R. Crick, “Relational aggression and social-psychological adjustment in a


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