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The Influence of Narcissism and Self-Control on Reactive Aggression

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The Influence of Narcissism and Self-Control
on Reactive Aggression

by

Melissa L. Harrison

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Criminology
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Dedication

I dedicate this dissertation to my parents, Glenn and Cindy Harrison, who have taught me to forfeit short-term profits for long-term goals and to my boyfriend, Michael Loberg, who has been patient and supportive while I strived to achieve those goals.

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Abstract

The empirical literature to date has indicated that narcissism is associated with reactive aggression; however, exactly why narcissists respond with aggression to provocation is yet to be determined. The present paper is an exploration of two possible means through which a lack of self-control could be an important predictor involved in narcissists' aggressive behavior: 1) a lack of self-control could explain the link between narcissism and aggression, and 2) the combination of insufficient self-control and narcissism could increase the likelihood of aggressive response to provocation.

To explore these possibilities, an experiment was conducted in which 214 participants were first administered measures of narcissism and self-control. Then, random assignment determined whether the participant would be provoked through negative feedback on his/her performance. Participants were provided opportunities to aggress on two measures: 1) an evaluation of another's performance, 2) open-ended responses to a situational vignette.

There were two major areas of focus in the results of the study. First, the effect of provocation was examined. As expected, provoked participants provided more aggressive responses on the evaluation of their peer than nonprovoked participants; however, provocation did not affect aggression on the situational vignette. Narcissism was associated with aggression on the situational vignette and not on the evaluation. These findings point to the strength of the situation in the prediction of behavior as it was only

when provocation did not produce an effect that personality had a significant influence on aggression.

Second, the relationships among narcissism, self-control and aggression were examined. Narcissism was associated with low self-control as expected. Stepwise linear regression revealed a significant interaction between narcissism and self-control in the prediction of physical aggression in response to the situational vignette. The moderation effect of self-control and narcissism on physical aggression indicates that the combination of high narcissism and low self-control is important in predicting physical aggression. Additional post-hoc exploratory analyses suggest some overlap in the measures. Thus, suggestions for future research and methods of reducing the overlap in construct during measurement are provided.

Chapter One

Introduction

Narcissism has been associated with aggressive responses to negative feedback (Barry, Chaplin, & Grafeman, 2006; Bushman & Baumeister, 1998; Stucke & Sporer, 2002), delayed feedback (Martinez, Zeichner, Reidy, & Miller, 2008), and social rejection (Twenge & Campbell, 2003). Exactly why narcissism is associated with aggression in response to provocation has not been determined. Recent empirical research on self-regulation suggests that a lack of self-control underlies narcissism (Vohs, Baumeister, & Ciarocco, 2005). Given the relationship between low self-control and aggression, the narcissist's lack of self-control could be responsible for the aggressive outcomes of the trait.

While researchers have recently theorized that a lack of self-control may be responsible for the narcissist's reactive aggression (Vazire & Funder, 2006), few tests of this proposition have been conducted. Additionally, the existing research has ignored the role of agency or the cognitive decision-making process of the individual. The present study was conducted to explore the link between narcissism and aggression using a cognitive measure of insufficient self-control. The study not only assesses maladaptive schemas that may predispose narcissists toward reactive aggression but also the actual

decision-making processes that occur when an individual is confronted with a provoking situation.

Growing appreciation of the cognitive predictors of behavior in the fields of psychology and criminology was recently emphasized by Nagin's (2006) Sutherland address to the American Society of Criminology in which he promoted the importance of rational choice in the study of criminal behavior (Nagin, 2007). Measures of decision-making processes are becoming more common as social scientists seek to understand the rational choices that individuals make and the cognitive schemas that guide those decisions. This movement toward cognitive explanations of behavior is evidenced by more recent revisions to major theories in the fields of criminology and psychology such as Agnew's general strain theory and Berkowitz frustration-aggression hypothesis, which have both incorporated cognitive components in the understanding of behavior enacted in response to a perceived provocation (Agnew, 2001; Berkowitz, 1989).

Cognitive factors have been found to be particularly important to the study of aggressive behavior. Dodge and colleagues' studies of Social Information Processing have informed researchers regarding how youth make decisions related to aggressive behavior, and how to change those decision-making processes (Dodge, 1980; Dodge, Lochman, Harnish, Bates, & Pettit, 1997). Social Information Processing involves: 1) encoding social cues, 2) attributing intentions to other parties, 3) generating potential responses, 4) evaluating the consequences of responses, and 5) selecting a response, and 6) engaging in the selected response (Dodge, Pettit, McClaskey, & Brown, 1986). Dodge (1980) found that children with a "hostile attribution bias" are more likely to aggress against their peers who are perceived to have aggressive intentions even in ambiguous

situations. This cognitive bias can be identified and addressed to reduce aggression among youth. However, the studies on Social Information Processing have been conducted primarily on children, with few studies assessing cognitive factors that influence adult aggressive behavior.

The present study attempts to address this gap in the literature by assessing the link between narcissism and aggression more closely by paying particular attention to the role of cognitive processes. That is, the decision-making process is assessed to gain greater insight into the narcissist's choices in response to provocation. Among adults, as compared to children, it is likely that cognitive bias manifests as a more ingrained and patterned way of responding to the environment. Young (1994) describes such patterned cognitive responses as early maladaptive schemas, or dysfunctional ways that one perceives oneself and one's environment. Adults have had years to perpetuate their patterned behaviors and solidify their views of the world, others, and themselves. Thus, changing such ingrained schemas is an involved, lengthy task. This does not mean that the task is impossible. Young has developed a therapy specifically for cognitive restructuring of such maladaptive schemas (Young, 1994). Thus, if maladaptive schemas can be identified among adults, and these schemas are associated with aggressive behavior, then this knowledge is worth attaining as even adults can be cognitively rehabilitated.

Young (1994) describes several maladaptive schemas, one of which may be particularly important in the understanding of narcissistic aggression; that is insufficient self-control. Young defines insufficient self-control as a lack of impulse restraint and a low tolerance for frustration in meeting one's goals (Young, Klosko, & Weishaar, 2003).

Young describes early maladaptive schemas as leading to negative consequences for the individual; however, the individual continues to make the same choices that lead to the negative consequences. Thus, among those with a cognitive schema of insufficient self-control, the decision to engage in behaviors that provide more immediate reward despite long-term negative consequences would be repeated across situations.

In summary, the present study explores the relationships among narcissism, insufficient self-control and aggression. While a number of measures of self-control exist, the current project was designed to test a cognitive measure tapping maladaptive schemas. Thus, in the present paper, a cognitive measure of insufficient self-control is applied to the understanding of the narcissists' decision-making processes that lead to aggressive behavior.

Chapter Two

Theoretical and Empirical Background on the Relationships among Narcissism, Self-Control and Aggression

Surprisingly, an agreed upon definition of aggression has eluded researchers despite the vast amount of research conducted on the topic. The majority of definitions in the field of psychology (Anderson & Bushman, 2002) have indicated that aggression is behavior intended to harm another who is motivated to avoid being harmed. Thus, an individual must intend to harm another to be considered aggressive – accidentally running over one’s neighbor’s dog is not an aggressive act, but running over one’s neighbor’s dog on purpose is an act of aggression. Additionally, the victim must not be a consenting participant in the behavior. A sexual masochist who seeks physical punishment from others would not be a victim of aggression (Anderson & Bushman, 2002).

In laboratory studies, aggression has been operationalized in a variety of ways including physiological response such as change in blood pressure (Ahmad & Lee, 2001) or testosterone (Cohen, Nisbett, Bowdle, & Schwarz, 1996), physical attack through administration of electric shock (Giancola, 2002a, b; Giancola et al., 2002; Taylor, 1967), or verbal insult often provided through negative evaluation of another’s performance or personality (Bell, 1980; Jacquin, Harrison, & Alford, 2006; Rohsenow & Bachorowski,

1984). Various laboratory measures of aggression, both verbal and physical, are highly correlated indicating they are likely to be measuring the same general construct (Carlson, Marcus-Newhall, & Miller, 1989). Importantly, none of the behavioral or verbal measures of aggression that are frequently used to study adult aggressive behavior measure the decision-making process of the individual. For example, the dependent variable is commonly measured as the duration or intensity of electric shock selected for an opponent, the intensity of noise blasts administered to another, or the feedback provided to an experimenter. The individual's generation of responses to a provoking situation, comparing aggressive and non-aggressive alternatives, is largely ignored.

Subtypes of Aggression

Individuals are not only generating responses regarding whether to behave aggressively in response to a situation, but they are also making decisions regarding the type of aggressive behavior to enact. Physical aggression, such as hitting or pushing another person, is more common among young boys than girls. Verbal aggression, such as insulting or threatening another person is also commonly exhibited in young boys. However, passive (or indirect) aggression, such as giving another the silent treatment or spreading rumors about him/her, is more common among females (Crick & Grotpeter, 1995). Crick and Grotpeter (1995) have labeled this "relational aggression" as it is enacted with the motive of harming interpersonal relationships by ostracizing someone from a group or withdrawing friendship. Campbell (1995) theorizes that females are more likely to become injured in a physically aggressive confrontation than males. Thus, females tend to engage in less direct forms of aggression. Therefore, the form of

aggression to be used is cognitively selected, many times at an unconscious level, based on how advantageous it will be for the individual.

The idea that individuals are engaging in the types of aggressive action that will benefit them most is also highlighted in the developmental research on aggressive behavior. While it has been established that physical aggression peaks at approximately age two, it is possible that physical aggression is replaced by other forms of aggressive behavior, such as indirect aggression, that are more socially accepted (Tremblay & Nagin, 2005; Vitaro, Brendgen, & Barker, 2006). Bjorkqvist and colleagues have theorized that as individuals develop social and verbal skills, indirect forms of aggression are chosen rather than overt physical or verbal aggression (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992). Indirect aggression is less likely to draw attention and punishment, yet is viewed as harmful to victims, resulting in the same ultimate goal. Thus, individuals confronted with a situation in which aggression could be used as a response, are selecting a specific form of aggression through a cognitive process based on past experience and expectations for specific consequences.

Yet cognitive processes have been particularly ignored in the understanding of reactive aggression (Bushman & Anderson, 2001). Dodge and Coie (1987) originally proposed the distinction between proactive and reactive aggression. Proactive aggression, also referred to as “instrumental” aggression, is harmful behavior that is exerted to reach a goal. For example, an inmate who is new to the prison may attack another inmate for the sole purpose of establishing status and thus gaining respect of others. The aggressor in this situation would have much to gain from his act if he can keep himself from being victimized. On the other hand, reactive aggression, also referred to as “hostile”

aggression, is that which is enacted in response to some perceived provocation. In this same hypothetical scenario, the inmate who was attacked may respond with aggression as well. His behavior would be classified more accurately as reactive in that he was provoked by the initiator of the aggressive interaction.

Reactive aggression is impulsive rather than planned and occurs in the “heat of the moment,” when negative emotions and physiological arousal are heightened, as a result of provocation. In contrast, proactive aggression is planned, cold-blooded and unprovoked. Because reactive aggression is viewed as emotional and unplanned, theory and research on the behavior has failed to incorporate cognitive factors into the understanding of the aggression (Bushman & Anderson, 2001). Bushman and Anderson describe problems with the dichotomous categorization. For example, Dylan Klebold and Eric Harris, the Columbine school shooters, claimed to have been rejected from their peers and been reacting to that sense of isolation when they responded with violence. This would lead one to categorize them as engaging in reactive aggression. At the same time, the boys had constructed plans and even a timeline of events for the shooting revenge that they ultimately implemented. This type of forethought would be classified as proactive aggression. Research has found that there is some overlap in the two types of aggression as the scales of reactive and proactive aggression are strongly correlated with reported r 's ranging from .66 to .85 (Barry et al., 2007; Dodge & Coie, 1987; Munoz, Frick, Kimonis, & Aucoin, 2008; Vitaro, Gendreau, Tremblay, & Oligny, 1998). Thus, while researchers originally theorized that emotion was most important in understanding reactive aggression and cognitive factors were of primary importance to the understanding of proactive aggression, the categorization may have restricted research

efforts beyond what is accurately representing human behavior. Instead, both emotion and cognitive factors are likely to play a part in aggression, whether that aggression is reactive or proactive (Bushman & Anderson, 2001). Therefore, the reactive aggression literature, which has primarily focused on the emotional process of aggression, may be missing a key factor: the cognitive component.

Provocation and Aggression

Reactive aggression has been extensively studied in the experimental literature. In fact, thousands of empirical studies have revealed that provocation is one of the strongest predictors of aggression. Researchers have operationalized provocation in a variety of ways such as receipt of electric shock (Buss, 1961; Taylor, 1967), negative evaluation (Berkowitz, Corwin, & Heironimus, 1962), verbal insult (Cohen et al., 1996), aversive noise blast (Cleare & Bond, 1995), and loss of points on a competitive task (Check & Dyck, 1986). Aggression has been found to result from provocation regardless of the type of provocation administered or the measure of aggression used (Carlson et al., 1989).

Aggression is not a common behavior, particularly among college students who are often the participants in psychological experiments. Thus, in experimental studies, aggression must be induced, or instigated, to be measured and analyzed. Several guises are commonly used to generate aggression in psychological experiments. Popular scenarios used in the laboratory over the past four decades have been the teacher/learner paradigm (Buss, 1961), the reaction time task (Taylor, 1967), essay evaluation (Berkowitz et al., 1962), and verbal insult (Cohen et al., 1996).

Both the teacher/learner paradigm and the reaction time task (Taylor, 1967) typically use electric shock intensity or duration as a measure of aggression with a guise

for the experiment such that the participant administers an electric shock to punish the learner or during a competitive game respectively. In the essay evaluation scenario, participants are provoked through a negative evaluation of their own work or opinions and then presented with an opportunity to reciprocate through evaluation of the provocateur (Berkowitz et al., 1962; Harmon-Jones & Sigelman, 2001). Individuals who are insulted by another, who receive greater intensity shocks from an opponent, or who are given negative evaluations are more likely to aggress than those who are not provoked. This causal relationship has been shown to exist for both genders and to exist across experimental and field studies (Anderson & Bushman, 1997; Bettencourt & Miller, 1996). In fact, the body of existing research has led psychologists to state that provocation is “one of the most powerful elicitors of human aggression” (Giancola, 2004).

However, not all individuals who are provoked will aggress in reaction. It is individual differences (e.g., trait anger, poor executive cognitive functioning, narcissism, impulsivity) that interact with the situational provocation and lead to aggressive behavior (Bettencourt, Talley, Benjamin, & Valentine, 2006; Giancola, 2002b; Santor, Ingram, & Kusumakar, 2003). One personality factor that has been found to increase the likelihood of aggression in reaction to provocation is narcissism.

Definition and Measurement of Narcissism

Narcissism is broadly defined as an extreme love of self. According to Greek myth, Narcissus was a man with many suitors, who found none of them to live up to his high standard. That is, until he stopped to drink from a pool of water and saw his reflection. Narcissus, enamored with his mirror image, realized he would never find

anyone as perfect as himself. He continued to gaze at his reflection until he died (Hamilton, 1942). The American Psychiatric Association (2000) defines Narcissistic Personality Disorder (NPD) as “a pervasive pattern of grandiosity, need for admiration, and lack of empathy” (Diagnostic and Statistical Manual of Mental Disorders, 2000). Nine criteria are listed in the Diagnostic and Statistical Manual of Mental Disorders (*DSM-IV-TR*; 2000) describing the behavioral indicants of NPD. Specifically, according to *DSM-IV-TR*, narcissism is characterized by: 1) a sense of grandiosity, 2) preoccupation with success/power, 3) a sense of entitlement, 4) belief that one is special, 5) need for admiration, 6) lack of empathy, 7) jealousy or belief that others are jealous of him/her, 8) arrogance, and 9) interpersonal exploitation. An individual may be diagnosed with NPD by meeting at least five of the nine criteria. Thus, some heterogeneity within the disordered group would be expected to exist.

The prevalence of clinical Narcissistic Personality Disorder among the general population is estimated to be about 1% or less (*DSM-IV-TR*; 2000). This estimate may be biased downward, though, as most individuals with NPD are unlikely to seek treatment for the disorder, as they often lack insight into the maladaptiveness of their behavior. Regardless of estimates of clinical narcissism within the general population, it is likely that narcissism exists on a continuum with many people possessing some narcissistic characteristics and a few presenting with pathological NPD. For the purpose of the present paper, the term “narcissism” will be used to refer to higher scores on the dimension of narcissism, and not a categorical diagnosis.

The most commonly administered dimensional measurement of narcissism is the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979). The NPI was developed

based on the DSM-III criteria for NPD; yet, until recently little empirical research had been conducted to determine the relationship between the NPI and diagnostic NPD. Miller and colleagues (2009) conducted a study to determine the relationship between narcissism scores on the NPI and clinical ratings of narcissism based on the Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II; First, Gibbon, Spitzer, & Williams, 1997; Miller, Gaughan, Pryor, Kamen, & Campbell, 2009). The researchers found a significant correlation between narcissism scores on the two measures among both a clinical sample ($r = .54$) and a nonclinical (undergraduate student) sample ($r = .59$). While the correlations are strong, there is variability in the two measures as shown in the lack of perfect correlation. Research has indicated that one major difference between NPD and the NPI is that narcissism measured with the NPI is associated with high extraversion, an association not found among those with clinical NPD (Miller & Campbell, 2008; Miller et al., 2009). Extraversion, according to the Five Factor Model (Costa & McCrae, 1992) consists of warmth, gregariousness, assertiveness, activity and excitement seeking (Miller & Campbell, 2008). Thus, individuals who score high on the NPI may differ in some respects from those with NPD; and therefore, the results of research using the NPI may not generalize to clinical populations. Because aggression has been found to be associated with the NPI, and the present study is an investigation of the association of narcissism and aggression, there is little concern whether the NPI generalizes to NPD in the study of this relationship.

Narcissism and Aggression

As stated before, several empirical studies using the NPI to measure narcissism among adults have revealed that aggression is associated with narcissism. Narcissism has

been associated with aggressive responses to negative feedback (Barry et al., 2006; Bushman & Baumeister, 1998; Stucke & Sporer, 2002), delayed feedback (Martinez, Zeichner, Reidy, & Miller, 2008), and social rejection (Twenge & Campbell, 2003). In each of the studies of narcissism and aggression, provocation was used to create a threat to the ego of the narcissist. Thus, narcissism has been associated with reactive aggression in experimental studies, but not necessarily with proactive aggression. Thus, provocation may be a particularly important situational elicitor of aggression among narcissists.

Relying on the established literature linking narcissism to reactive aggression, Baumeister and colleagues developed a theory of narcissistic aggression focusing on the ego threat as the antecedent of the aggressive response (Baumeister, Smart, & Boden, 1996). However, exactly why narcissists are more likely to react with aggression to provocation (or ego threat) has not been fully explained. Baumeister and colleagues (1996) state that because the narcissist's ego is so inflated, it is more easily threatened than that of less egotistical individuals in society. Yet, this explanation of aggression is somewhat tautological; narcissists are more likely to aggress in reaction to provocation because they are more sensitive to provocation. Clearly, another theory more explanatory of the narcissism-aggression relationship is needed.

Psychologists have proposed several latent constructs as the source of the linkage between narcissism and aggression. A lack of self-esteem is often blamed for the presentation of narcissistic characteristics based on the theoretical notion that underlying a façade of grandiosity and entitlement is self-doubt and a sense of inferiority (Kernberg, 1975). Yet, empirical study has drawn a more complicated picture of the narcissism/self-esteem relationship.

Narcissism has not always been associated with low self-esteem, but has been associated with both low and with high self-esteem. Narcissism associated with low self-esteem is theoretically considered to be of greater concern with respect to aggressive behavior (Sandstrom, 2010; Witt, Donnellan, & Trzesniewski, 2010). Yet, Baumeister and colleagues propose that it is just the opposite, an inflated self-view combined with an ego threat, that leads to aggression (Baumeister et al., 1996). It is possible that self-esteem is not explanatory of narcissistic aggression at all. In a study conducted by Baumeister and Bushman (1998) self-esteem did not affect the likelihood of aggression among narcissists. Given the previous literature, the construct of self-esteem has thus far failed to explain narcissistic aggression.

Narcissism and Insufficient Self-Control

There is reason to believe that another construct, lack of self-control, underlies narcissistic behavior, and may be more important in understanding aggression among narcissists. It is possible that narcissists lack the self-control necessary to restrain their behavior when provoked. Gottfredson and Hirschi (1990) describe a general theory of crime proposed to explain all criminal and antisocial behavior, including aggression. As with all control theories, the underlying assumption of the general theory is that all people are inherently selfish and hedonistic and will engage in behaviors that further their own selfish goals regardless of the harm caused to others. Given human inclination to offend, there must be some form of constraint which inhibits the criminal behavior of individuals. According to the general theory, the source of control that keeps most people from offending most of the time is a stable personality trait, self-control.

According to Gottfredson and Hirschi (1990), self-control develops through parenting practices, a form of social control, which eventually are internalized by the individual. Specifically, self-control is developed through appropriate parenting requiring: 1) monitoring the child's behavior, 2) recognizing bad behavior when it occurs, and 3) punishing the bad behavior. Inconsistent parenting due to a lapse in any of the three elements of parenting noted above would cause a failure at socialization, and therefore at instilling self-control in the child. Thus, social control is necessary for self-control to develop. In other words, individuals behave prosocially at first to avoid punishment from others in society and eventually because they have internalized social norms.

Social control appears to have limited influence over narcissists. As noted above, the DSM lists several criteria for narcissism. The first criterion, "has a grandiose sense of self-importance" is indicated by the behavioral characteristic of self-enhancing one's achievements or abilities (DSM-IV-TR; 2000). While narcissists will present themselves falsely, the motive is not social acceptance. Narcissists provide an overly favorable self-presentation for agentic traits such as intelligence and extraversion (Campbell, Rudich, & Sedikides, 2002) as well as attractiveness (Gabriel, Critelli, & Ee, 1994). However, on communal traits such as agreeableness and morality, narcissists do not present as more favorable (Campbell et al., 2002).

In fact, narcissism is consistently associated with low Agreeableness on the Five Factor Model of Personality (Miller & Campbell, 2008). Agreeableness measures "individual differences in the motivation to maintain positive relations with others"

(Graziano & Tobin, 2002, p.696). Thus, low agreeableness suggests that the narcissist is concerned more with himself than with those around him.

Given narcissists' low agreeableness, one would not expect narcissists to score very high on a measure of socially desirable response. Research has confirmed that, as expected, narcissism is not associated with social desirability. In four studies conducted by Raskin and colleagues (1991), a significant association between narcissism and socially desirable responses was found in only one of the studies. The one significant correlation was a negative association indicating narcissism is linked to a lack of desire to present oneself in a manner that would heighten social acceptance (Raskin, Novacek, & Hogan, 1991). As stated by Raskin and colleagues, the narcissist's tendency to self-enhance, not for the purpose of increasing social desirability, but instead to indicate his superiority in comparison to others, "highlights the distinction between needing and seeking approval and needing and seeking admiration." Given the narcissist's lack of concern for social acceptance, social control is unlikely to restrain narcissists from behaviors such as aggression.

A recent study by Vohs and colleagues provides evidence of the narcissist's lack of self-control (Vohs, Baumeister, & Ciarocco, 2005). Vohs and colleagues theorized that self-regulation, a form of behavioral self-control, is required for a person to present himself as socially acceptable. In other words, it takes self-control, or effort, to manage one's self-presentation. Without this self-control, an individual would naturally present himself to others as he views himself in private, as being superior to others.

Interestingly, Vohs and colleagues (2005) actually manipulated self-regulatory resources. It is believed that engaging in a task that requires effort will reduce the effort

left to self-regulate as though there is only a certain amount of energy for self-regulation, similar to a gas tank that simply runs out of fuel. In Vohs and colleagues' study, participants completed a task that was designed to deplete them of their self-regulatory resources. The task involved viewing a video of an interview that they were asked to assess while words flashed on the bottom of the screen. Participants who were depleted of their self-regulation were asked to not read or look at the words flashing on the screen. It requires effort to attend to the interview and consistently avoid attending to the words flashing on the bottom of the screen. Participants who were assigned to another condition in which they were not depleted were not given any instructions regarding the words on the screen.

People who were depleted of their self-regulatory resources scored significantly higher on the NPI after completing the task than those who were not depleted (Vohs et al., 2005). People who were depleted of their self-regulatory resources also scored lower on social desirability than those who were not depleted. Thus, when one has used all of his or her effort at restraint and is depleted of the ability to exert self-control, the "unrestrained" tendency is to provide an overly favorable self-presentation. This indicates that it takes little effort to present oneself as superior to others, while it takes considerable effort and restraint to present oneself in a socially desirable light. Participants lacking the resources to make the effort to present themselves in a socially acceptable manner were responding in a manner that required the least effort, or the least self-control. Thus, the narcissist who consistently fails to exert the effort to present himself in a socially desirable light, does so because he does not possess the self-control required to manage his self-presentation.

The tendency toward self-enhancement typical of narcissists, consistent with behaviors due to a lack of self-control, provides positive social results for the short term, but detrimental social effects in the long term. For example, in a study by Paulhus (1998), discussion group members rated themselves and their peers on a number of qualities at initiation of the discussion group and then again after seven weekly discussion meetings. At the initial meeting, peers described narcissists in positive terms noting qualities of confidence and intelligence. However, by the time of the seventh meeting, narcissists were viewed negatively and described as hostile braggarts. According to Paulhus, peers may not be able to determine whether a narcissist is self-enhancing or being truthful when describing his superior abilities at first contact. Over time, though, the boasting becomes more obviously inaccurate in comparison with his true abilities. Thus, the self-enhancement of the narcissist provides immediate positive results, but a negative social outcome over time.

If self-enhancement leads to negative social consequences over time, then why do narcissists continue to engage in the practice? The positive short-term benefits may be strong enough that the narcissist continues to pursue them. One of the positive short-term benefits of self-enhancement is a positive mood. Narcissists are more likely than others to experience positive emotions as a result of comparing themselves to others in a downward fashion (believing they are superior to or better than others; Bogart, Benotsch, & Pavlovic, 2004). In a study conducted by Robins and Beer (2001), participants were given a group task to complete. Narcissists were more likely to indicate that they were responsible for the success of the group on the task and experienced positive affect as a result. Thus, the short-term emotional boost due to self-aggrandizement (evaluating

oneself as superior to others) or self-enhancement (evaluating one's abilities in an unrealistically positive manner) serves as immediate gratification for the narcissist while the long-term social consequence of the behavior is ignored (Paulhus, 1998).

Some have suggested that an overly positive view of one's abilities could be advantageous in the long-term by motivating the individual to strive for lofty goals (Taylor & Brown, 1994). Yet, narcissists self-report unrealistically high academic abilities, but this is not related to actual academic achievement over time or to graduation from college (Robins and Beer, 2001). Additionally, well-being across time in the college environment decreases for narcissists. These empirical findings refute any presumed long-term advantages of narcissism, and instead support the notion that there are long-term negative consequences for such individuals. It is apparent, then, from the existing literature, that narcissistic behaviors are aimed at immediate gratification and not long-term goals.

Preliminary correlational research also indicates there is a relationship between narcissism and low self-control. Vazire and Funder (2006) conducted a meta-analysis and found significant correlation between narcissism and low self-control based on the effect size (weighted mean $r = .41$) across 23 correlations. Measures of low self-control assessed by Vazire and Funder in the meta-analysis included the self-control scale of the California Personality Inventory (Gough, 1957, 1987), the constraint scale of the Boredom Proneness Scale (Farmer & Sundberg, 1986), and ego-undercontrol of the California Adult Q-Set (Block, 1961). Vazire and Funder (2006) proposed that narcissism may be related to maladaptive behaviors due to the impulsivity of the narcissist. Without

self-control, narcissists may be “freed” to behave in unacceptable ways, including aggressive reaction to provocation.

Empirical Studies of Narcissism, Self-Control and Aggression

Miller and colleagues (2009) are the only researchers to have empirically tested the ability of self-control to explain the relationship between narcissism and aggression. The researchers conducted two studies. Study one was an experiment in which aggression was measured as frequency, duration, and intensity of electric shock administered to an opponent in the reaction-time task. In this study, rather than assess self-control specifically, a related construct, impulsivity, was measured by the three subscales of the Barratt Impulsiveness Scale (BIS-11; Patton, Stanford, & Barratt, 1995). The three subscales measure motor impulsiveness, lack of attention/concentration, and lack of planning. Impulsivity failed to account for the relationship between narcissism and physical aggression. However, as noted by the authors, the measure of impulsivity used was narrow in scope and only physical aggression was measured as a potential outcome.

Miller and colleagues (2009) stated that Vazire and Funder (2006) found a very high correlation between impulsivity and aggression and thus it is surprising that impulsivity failed to explain the narcissism-aggression relationship in the experiment. One difference between the studies that may influence the results is the measure of impulsivity as a narrow concept in the Barratt Impulsiveness Scale as compared to more global measures of low self-control that were included in the meta-analysis. As noted above, many of the measures used by Vazire and Funder were self-control, rather than impulsivity measures and thus more global in scope.

As a means of testing the difference in explanatory ability of a more global measure of self-control, Miller and colleagues (2009) conducted a second study, utilizing Tangney and colleagues' measure of global self-control (Tangney et al., 2004). The Tangney et al. scale was developed to assess cognitive and emotional control, impulse control, behavior regulation, and habit breaking (Tangney et al., 2004). Miller and colleagues sought to determine whether this measure of self-control could explain several self-defeating behaviors (e.g., risky sex, drinking problems). However, importantly for the present paper, aggression was not measured. Thus, a measure of self-control should be used to determine the association between narcissism and aggression, a behavioral outcome of the narcissistic personality style.

A measure of self-control that may be particularly useful in understanding the association between narcissism and aggression is Young's cognitive measure, the Insufficient Self-Control Scale. According to Young, Early Maladaptive Schemas are cognitive structures individuals use to interpret and react to their environment. Young believed early experiences were responsible for shaping individual differences that remain influential over the course of the lifetime (Young, 1994). Young's Insufficient Self-Control scale (Schmidt, Joiner, Young, & Telch, 1995) is one of 15 scales in a questionnaire assessing Early Maladaptive Schemas (EMSs). The EMS of Insufficient Self-Control measures a lack of emotional and behavioral restraint and an overall lack of self-discipline.

Tremblay and Dozois (2009) recently published the first empirical test of the relationship between Young's Insufficient Self-Control scale and dispositional aggression. The authors found that Insufficient Self-Control correlated significantly with

both physical ($r = .19, p < .001$) and verbal ($r = .28, p < .001$) aggression as measured by the Aggression Questionnaire (Buss & Perry, 1992). In a study by Crawford and Wright (2010), insufficient self-control was found to partially mediate the relationship between self-reported experiences of childhood maltreatment and aggressive behavior in adulthood as measured by the Aggression Questionnaire. Thus, preliminary research would suggest that a cognitive measure of insufficient self-control is associated with aggression, but exactly how this relates to narcissism and reactive aggression specifically, is unknown.

While a global measure of self-control may better account for the association between narcissism and aggression as compared to a narrow measure of impulsivity, it is also possible that self-control does not mediate the narcissism-aggression relationship, but moderates the link. A combination of low self-control and high narcissism would then be a potent combination making reactive aggression most likely. Researchers have yet to fully explore the relationships among narcissism, self-control and aggression.

Limitations of Past Research

The existing experimental research on narcissism and aggression has two major limitations: 1) the measurement of aggression does not allow for an assessment of decision-making processes or limits behavioral choices, and 2) relationships between and among variables fail to account for mediating factors. Each of these limitations is described below.

Measurement of Aggression

Much of the previous experimental research on adult reactive aggression has ignored the decision-making process that affects the dependent variable. As Anderson

and Bushman (2002) have noted, the perception of reactive aggression as a response to anger has biased the research toward a model using affect as the sole mediator of the provocation-aggression relationship, although it is likely that cognitive processes are also operative.

The state of the decision-making literature among adults is surprising considering decision-making in aggressive response among children has been extensively investigated. For example, over 100 studies of Social Information Processing have been conducted with child samples. Researchers typically present children with problematic social situations and ask them to generate resolutions. The first response to the problem is believed to be indicative of the child's typical behavioral response based on cognitive script models of social behavior. Cognitive script models (Abelson, 1981) propose that individuals develop scripts, or unconscious knowledge structures, that are repeatedly followed. Indeed, the friendliness of the first response provided by children has been negatively associated with aggression (Mize & Cox, 1992). Greater numbers of solutions generated by children are also believed to indicate social competency. Indeed, producing a greater number of strategies has been associated with children's cooperative play (Mize & Cox, 1992).

Recently, situational vignettes have gained popularity among researchers interested in adult affective response and decision-making processes (O'Connor, Archer, & Wu, 2001; Van Goozen, Frijda, Kindt, & Van de Poll, 1994). Several studies have been conducted to establish the validity of the situational vignette (Archer, 2004; O'Connor et al., 2001). Methodologically, researchers have used a multiple-choice answer format to obtain participant responses to the situation (e.g., Archer & Benson,

2008). As has been reported in previous research using multiple-choice answers, participants may not see the response they believe they would make in a particular situation, or they may not understand the difference between two options (O'Connor et al., 2001). Additionally, reading the options may influence the choice that participants make as demand cues become more salient. To circumvent this problem, a superior strategy would call for open-ended responses to be generated by the participants. As such, the present study relies on this methodology.

Mediators of Reactive Aggression

While early laboratory studies of aggression focused on determining whether relationships existed between various predictive factors and aggression, more recent advancements in analytic procedures have led to the study of the process through which one variable affects another. Tests of mediation and moderation have become more frequent. Baron and Kenny (1986) describe four criteria necessary to determine mediation. In the context of the current study, these criteria would be as follows: 1) narcissism must be significantly associated with aggression, 2) narcissism must be significantly associated with insufficient self-control, 3) insufficient self-control must be significantly associated with aggression and 4) the significant relationship between narcissism and aggression should be rendered nonsignificant after the inclusion of insufficient self-control. As mentioned above, it is also possible that the interaction of insufficient self-control and narcissism best accounts for reactive aggression. In this case, the effect of narcissism on reactive aggression would be expected to vary across level of self-control. The model presented in Figure 1 will be tested to examine the role of

insufficient self-control as a mediator or a moderator of the relationship between narcissism and reactive aggression.

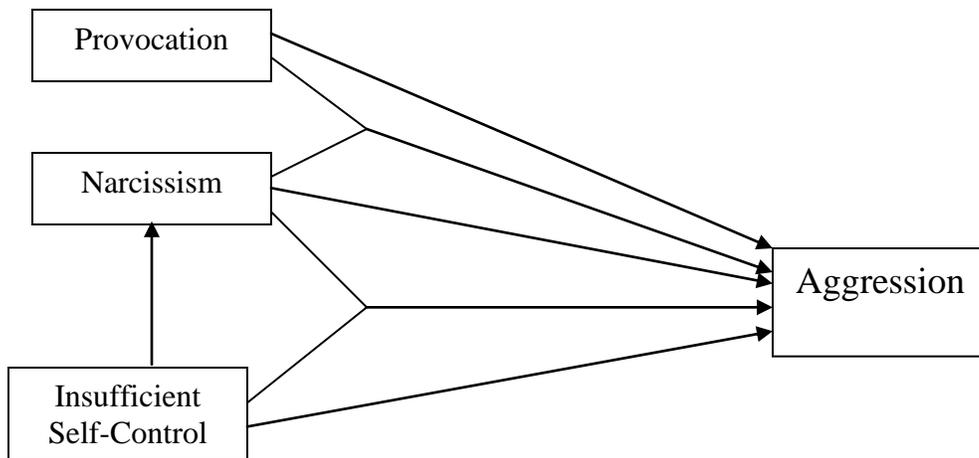


Figure 1. Model of the relationships among narcissism, insufficient self-control, and aggression.

Note. The relationship between narcissism and aggression should be reduced to nonsignificant after inclusion of insufficient self-control if self-control is a mediator.

Summary

The empirical literature to date has indicated that narcissism is associated with reactive aggression; however, exactly why narcissists respond with aggression to provocation is yet to be determined. The present paper is an exploration of two possible means through which a lack of self-control could be an important predictor involved in narcissists' aggressive behavior: 1) a lack of self-control could explain the link between narcissism and aggression, and 2) the combination of insufficient self-control and narcissism could increase the likelihood of aggressive response to provocation.

The former relationship is expected based on narcissists' tendency to engage in behaviors that provide short-term benefits at the expense of long-term costs such as their

lack of commitment in relationships and inflated self-presentation. At the same time, it is possible that narcissism and insufficient self-control each have effects on aggressive behavior, that when combined, are particularly likely to increase aggression.

The present study was developed as an experimental investigation of the relationships among narcissism, self-control and reactive aggression. As a means of addressing limitations of past research: 1) participants are both male and female, 2) multiple measures of aggression are used including an open-ended situational vignette, 3) mediation and moderation of variables is assessed to determine empirical relationships among the variables, 4) and a cognitive measure of self-control is administered.

Hypotheses of the Current Study

To guide the methodological and analytic procedures for the study, six hypotheses were developed. Below, a listing of the hypotheses and summary of the rationale for each is described. First, it is expected, based on past research, that provocation will lead to aggressive response. Additionally, as found in previous empirical studies, narcissists are expected to be particularly likely to react with aggression. Thus, the first two hypotheses for the present study read as follows.

Hypothesis 1: Provoked participants will react with greater aggression than those who are not provoked.

Hypothesis 2: Individuals high in narcissism will be more aggressive than individuals low in narcissism.

Further, a significant interaction between narcissism and provocation is expected. Under provocation, individuals high in narcissism will provide more aggressive responses than those low in narcissism. Because narcissism is associated with reactive

and not necessarily proactive aggression, no difference in aggressive response is expected to exist between high and low narcissism groups under the no provocation condition.

Therefore, hypothesis three reads as follows:

Hypothesis 3: Narcissism is expected to moderate the relationship between provocation and aggression.

As a theoretical test of the relationship between narcissism and self-control, an evaluation of the relationship between narcissism and a cognitive measure of self-control will be conducted. Narcissism is expected to be associated with low, and not high self-control based on the empirical findings of Vazire and Funder (2006) as well as the theoretical bases described above, that narcissists tend to engage in behaviors that produce immediate gratification at the expense of long term negative consequences.

Hypothesis 4: Narcissism will be negatively associated with self-control.

Because self-control is expected to explain the relationship between narcissism and aggression, several hypotheses have been developed to test the ability of self-control to mediate the narcissism-aggression relationship. Not only is narcissism is expected to be associated with low self-control, low self-control should be associated with aggression.

Hypothesis 5: Self-control will be negatively associated with aggression.

Finally, given the expected relationships between narcissism, self-control, and aggression, a test of the ability of self-control as a mediator or a moderator of the narcissism-aggression link will be conducted. Thus, two final hypotheses have been constructed.

Hypothesis 6: The significant relationship between narcissism and aggression will be rendered nonsignificant with the inclusion of low self-control.

Hypothesis 7: Low self-control will moderate the relationship between narcissism and aggression.

Chapter Three

Method

As a means of testing the hypotheses described above, an experimental design was employed in which provocation could be manipulated. A guise for the study was presented to participants to conceal the true hypotheses of the study and reduce the likelihood of demand cues. During participant recruitment, the study was advertised as an investigation of communication styles. Participants were informed that they would be evaluated by others and would be asked to perform evaluations of their peers' communication skills.

The participants were 214 undergraduate students from a large southern university with a mean age of 19.8 years ($SD = 3.03$). Both males (43%) and females (57%) were included in the study with the majority self-reporting Caucasian (62.1%) or African-American (34.1%) ethnicity. Recruitment for the study was conducted through the use of the online experiment sign-up employed for the subject pool in the Psychology Department; thus most of the participants (73.4%) were freshmen or sophomores in college.

Procedure

All participants completed the informed consent process prior to taking part in the experiment. An online sign-up system used by the Psychology Department presented the study as an experiment designed to advance scientific knowledge regarding communication styles. While an experimenter welcomed three individuals into the laboratory for each session, the experiment was conducted with only one real participant and two confederate peers. The experimenter and confederates were always the same sex as the participant. First, participants completed a questionnaire packet consisting of the demographic sheet, the Narcissistic Personality Inventory-Juvenile Offender Version, and the Insufficient Self-Control Scale of the Schema Questionnaire (while confederates pretended to do so). Additional measures were administered at this time, which will not be described here as they were not pertinent to the present investigation.

For the next part of the study, the experimenter asked two participants to discuss a topic while the third would evaluate their communication skills. The true participant was “randomly” assigned the role of discussant along with a confederate. The two discussants were given a list of discussion topics relevant to college student life (e.g., living on campus versus off campus, having a job during college versus not working). The confederate evaluator was given the task of rating his/her peers from another room with a one-way mirror and earphones to hear the discussion. The discussants were then provided with the feedback from the confederate peer. This feedback given to the participant was predetermined by random assignment to be either negative as indicated by low ratings on the Likert-type items of the evaluation sheet and negative summary statements or positive as indicated by high ratings on the Likert-type items of the evaluation sheet and positive

summary statements. The peer confederate was always given neutral feedback which was visible to the participant.

Next, the experimenter requested that the discussants and the evaluator switch roles. The participants who had been evaluated would now evaluate their peer and the evaluator would be evaluated. During this rating session the participant and the confederate peer were left alone to complete evaluation sheets. Finally, participants were administered the Social Problem Solving Task. At the conclusion of the experiment, participants were debriefed as to the true nature of the experiment and the confederates' statuses and a post-experiment questionnaire was administered.

Manipulated Variable

An evaluation sheet was developed to provide feedback to participants regarding their communication skills during a discussion of an issue relevant to college students (e.g., the advantages and disadvantages of living on campus). The evaluation sheet was divided into two columns to present the feedback for both the participant and confederate peer on one sheet. The rating sheet provided scores for each of five key characteristics of the participant and the peer's communication skills (e.g., clarity of opinions and arguments, understandability, interesting ideas) on a five-point Likert-type scale with 1 representing very poor skills and 5 representing excellent skills. Additionally, a summary section of the evaluation allowed the evaluator to check any of a number of statements as they applied to the participant. Some statements were positive in nature (e.g., "Excellent communicator!") and others were negative (e.g., "You should never have a job that involves public speaking!"). Positive feedback to the participant was manipulated by selecting high scores on each communication skill criterion and endorsing positive

comments. Negative feedback to the participant was manipulated by selecting low numbers across the communication skill criteria and endorsing negative statements. Previous research has established this feedback as provoking, as participants who received negative feedback reported feeling insulted significantly more often than those provided positive feedback (Jacquin et al., 2006). Feedback provided to the confederate peer was always neutral. Importantly, the feedback sheets were prepared prior to the experiment as the administration of positive or negative feedback was randomly assigned.

Measures of Individual Difference

Several questionnaires were administered at the beginning of the experiment to assess the individual difference factors of gender, age, and ethnicity, as well as socially desirable responding, narcissism and self-control.

Demographics

A demographic sheet was administered to obtain participant gender, race/ethnicity, age, and years of education.

Narcissism

The Narcissistic Personality Inventory – Juvenile Offender Version (NPI-JO; Calhoun, Glaser, Stefurak, & Bradshaw, 2000) is a revision of the original NPI constructed by Raskin and colleagues (Raskin & Hall, 1979; Raskin & Terry, 1988), and is a 40-item forced choice measure of narcissism. The NPI was developed based on the third version of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1980) criteria for Narcissistic Personality Disorder. For the purposes of the present study, the measure is used not as a diagnostic tool to categorize individuals as meeting a threshold indicative of the disorder, but rather as a continuum

along which individuals in the “normal” population may possess the traits of narcissism to a greater or lesser extent. The original items of the NPI were modified to increase ease of readability in the NPI-JO version. For example, the item “Modesty doesn’t become me” was revised to read “I like it when others brag about good things I have done” (Calhoun et al., 2000). Thus, the meaning of each statement was left intact while changing the phrasing of several items to ensure comprehension, even in juvenile populations. The JO version was administered to the present sample due to its readability. Each item on the 40-item scale is formatted as forced-choice providing both a more narcissistic choice (e.g., “If I ruled the world it would be a better place”) and a less narcissistic choice (e.g., “The thought of me ruling the world scares me”). A sum of items answered in the narcissistic direction provides the score on the measure, thus ranging from 0 to 40. Calhoun and colleagues (2000) found the measure to be internally consistent, $\alpha = .81$. Because the majority of past research has used the sum of all items on the NPI to assess narcissism, the same will be reported here to allow comparisons between the present findings and those previously reported.

Self-Control

The Schema Questionnaire-Insufficient Self-Control scale (SQ-IS; Young, 1990,1994) was administered as a measure of impulsivity. The SQ is a 205-item self-report instrument measuring early maladaptive schemas. For each item, respondents are instructed to identify the extent to which the statement describes the way they feel on a scale of 1-6 with a score of 1 representing the statement is “completely untrue of me” and 6 indicating the statement “describes me perfectly.” A factor analysis conducted by Schmidt and colleagues (1995) revealed 13 primary schemas within a college student

population. For the purposes of the present study, only an eight-item scale measuring Insufficient Self-Control (IS) will be analyzed, although several additional scales were administered. The IS scale is composed of items tapping a lack of self-control. For example, “I can’t tolerate other people telling me what to do,” “I get bored very easily,” and “I often do things impulsively that I later regret.” The items of the SQ-IS were found to be internally consistent ($\alpha = .92$) and demonstrated adequate test-retest reliability ($r = .66$) with a three week interval between administrations (Schmidt et al., 1995).

For the present study, the items for the Insufficient Self-Control scale were summed and then divided by 8 to produce the average score. Similar procedures have been used in previous publications (Crawford & Wright, 2010). Jacquin (1997) reported a mean of 2.70 and standard deviation of .79 (cutoff = 3.49) on the SQ-IS among a mixed sample of college students and community members.

Measures of Aggression

Evaluation of Confederate

Participants used the evaluation sheet (described above) to rate the confederate who previously provided them with either positive or negative (provoking) feedback. The percentage of aggressive statements endorsed was used as a measure of aggression, the dependent variable. Four negative statements were listed on the evaluation sheet (see Appendix A). Thus, scores on this variable were coded as 0%, 25%, 50%, 75% or 100%.

The Social Problem-Solving Task (SPST; Jacquin, in press) consists of a number of hypothetical situations. For each situation, the respondent is instructed to imagine him/herself as the protagonist in the story and then write how he/she would most likely handle the situation. Afterward, the respondent may list any alternative methods he/she

would consider using to deal with the situation. For the purposes of the present study, only two stories from the SPST were administered to participants, one describing a provoking situation (another person attempts to kiss the protagonist's fiancé) and the other a nonprovoking control (an overcommitted protagonist is asked to volunteer more time). The vignettes were presented with the provoking situation first as participants were expected to feel less angered by the negative feedback over time.

Scoring of the Social Problem-Solving Task was conducted using a manual described in previous research (Jacquin et al., 2006). Responses to each story were categorized as nonconfrontational, seeking help from others, assertion, bargaining and compromise, seeking information, direct action, passive aggression, verbal aggression, or physical aggression. The manual provides both detailed definitions of each category of problem solving response as well as a series of examples from each of the scenarios. Table 1 presents the categories, their definitions and examples of participant responses from the provoking vignette that fit each category. Raters were trained prior to scoring the participant responses. The categories were not considered ordinal, but nominal. Thus, for the present study, the categories of passive aggression, verbal aggression, and physical aggression were of greatest importance for the analyses. Below are the measures of aggression used in the present study based on participant responses to the provoking vignette.

Table 1

Categories Used to Score Social Problem Solving Task with Examples from Provoking Vignette

Category	Definition	Examples
Nonconfrontational	Response involves avoiding the person or situation	Ignore it; take another drink; cry; leave the situation
Seeking Help from Others	Attempts to solve the problem by asking for help from another person or persons	Seek help from friend; ask host/hostess to make person leave
Assertion	Tries to solve problem by asserting his/her position, telling a fact, or attempting to get someone else to assert a position	Say “stop!”; tell kisser they were inappropriate and rude
Bargaining and Compromise	Person attempts to solve problem by asking the person presenting the problem to change in exchange for changing something him/herself OR by asking to do less than what is being asked by him/her	Challenge kisser to a game of basketball and if I win, kisser must not talk to my fiancé again
Seeking Information	Person deals with problem by gathering more information	Question each individual about what happened; find out if he’s drunk
Direct Action	Performs action, physical or not, that is not clearly aggressive and is aimed at solving the problem	Break up with fiancé; try to hook the person up with someone else
Passive Aggression	Does something that indirectly shows hostility	Kiss the kisser’s boyfriend/girlfriend; Act really nice to the kisser (kill ‘em with kindness)
Verbal Aggression	Person deals with problem by being verbally aggressive (yelling, insulting, etc.)	Scream at them to stop; Tell everyone what a tramp/bad person the kisser is
Physical Aggression	Person deals with problem by being physically aggressive (shoving, pushing, hitting, etc.) or forceful (grabbing, making leave, etc.)	Pour a drink on kisser/fiancé; push/slap/punch kisser

Aggressive Responses on SPST

Participants were able to write up to 13 total responses to the vignette with the first response describing what they would most likely do in the situation and the remainder describing alternate methods of handling the situation. The total percentage of each participant's aggressive responses was calculated as well as the percentage of physically, verbally, or passive aggressive responses.

Two independent raters scored 170 of the Social Problem Solving Tasks. Intraclass correlation coefficients were calculated to determine the reliability across raters. Inter-rater reliability for the scoring of the provoking vignette was high for the percentage of physically aggressive responses ($r = .96, p < .01$) and the percentage of verbally aggressive responses ($r = .89, p < .01$), and moderate for the percentage of passive aggressive responses ($r = .70, p < .01$). Inter-rater reliability for the nonprovoking story was also high for the percentage of physically aggressive responses ($r = .81, p < .01$), and the percentage of verbally aggressive responses ($r = .80, p < .01$), and moderate for the percentage of passive aggressive responses ($r = .73, p < .01$).

Manipulation Check

Post-Experiment Questionnaire

A post-experiment questionnaire was administered to provide a manipulation check. Participants were instructed to indicate how insulted they were by the feedback provided during the experiment and how believable they found the feedback. Each of these items was rated on a seven point Likert-scale.

Planned Analyses

An analytic plan was developed to guide the testing of hypotheses for the current study. First, a manipulation check of the provocation condition was conducted through the analysis of the post-experiment questionnaire. It was expected that participants who were provoked would self-report feeling more insulted than those who were not provoked. Also, participants were expected to self-report the provocation to be believable in general and believability was not expected to be related to condition. In other words, if participants who were provoked found the evaluation to be less believable than those who were not provoked, the results should be interpreted with caution as it is possible that the manipulation was not effective given people who were provided negative feedback simply did not believe it to be real.

Next, an assessment of the SPST was planned. A comparison of responses to the provoking and nonprovoking stories was expected to reveal greater aggression in response to the provoking vignette. Additionally, a comparison of the aggression measures on the SPST and aggression on the peer evaluation was expected to show overlap in the various measures of aggression. Thus, a series of correlational analyses were planned to demonstrate that all measures (peer evaluation, physical, verbal, and passive aggression on the SPST) were associated as they are all measures of aggression.

Univariate analyses of the study measures were planned to assess the distributions of the variables and identify any outliers. Finally, t-tests were conducted to identify any existing relationships between study variables and potential confounds such as ethnicity and age.

Once the variables were fully assessed, the hypotheses were tested. Analyses of Covariance were chosen to compare the means of the groups based on feedback condition (provoked vs. not provoked), gender (male vs. female), and narcissism (high vs. low). The dependent variables were the aggression measures of the percent of aggressive responses endorsed on the peer evaluation, the percent of aggressive responses on the SPST, and the percent of aggressive responses on the SPST by type of aggression (e.g., physical, verbal, and passive).

Simple bivariate correlations were planned to assess the relationships among narcissism, self-control, and aggression. Then, to determine the ability of self-control to serve as a mediator of the relationship between narcissism and aggression, stepwise linear regression was selected for the analysis. Stepwise regression allows the researcher to compare model fit as variables are added to the model at each step. Narcissism and provocation were expected to be associated significantly with aggression. Once self-control was added to the model, narcissism was expected to no longer have a significant effect on aggression if self-control acts as a mediator.

Additionally, hypothesis 7 suggests that self-control may act as a moderator of the relationship between narcissism and aggression. Another model including an interaction variable testing the interaction of narcissism and self-control was designed for this purpose. It is possible that the effect of narcissism on aggression varies across levels of self-control. It would be expected that those with high narcissism and low self-control would be at most risk for reactive aggression.

Chapter Four

Analytic Results

First, to determine whether participants believed the feedback they received during the experiment, two items of the post-experiment questionnaire were analyzed. The two items measured the degree of perceived insult based on the feedback and the believability of the feedback.

Manipulation Check

Upon completion of the post-experiment questionnaire, participants rated how insulted they felt by the feedback they received during the communication task. An independent samples *t*-test was conducted comparing the two feedback conditions on perceived level of insult. Levene's test of equality of variances showed the two groups differed significantly in variance. As expected, participants who received negative feedback from the confederate were more insulted ($M = 3.75$, $SD = 1.94$) than participants who received positive feedback ($M = 1.78$, $SD = 1.37$) and this difference in means was statistically significant, $t(194, 32) = 8.622$, $p < .01$, $r^2 = 0.277$.

Participants also rated how believable they found the feedback from the confederate. A total of 10.7% ($n = 23$) rated the believability as either a one or two on a scale of 1 = not at all believable and 7 = very believable. The relationship between believability of the feedback and the dependent variables was then investigated. A series of Pearson Product-Moment correlations revealed no statistically significant associations

between self-reported believability of feedback and any of the dependent variables (evaluation of confederate, first response to provoking vignette, or percentage of aggressive responses to vignette). In other words, how believable participants found the feedback they received had no effect on the dependent variables of the study.

Based on the analyses of the post-experiment questionnaire, the feedback manipulation provided an insulting and believable provocation as intended. It was also necessary to assess the problem-solving vignette to determine whether participants interpreted the hypothetical provoking story as expected.

As described in the methods (chapter 3), two vignettes from the Social Problem Solving Task were administered to provide participants with both a provoking and a nonprovoking situation. As shown in Table 2, repeated measures *t*-tests revealed that participants provided a greater percentage of total aggressive responses, physically aggressive responses, and verbally aggressive responses to the provoking vignette when compared with responses on the nonprovoking control. However, there was no significant difference in the percentage of passive aggressive responses when the two vignettes were compared.

Table 2

Repeated Measures t-Tests Comparing Percent of Aggressive Responses on Provoking and Nonprovoking Situational Vignettes (n = 204)

	Provoking Vignette		Nonprovoking Vignette		<i>t</i>	<i>r</i> ²
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Physical Aggression	17.69	17.47	.48	2.94	13.75*	.482
Verbal Aggression	8.65	11.60	2.50	6.72	6.64*	.178
Passive Aggression	6.22	10.09	7.18	12.55	-.92	.004
Total Aggression	32.71	22.84	10.15	15.64	12.88*	.45

* *p* < .01

Preliminary Analyses

Validation of Social Problem Solving Task

Bivariate correlations were computed to determine whether the six measures of aggression in the present study were associated (see Table 3). All measures of aggression were assessed in the bivariate correlational analyses: 1) percentage of negative comments endorsed on the peer evaluation, 2) percentage of physically aggressive responses to the SPST, 3) percentage of verbally aggressive responses to the SPST, 4) percentage of passive aggressive responses to the SPST, and 5) total percentage of aggressive responses to the SPST. As Table 3 shows, negative evaluation of the confederate was significantly associated with physical aggression on the SPST ($r = .138, p < .05$) such that a more negative evaluation was associated with a greater percentage of physically aggressive responses. Contrary to expectation, negative evaluation of the confederate was not associated with verbal aggression on the SPST ($r = -.037, p = .601$).

Table 3

Intercorrelations among Study Variables

	2	3	4	5	6	7	8	9
1. NPI-JO	.272**	.045	.228**	.245**	.014	.091	.095	.011
2. SQ-IS		.132	.194**	.181**	.054	.068	.155*	-.245**
3. Peer Eval			.083	.138*	-.037	-.007	.160*	-.093
4. SPST Total				.757**	.529**	.330**	.147*	-.140*
5. SPST Physical					.064	-.098	.330**	-.096
6. SPST Verbal						-.059	-.085	-.112
7. SPST Passive							-.078	-.050
8. Gender (F=1,M=2)								.067
9. Age								

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

Note. NPI-JO = Narcissistic Personality Inventory-Juvenile Offender Version; SQ-IS = Schema Questionnaire, Insufficient Self-Control Scale; Peer Eval = evaluation of provoking peer; SPST Total = Total percentage of aggressive responses on Social Problem-Solving Task; SPST Physical = Percentage of physically aggressive responses on Social Problem-Solving Task; SPST Verbal = Percentage of verbally aggressive responses on Social Problem-Solving Task; SPST Passive = Percentage of passive aggressive responses on Social Problem-Solving Task.

Also contrary to expectation, physical and verbal aggression on the SPST were not correlated ($r = .064$, $p = .362$). The failure of passive aggression to correlate with physical ($r = -.098$, $p = .163$) or verbal ($r = -.059$, $p = .400$) aggression or even aggression on the feedback sheet provided to the provoking peer ($r = -.007$, $p = .915$) was not expected. The lack of association between the passive aggression measure and any other measures of aggression aside from total aggression ($r = .330$, $p < .01$), which is an overlapping measure, may indicate a problem with the measurement of passive

aggression. Given passive aggression was not found more often in response to the provoking vignette as compared to the nonprovoking vignette, its lack of correlation with other measures of aggression, and the lower inter-rater reliability of this measure, the construct validity of the variable is questionable. The remaining results report passive aggression, but these should be interpreted with caution.

Univariate Analyses

Table 4 presents descriptive statistics for the study variables, displaying the range, measures of central tendency, and differences between the genders. The median is displayed as several of the variables were skewed. As shown in the table, males ($M = 3.13$, $SD = .97$) scored higher on the measure of self-control than females ($M = 2.86$, $SD = .91$) and this difference was statistically significant, $F(1, 212) = 4.331$, $p < .05$, $\eta^2 = .02$. Importantly, the measure of self-control is structured such that higher scores (on insufficient self-control) indicate lower levels of self-control. Thus, females self-reported higher levels of self-control than males. This finding is consistent with past research indicating females possess greater self-control than males (Burton, Evans, Cullen, Olivares, & Dunaway, 1999; Gibbs, Giever, & Martin, 1998; Gibson & Wright, 2001; Jones & Quisenberry, 2004; LaGrange & Silverman, 1999).

Additionally, males were significantly more aggressive ($M = 15.22$, $SD = 27.97$) than females ($M = 7.23$, $SD = 18.66$) on the peer evaluation, endorsing a greater percentage of negative comments to the provoking peer, $F(1, 212) = 6.224$, $p < .05$, $\eta^2 = .03$. Most participants, though, male or female, were not particularly aggressive on this measure as indicated by the median of “0” for both males and females. Males were also significantly more aggressive ($M = 37.66$, $SD = 24.34$) than females ($M = 29.21$, $SD =$

21.02) on the SPST overall, $F(1, 212) = 7.061$, $p < .05$, $\eta^2 = .03$. Males also provided significantly more physically ($M = 24.95$, $SD = 20.55$) aggressive responses than females ($M = 12.61$, $SD = 12.76$) on the SPST, $F(1, 212) = 27.978$, $p < .05$, $\eta^2 = .12$. While there was not a significant difference in the percentage of verbal or passive aggressive responses provided by males as compared to females, it should be noted that the means for females were higher on these scales than those for males, which is the opposite of the finding on physical aggression.

Table 4

Descriptive Statistics for Overall Sample and by Gender

	Possible Range	Mean (<i>SD</i>); Median			<i>F</i> (1, 212)
		Overall	Male	Female	
NPI-JO	0-40	17.02 (6.90)	17.83 (7.07)	16.42 (6.73)	2.198
SQ-IS	0-8	2.98 (.94)	3.13 (.97)	2.86 (.91)	4.331*
Peer Eval	0-100	10.68 (23.43); .0	15.22 (27.97); .0	7.23 (18.66); .0	6.224*
SPST Total	0-100	32.8 (22.82); 33	37.66 (24.34); 33	29.21 (21.02); 27	7.061*
SPST Physical	0-100	17.85 (17.57); 17	24.95 (20.55); 20	12.61 (12.76); 10.5	27.978*
SPST Verbal	0-100	8.61 (11.59); .0	7.51 (10.72); .0	9.42 (12.17); .0	1.374
SPST Passive	0-100	6.19 (10.08); .0	5.05 (8.25); .0	7.03 (11.20); .0	1.957

* $p < .05$

Note. NPI-JO = Narcissistic Personality Inventory-Juvenile Offender Version; SQ-IS = Schema Questionnaire, Insufficient Self-Control Scale; Peer Eval = evaluation of provoking peer; SPST Total = Total percentage of aggressive responses on Social Problem-Solving Task; SPST Physical = Percentage of physically aggressive responses on Social Problem-Solving Task; SPST Verbal = Percentage of verbally aggressive responses on Social Problem-Solving Task; SPST Passive = Percentage of passive aggressive responses on Social Problem-Solving Task.

Investigation of Potential Confounding Variables

Although participants were randomly assigned to groups, it is still important to determine whether any variables differ between the groups that could be affecting the dependent variables other than the manipulation. Additionally, for independent variables in which random assignment could not be made (narcissism and self-control) it is necessary to determine, to the extent possible, whether other variables associated with both the independent and dependent variables are responsible for relationships among them.

Correlation analyses (shown in Table 3) were first run to determine whether ethnicity or age were associated with any of the dependent variables. Ethnicity was not significantly associated with any of the dependent variables. However, age was significantly and negatively associated with the total percentage of aggressive responses to the provoking vignette ($r = -.140, p < .05$). Younger age was associated with a greater percentage of aggressive responses.

Next, the relationship between age and the independent variables was investigated. Random assignment to feedback group should have distributed age equally among the groups. If so, then age will not affect the dependent variables when comparing the two groups and differences in the group means can be attributed to the group conditions (positive vs. negative feedback). As expected, an independent samples t -test revealed no significant differences in age when comparing the two feedback groups. Thus, random assignment was successful in eliminating the effect of age from the possible influences on the dependent variables when comparing feedback groups.

Similarly, independent samples *t*-tests revealed no significant differences in age when males and females were compared, or when high and low narcissists were compared (based on a quartile split).

The only independent variable found to be significantly associated with age was self-control, which negatively correlated with age ($r = -.245, p < .05$) indicating lower age was related to higher self-control. Again, due to the structure of the measure of self-control, higher scores on the measure actually represent less self-control. Thus, lower age was associated with lower self-control. To control for this significant association in regression analyses assessing self-control, age will be added to the model.

Tests of Hypotheses

Analytic Plan

Bivariate correlations were conducted to examine relationships among the continuous variables of narcissism, self-control, and aggression. Then, to establish the high and low groups, a quartile split was applied to the narcissism variable. The analyses were also run using a median split to attempt to retain more data; however, it was determined that the quartile split was optimal for two reasons. First, even with a quartile split of the data, there were at least 21 participants per cell, allowing for enough power to carry out the analyses without concern. Second, a quartile split creates groups that more truly characterize “high” and “low” narcissism as opposed to the more arbitrary cut-off of a median split. Thus, results of analyses using the quartile split are reported here.

Between subjects Analyses of Covariance (ANCOVAs) and Multivariate Analyses of Variance (MANOVAs) were conducted to test for significant differences in aggressive response among those high and low in narcissism (quartile split), individuals

who were provoked compared to those not provoked, and males compared to females. It should be noted that while *t*-tests could be used to determine differences in the groups as well as ANCOVAs, ANCOVAs were preferred here for the ability to enter a covariate of gender, given gender clearly affects aggression levels (as demonstrated in the above preliminary analyses).

Finally, a series of stepwise linear regression analyses were conducted to determine the ability of self-control to either mediate or moderate the narcissism-aggression relationship.

Test of Hypothesis 1: Provoked Participants React with Greater Aggression than Those Who Are Not Provoked.

Analyses of Covariance (ANCOVAs) were conducted to determine whether the provocation (negative feedback on communication task) was effective in producing an aggressive response. The ANOVAs were performed with the independent variable of feedback (positive or negative). The dependent variables were percentage of aggressive responses endorsed on the peer evaluation and the percentage of total aggression on the Social Problem Solving Task (SPST).

A significant main effect for provocation on the percentage of aggressive responses endorsed on the peer evaluation was revealed $F(3, 209) = 21.92, p < .05$. As expected, participants who were provided negative feedback on their communication skills responded with more aggression ($M = 17.36, SD = 28.49$) than participants who were provided positive feedback ($M = 3.81, SD = 13.77$). Provocation accounted for 10% of the variance in reactive aggression on the peer evaluation, $\eta^2 = .10$. However, contrary

to expectation, provocation did not significantly affect total percentage of aggressive response on the Social Problem Solving Task.

Test of Hypothesis 2: Individuals High in Narcissism Are More Aggressive than Individuals Low in Narcissism.

The effects of narcissism and gender on peer evaluation and total SPST. A quartile split applied to the narcissism variable produced the high and low narcissism groups. Two ANCOVAs were conducted entering narcissism and gender as the independent variables and the percentage of aggressive comments endorsed on the evaluation sheet and total percentage of aggressive responses to the SPST as the dependent variables.

No significant effect was found for gender or narcissism on the percentage of aggressive responses endorsed on the feedback sheet. Narcissism did, however, produce a significant main effect on the total percentage of aggressive responses on the SPST, $F(3, 98) = 4.24, p < .05, \eta^2 = .04$. As expected, highly narcissistic participants provided a greater percentage of aggressive responses ($M = 40.31, SD = 24.26$) to the SPST than did participants low in narcissism ($M = 29.39, SD = 24.19$).

The effects of narcissism and gender on SPST categories. A MANOVA was conducted with narcissism and gender as the independent variables and the three aggression measures on the SPST, physical, verbal, and passive aggression as the dependent variables. A significant multivariate main effect for gender was revealed, $F(3, 96) = 6.43, p < .05$, indicating that even with a reduced sample size due to the quartile split of the narcissism variable, gender remained an important predictor of the three types of aggressive response to the SPST. Again, males provided more physically aggressive

responses ($M = 28.18$, $SD = 23.53$) than females ($M = 13.28$, $SD = 13.07$). However, females provided more verbally aggressive responses ($M = 10.30$, $SD = 13.65$) than males ($M = 5.96$, $SD = 9.57$) and more passive aggressive responses ($M = 7.02$, $SD = 12.15$) than males ($M = 4.49$, $SD = 7.54$). Gender accounted for 17% of the variance in physical, verbal, and passive aggression on the SPST, $\eta^2 = .17$.

Test of Hypothesis 3: Narcissism Is Expected to Moderate the Relationship between Provocation and Aggression.

The effects of narcissism and provocation on peer evaluation. An ANCOVA was conducted with narcissism and provocation entered as independent variables and the percentage of aggressive comments endorsed on the peer evaluation as the dependent variable. A significant main effect for provocation was found such that those who were provoked ($M = 16.67$, $SD = 29.44$) endorsed more aggressive responses on the feedback sheet than those who were not provoked ($M = 2.23$, $SD = 10.95$), $F(3, 103) = 11.728$, $p < .01$, $\eta^2 = .10$. However, high and low narcissism groups did not differ significantly in the percentage of negative comments endorsed on the peer evaluation, $F(3, 103) = .492$, $p = .485$, nor was a significant interaction between the variables of narcissism and feedback revealed, $F(3, 103) = .005$, $p = .942$.

The effects of narcissism and provocation on the total SPST. An ANCOVA was conducted with narcissism and provocation as independent variables and the total percentage of aggressive responses on the SPST as the dependent variable. A main effect for narcissism was found such that the high narcissism group provided more aggressive responses on the SPST ($M = 40.32$, $SD = 24.26$) than the low narcissism group ($M = 29.39$, $SD = 24.19$) and this difference was statistically significant, $F(3, 98) = 5.142$, $p <$

.05, $\eta^2 = .05$. However, the two provocation conditions did not significantly differ in the total percentage of aggressive responses they provided to the SPST, $F(3, 98) = .202, p = .654$. No significant interaction between narcissism and provocation was found, $F(3, 98) = .155, p = .694$.

The effects of narcissism and provocation on SPST categories. A MANOVA was conducted with narcissism and provocation entered as independent variables and the percentage of physical, verbal, and passive aggression as dependent variables. The effect of narcissism on the three types of aggression approached significance, $F(3, 96) = 2.499, p = .064, \eta^2 = .07$. No significant main effect was found for provocation. The expected interaction of narcissism and provocation was not significant, $F(3, 96) = .209, p = .89$.

Contrary to expectation, Analysis of Variance revealed no significant interaction between provocation and narcissism on any of type of aggression measured by the dependent variables.

Test of Hypothesis 4: Narcissism Is Negatively Associated with Self-Control.

A Pearson Product-Moment correlation was conducted on the two continuous variables of narcissism and insufficient self-control (see Table 3). The correlation was significant in the positive direction ($r = .272, p < .01$). Because the measure of self-control is structured such that a higher number is associated with less self-control, the association indicates that greater narcissism is associated with lower self-control.

Test of Hypothesis 5: Self-Control Is Negatively Associated with Aggression.

As shown in Table 3, a series of bivariate Pearson Product-Moment correlations revealed self-control was significantly associated with total aggression on the SPST ($r = .194, p < .01$), and physical aggression on the SPST ($r = .181, p < .01$) Again, the

measure of self-control is structured such that higher scores indicate lower self-control. Thus, a lack of self-control was associated with total aggression and physical aggression.

Surprisingly, self-control was not significantly associated with verbal aggression on the SPST ($r = .054, p = .440$), nor was self-control associated with aggressive response to the provoking peer on the evaluation sheet ($r = .132, p = .055$). Perhaps less surprisingly, given the questionable construct validity of the passive aggression measure, self-control was not significantly associated with passive aggression on the SPST ($r = .068, p = .335$). Thus, overall, self-control appears to be associated only with specific types of aggression, particularly physical aggression.

Test of Hypothesis 6: The Significant Relationship between Narcissism and Aggression Is Rendered Nonsignificant with the Inclusion of Low Self-Control.

Consistent with the final hypothesis, a test of self-control as a mediator of the narcissism-aggression link was conducted. Given the continuous nature of the narcissism and self-control variables, stepwise linear regression analyses were performed to assess the effects of gender, narcissism and self-control on aggressive response. Because linear regression assumes a normal distribution of the dependent variable, each dependent variable was assessed for normality of distribution.

Dependent variable univariate statistics. Examination of the distribution of the dependent variables revealed that the distribution of the percent of aggressive comments endorsed on the evaluation was positively skewed (2.25; $SE = .17$) and leptokurtic (4.21; $SE = .33$). Endorsement of aggressive comments was not typical as 78.9% of participants endorsed none of the aggressive comments. Only 1.9% of participants endorsed all negative comments.

Dependent variables based on the SPST were similarly skewed and often leptokurtic indicating many participants provided few aggressive responses. The total percentage of aggressive responses on the SPST was positively skewed (.563; $SE = .17$). A total of 83.4% of participants provided 50% or less aggressive responses. Additionally, the percentage of physically aggressive responses was both positively skewed (1.71; $SE = .17$) and leptokurtic (4.55; $SE = .34$). Most participants provided a small proportion of physically aggressive responses. For example, 78.5% of the sample provided 25% or less physically aggressive responses. The percentage of verbally aggressive and passive aggressive responses were each positively skewed (1.43; $SE = .17$ and 2.16; $SE = .17$ respectively) and leptokurtic (2.51; $SE = .34$ and 6.83; $SE = .34$ respectively).

After assessing the dependent variables and plotting the residuals, it was decided that the two measures of total percentage of aggressive responses to the SPST and percentage of physical aggression on the SPST were closest to approximating the normal curve. Additionally, the variables of total aggression and physical aggression on the SPST were the two dependent measures that were significantly associated with self-control in the bivariate analyses. Given the regression analyses were to be performed to assess the role of self-control in the link between narcissism and aggression, it was decided that total and physical aggression on the SPST would be entered as dependent variables.

The raw scores for narcissism, self-control, and age were converted to z-scores prior to performing the regression analyses. This procedure creates standardized variables for the analysis, which reduces the likelihood of multicollinearity between variables used to create interaction terms and the interaction terms themselves (Aiken & West, 1991).

Additionally, feedback condition was recoded to 1 = negative feedback, -1 = positive feedback; and gender as 1 = female, -1 = male. Interaction terms were then created. Note that the unstandardized betas were interpreted rather than the standardized betas given the centering procedure (Aiken & West, 1991).

Narcissism, self-control and total aggression. Table 5 presents the results of the stepwise linear regression models conducted to test the predictive abilities of narcissism and self-control in the explanation of overall aggression on the situational vignette while controlling for the effects of gender and age. The first block, constructed to determine the ability of narcissism and provocation to explain aggression while controlling for gender and age, was significant, ($F = 5.122, p < .01$). Both gender ($b = -3.409$) and narcissism ($b = 4.931$) were significant predictors in the model. Male gender was associated with aggression. Additionally, higher levels of narcissism were associated with aggressive response.

Self-control as a mediator of narcissism and total aggression. The second block of the regression analysis was conducted by adding the effect of self-control. It was hypothesized that self-control mediated the association between narcissism and aggression. Therefore, the addition of self-control to the model should render the effect of narcissism nonsignificant. While the inclusion of self-control to the model did reduce the effect of narcissism on aggression, (from $b = 4.931$ to $b = 4.346$), the hypothesis was not supported by the data as the effect of narcissism remained significant and the effect of self-control was not significant when explaining total aggression on the SPST. In this model, gender remained a significant predictor of aggression ($b = -3.181$). Overall, the model including provocation, narcissism, self-control, gender and age was significant, (F

= 4.469, $p < .01$) and explained 8% of the variance in aggression. However, when comparing the first and second blocks, the change in R^2 was not meaningful, indicating that the addition of the variable of self-control adds little to the predictive value of the existing model.

Test of Hypothesis 7: Self-Control Moderates the Relationship between Narcissism and Aggression.

Self-Control as a moderator of narcissism and total aggression. The third block tested the interaction of narcissism and self-control on aggression. Because self-control failed to mediate the link between narcissism and aggression, it was possible that it could serve as a moderator instead such that people with narcissism and low self-control would be most likely to aggress. However, no significant interaction was found. The final model was significant ($F = 4.231, p < .01$) and explained 9% of the variance in aggressive response to the situational vignette.

Table 5

Regression Models Examining the Effects of Provocation, Narcissism and Self-Control on the Total Percentage of Aggressive Responses to the SPST

	Initial Model		Main Effects Model		Interaction Model	
	<i>b</i>	S.E.	<i>b</i>	S.E.	<i>b</i>	S.E.
Constant	33.335	1.552	33.305	1.549	32.656	1.590
Gender	-3.409*	1.567	-3.181*	1.573	-3.030	1.569
Age	-3.030	1.610	-2.484	1.658	-2.479	1.650
Feedback	-.353	1.534	-.267	1.532	-.289	1.525
NPI	4.931**	1.598	4.346**	1.654	4.239*	1.648
IS			2.235	1.677	1.806	1.689
NPI x IS					2.420	1.437
F-value	5.122**		4.469**		4.231**	
Adjusted R ²	.08		.08		.09	
ΔR ²			.008		.013	

* $p < .05$

** $p < .01$

Narcissism, self-control and physical aggression. Linear regression models were constructed to assess the ability of narcissism and self-control to explain physical aggression while controlling for gender and age (See Table 6). The first block, examining the ability of narcissism to account for physical aggression while controlling for age and gender, was significant ($F = 13.505, p < .01$), and the combined effects of age, gender, and narcissism accounted for 15% of the variance in physical aggression. Both narcissism and gender were statistically significant predictors in the model. Higher narcissism was associated with greater levels of physical aggression ($b = 3.729$) Males were more likely to provide a physically aggressive response to the vignette ($b = -5.635$).

Table 6

Regression Models Examining the Effects of Provocation, Narcissism and Self-Control on the Percentage of Physically Aggressive Responses to the SPST

	Initial Model		Main Effects Model		Interaction Model	
	<i>b</i>	S.E.	<i>b</i>	S.E.	<i>b</i>	S.E.
Constant	18.746	1.145	18.729	1.145	17.916	1.159
Gender	-5.631**	1.156	-5.506**	1.163	-5.316**	1.144
Age	-1.307	1.187	-1.008	1.225	-1.003	1.203
Feedback	-.169	1.131	-.122	1.132	-.150	1.112
NPI	3.731**	1.179	3.410**	1.223	3.276**	1.201
IS			1.224	1.240	.687	1.232
NPI x IS					3.032**	1.048
F-value	10.085**		8.262**		8.535**	
Adjusted R ²	.15		.15		.18	
ΔR ²			.004		.034	

**p* < .05

***p* < .01

Self-control as a mediator of narcissism and physical aggression. In the second block, self-control was added to the model. The second model assessed the ability of provocation, narcissism, and self-control to predict physical aggression while controlling for age and gender. The model was significant ($F = 8.262, p < .01$), and the combined effects of provocation, narcissism, self-control, age and gender accounted for 15% of the variance in physical aggression. Gender remained a significant predictor ($b = -5.506$) as did narcissism ($b = 3.410$). Higher levels of narcissism were associated with greater physical aggression in responses to the SPST. Contrary to expectation, the presence of

self-control in the model did not reduce the influence of narcissism to a nonsignificant level. Self-control, rather than narcissism was nonsignificant.

Self-control as a moderator of narcissism and physical aggression. Although self-control was not found to mediate the relationship between narcissism and aggression, the third block of the analysis was constructed to examine whether self-control served as a moderator of the narcissism-aggression relationship. Provocation, narcissism, self-control and the interaction of narcissism and self-control were assessed as predictors for physical aggression while controlling for gender and age. The model was significant ($F = 8.535, p < .01$), and the independent variables accounted for 18% of the variance in physical aggression. Gender remained a significant predictor ($b = -5.316$), as did narcissism ($b = 3.276$). A significant interaction between narcissism and self-control ($b = 3.032$) indicated that, indeed, a moderation effect was found.

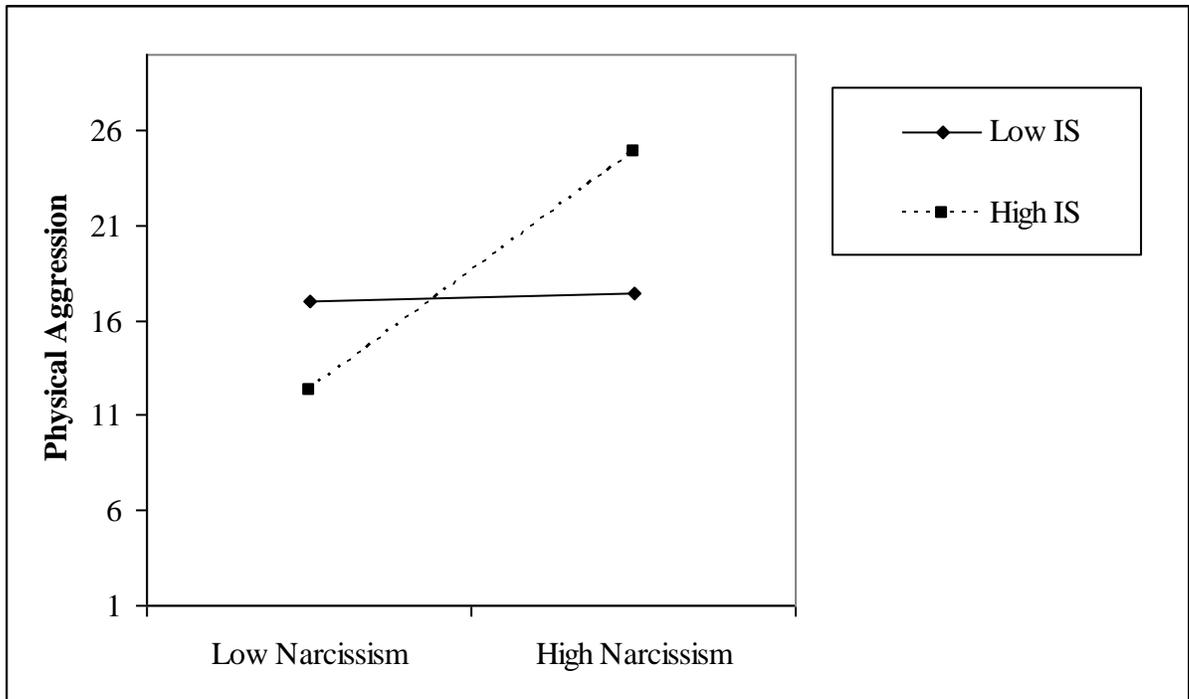


Figure 2. Effects of narcissism and insufficient self-control on physical aggression.

Post-Hoc Exploratory Analyses

Additional analyses were conducted to further assess the influence of self-control on aggression. Stepwise linear regression was conducted to determine the ability of self-control and narcissism to account for the total percentage of aggressive responses while controlling for gender and age. As shown in Table 7, self-control significantly influenced ($b = 3.405$) total aggression until narcissism was added to the model. Once narcissism was added to the model, narcissism significantly influenced total aggression on the SPST ($b = 4.346$) while the effect of self-control was no longer significant.

Similar analyses were performed to explore the effect of self-control on physical aggression on the SPST. However, self-control was not a significant predictor of physical aggression on the SPST, even when narcissism was not in the model.

Table 7

Regression Models Assessing Self-Control as a Predictor of Aggression

	Models Predicting Total Aggression on SPST				Models Predicting Physical Aggression on SPST			
	Block 1		Block 2		Block 1		Block 2	
	<i>b</i>	S.E.	<i>b</i>	S.E.	<i>b</i>	S.E.	<i>b</i>	S.E.
Constant	33.273	1.572	33.305	1.549	18.705	1.164	18.729	1.145
Gender	-3.542*	1.590	-3.181*	1.573	-5.789**	1.178	-5.506**	1.163
Age	-2.191	1.678	-2.484	1.658	-.778	1.243	-1.008	1.225
Feedback	-.181	1.554	-.267	1.532	-.055	1.151	-.122	1.132
IS	3.405*	1.641	2.235	1.677	2.142	1.216	1.224	1.240
NPI			4.346**	1.654			3.410**	1.223
F-value	3.749**		4.469**		8.107**		8.262**	
Adjusted R ²	.05		.08		.12		.15	
ΔR^2			.031				.032	

*p < .05

**p < .01

Chapter Five

Discussion

Empirical evidence indicates narcissism is on the rise in America (Twenge, Konrath, Foster, Campbell, & Bushman, 2008; Twenge & Campbell, 2009). As traits of grandiosity and self-entitlement become more prevalent, it will be increasingly important to fully understand how and why narcissism is linked to aggression. By gaining understanding of the relationship between narcissism and aggression, it may be possible to reduce or prevent aggressive response among the most self-absorbed in our society. The goal of the present study was to clarify the relationships among narcissism, self-control and aggression. The findings indicate that those who are narcissistic and lack self-control are at greatest risk of aggressive behavior. Further, the effect of narcissism appears to be influenced by the situation, particularly the specific level of provocation, in which the narcissist finds himself.

Effect of Provocation on Aggression

The results of the present study support the previously touted strength of provocation as a predictor of reactive aggression whether individuals possess narcissistic traits or not (Berkowitz, 1989; Giancola, 2004). Individuals, whether high or low in narcissism, who were provoked by a peer, responded with reactive aggression aimed at the antagonist. Surprisingly though, provocation did not affect aggression in response to the Social Problem Solving Task. An obvious interpretation of this finding is that

provocation “in vivo” leads to aggressive retaliation, while responding to a hypothetical provoking situation fails to elicit the same level of aggression.

Past research has indicated that responses to situational vignettes are more likely to be indicative of actual behavior if the stories described are believable to the respondents (Nagin & Paternoster, 1993). Therefore, one may question the believability of the provoking hypothetical situation of the SPST. The SPST would need to describe a situation that college students find realistic for the responses to mirror actual behavior. Importantly, in a previous study, Jacquin and colleagues (2006) administered the same situational vignettes from the SPST following provocation, and found that provocation increased aggressive response to the SPST. This contradictory result was found even though both the samples in the present study and that of Jacquin et al. were drawn from the same population. Therefore, the lack of association between provocation and aggressive response to the SPST in the present study is unlikely to be due to an unrealistic nature of the hypothetical vignettes. If individuals in the present study found the stories to be unrealistic, those who participated in Jacquin et al.’s study would have likely found the same.

The contradictory findings of the present investigation and Jacquin and colleagues (2006) earlier study, instead, are likely due to methodological differences in the experimental designs. Specifically, in Jacquin and colleagues’ experiment, participants were not provided an opportunity to retaliate against the antagonist, and were instead administered the SPST directly following provocation. Based on this methodological difference from the present study, two explanations for the current findings are offered: 1) the retaliation against the confederate in the present study provided a cathartic effect

which reduced the likelihood of further aggression, and/or 2) the latency period between the provocation and administration of the SPST allowed participants' anger to subside, reducing their aggressive response to the provoking vignette. An evaluation of each explanation and support for the latter is provided below.

The catharsis effect, as described by Freud (described in Tedeschi & Felson, 1994), indicates that individuals build up an aggressive drive and are relieved by venting that aggression whether by prosocial (e.g., playing football) or antisocial (e.g., fighting) means. Once the aggression is released, the pressure to aggress is eliminated until aggression has built up in the individual again. If this is true, then the method of the current experiment presented participants with an opportunity to relieve the pressure toward aggression by retaliating against their peer. Subsequently, the aggressive drive was eliminated and aggression was an unlikely response to the SPST.

However, the totality of the empirical body of research on the catharsis effect does not support Freud's hypothesis. Instead, individuals who use venting techniques to reduce aggression are actually more likely to engage in further aggression (Bushman, 2002; Bushman, Baumeister, & Stack, 1999; Lewis & Bucher, 1992; Schaeffer & Mattei, 2005). For example, experimental tests of the catharsis effect have found that individuals who vent their anger by hitting a punching bag are subsequently more aggressive toward a peer on a reaction time task than those who are sedentary for several minutes (Bushman et al., 1999).

Zillman's (1973) excitation transfer theory may explain why catharsis fails to decrease aggression. According to Zillman, physiological arousal that is attributed to anger leads to aggressive response. Supportive of this theory, past research has found that

even nonaggressive, but physiologically arousing behavior, such as riding a bicycle, increases the likelihood of aggression after provocation (Zillman, Katcher, & Milavsky, 1972). Importantly for the present study, individuals who are sedentary after provocation, and therefore lower their physiological arousal, experience a decrease in aggressive response. Therefore, the latency between provocation and the opportunity to aggress in the present study allowed anger and physiological arousal to dissipate, thereby reducing the likelihood of aggression.

Narcissism and Aggression

Although a calming down period reduced reactive aggression in the present study, narcissism was associated with aggressive response after the calming period. Importantly, while aggression against the peer provoker was unrelated to narcissism, narcissism was associated with aggressive response to the Social Problem Solving Task. There are, again, two potential explanations for this finding: 1) narcissists developed a sense of similarity to the antagonist, which reduced their aggressive response (Konrath, Bushman, & Campbell, 2006), and/or 2) the effect of “in vivo” provocation overwhelmed the effect of personality on aggression. Each of these explanations is evaluated below.

First, narcissists could have developed a sense of similarity to the provoker, which reduced their aggressive response to him/her. It is possible that the present study guise inadvertently created this sense of commonality among narcissists and provokers. Recall that participants were informed that they would be partaking in a study on communication styles. In the first part of the experiment, the participant and a confederate discussed a topic related to college life (e.g., living on campus versus off campus) while being evaluated by the provoker. Later, the peer provoker gave a short

speech on college life. It is possible that after hearing the provoker discuss a college related matter, the narcissist believed him/herself to have something in common with the source of provocation. In a study by Konrath and colleagues (2006), narcissism was related to aggression under provocation. However, the relationship between narcissism and aggression was eliminated when narcissists were lead to believe that they had something in common (e.g., fingerprint type, birthday) with the provoker. Thus, narcissism in the present study may have had little effect on aggression against the antagonist as participants shared values became apparent during the speeches on college life. Further research will be needed to explore this possibility.

Another explanation for the lack of relationship between narcissism and aggressive response toward the provoker, the power of the situation, should also be considered. It is notable that the effect of narcissism on aggression was statistically significant only when the effect of provocation was not. The effect of provocation is reportedly one of the strongest predictors of aggressive behavior, more important than individual differences such as gender (Bettencourt & Miller, 1996), and physiological differences such as the influence of alcohol (Giancola et al., 2002; Giancola & Zeichner, 1995). In the present study, the effect of provocation may have been so strong that personality factors such as narcissism and self-control had little effect on aggression in response to the provoker.

Supportive of this theory, the Traits as Situational Sensitivities (TASS) Model offers a fitting explanation of the current findings (Marshall & Brown, 2006). According to the model, individual traits create sensitivities to situational pulls toward behavior. Thus, it is the interaction of the situation and the person that leads to behavior.

Importantly, the effect of the person is most evident under moderate, rather than high or low, levels of the situation. For example, an individual may be sensitive to cold temperatures and have the tendency to feel cold quite easily. This sensitivity to cold would not be evident if she were in a room full of people and the temperature was 35 degrees. Everyone in the room would be cold given the extreme low temperature. Similarly, the individual who is sensitive to cold is not differentiated from others when she is in a room that is 85 degrees. Again, everyone is warm in a room of such a high temperature. It is when the room is at a moderate temperature, perhaps somewhere around 68 to 72 degrees, that the individual who is sensitive to cold will be wrapped in a sweater while others sit comfortably in shorts. Thus, the sensitivity of the individual to the situation is most evident at a moderate level of the situational pull toward behavior.

Using this model as the context of the present experiment, the effect of personality (e.g., narcissism) should be most evident under moderate, not low or high provocation. This is because under low provocation, the situation has little effect as most people, whether high or low in narcissism, will not aggress. The opposite is found under high provocation in which people high or low in narcissism will aggress. Under moderate provocation, narcissistic individuals will aggress, but those low in narcissism will not aggress. Therefore, it is important to determine what levels of provocation were created through the manipulation in the current study.

As described in the method section, there were two provocation conditions in the present study, provocation and no provocation. Previous research indicates the provocation condition created in the present study was situationally strong. Marshall and Brown (2006) conducted a pilot study in which three feedback statements were tested to

determine the perceived valence (from 1 = very negative to 7 = very positive) of the comments. Participants each viewed only one statement and were asked to imagine they had written an essay and received the statement as feedback from a peer. The statement viewed as positive by participants, “Good job, nice work,” was similar to the positive feedback administered in the present study (e.g., “Excellent communicator!”) in the no provocation condition. The statement viewed as most negative, “This is the worst essay I have ever read,” was similar to the feedback administered as provocation in the present study (e.g., “You should never have a job that involves public speaking!”). The third statement, “Could have been clearer, not much effort put into it,” was perceived as moderately negative by participants. Importantly, this moderate level of provocation was not replicated in the present study.

In Marshall and Brown’s (2006) study, the researchers investigated the influence of trait aggression on aggressive response to each level of provocation (low, moderate, and high). Under low provocation, trait aggressiveness did not affect aggression. Whether people are low or high in trait aggression, without any situational pull for aggressive response, they are unlikely to aggress. The opposite was found for the high provocation condition. Both participants who were high and low in trait aggressiveness were equally likely to react with aggression to the strong provocation. It was the moderate provocation condition in which the effect of trait aggressiveness on aggressive behavior was evidenced. Participants who possessed high levels of trait aggressiveness were more sensitive to the moderate level of provocation than were participants who possessed low levels of trait aggressiveness. High trait aggressiveness was associated with aggressive

response to moderate provocation. Thus, the level of provocation determines the extent to which personality will have an influence on aggression.

In the present study, there was no manipulation of moderate provocation. With only a low and a high provocation condition, the effect of narcissism is not likely to be evidenced. This is because under low provocation, individuals are unlikely to aggress whether or not they possess narcissistic traits. Under high provocation, aggression is likely whether individuals possess narcissistic traits or not. A third condition providing a moderate level of provocation would have likely influenced narcissists toward aggression while those low in narcissism would have been unaffected by the situation. Future research should investigate this theory.

Importantly, narcissism in the present study significantly affected aggressive response to the situational vignette. This finding can be explained in terms of the situation as well. Because time since the negative feedback manipulation had passed once the SPST was administered, aggression resulted from how provoking participants viewed the hypothesized story in the situational vignette. No longer feeling angered by the peer antagonist, individual differences in cognitive schemas influenced interpretation of the situational vignette and scripts for conflict resolution. Thus, the first part of the experiment likely tested situational provocation, anger and physiological response as determinants of aggression; while the second part of the experiment tested cognitive decision making processes and traits (schemas) used to cope with interpersonal problems.

Self-Control and Aggression

The Traits as Situational Sensitivities Model may also explain the relationship between self-control and aggression revealed in the present study. Self-control, like

narcissism, was not associated with aggression on the peer evaluation, which is contrary to previous research that has shown low self-control and aggression to be correlated (Archer & Southall, 2009; DeWall, Baumeister, Stillman, & Gailliot, 2007; Sellers, 1999; Unnever & Cornell, 2003). The finding may be due to the power of provocation as a predictor of aggression. In the no provocation condition, individuals, whether or not they possessed self-control, were not aggressive as the situation failed to provide any impetus toward aggressive response. However, in the provocation condition, individuals, regardless of their level of self-control, were likely to aggress. A moderate level of provocation should be tested in the future to determine whether self-control influences aggression in situations where the pull toward aggression is not strong enough to influence those low in self-control. Further investigation into the interaction of person and situation is warranted.

Again, similar to narcissism, a lack of self-control was associated with aggressive response to the SPST. Notably, insufficient self-control was related to the total percentage of aggressive responses and with physical aggression. However, insufficient self-control was not related to verbal or passive aggression in response to the situational vignette. Gender differences in self-control and aggression may serve as an explanation for these findings.

Gender Differences in Self-Control, Aggression, and Narcissism

Consistent with past research, males in the present study were found to possess lower self-control than females (Burton et al., 1999; Gibbs et al., 1998; Gibson & Wright, 2001; Jones & Quisenberry, 2004; LaGrange & Silverman, 1999). Additionally, the types of aggression that self-control associated with on the SPST (total aggression, physical

aggression), were the same types that males were more likely than females to demonstrate. On the other hand, self-control was not significantly associated with verbal or passive aggression on the SPST, the types of aggression that females were equally likely to demonstrate. Thus, the variables in the present study may be more important to the understanding of male aggressive behavior, rather than female aggression.

Narcissism, Self Control and Aggression

The major goal of the present study was to examine the relationships among narcissism, self-control and aggression. While self-control, narcissism, and aggression were associated with one another in the present study, self-control failed to explain the link between narcissism and aggression. Further exploration of the data revealed that self-control had a significant effect on total aggressive response on the situational vignette, and this significant effect was rendered nonsignificant with the inclusion of narcissism in the model. There is no theoretical support for the notion that narcissism explains the relationship between self-control and aggression. Thus, it is likely that this finding is due to the overlap of the measures used in the present study. The NPI consists of seven subscales: exhibitionism, exploitativeness, vanity, entitlement, self-sufficiency, authority, and superiority. In the present study, the total score on the NPI was chosen as the measure of narcissism as, arguably, exhibitionism without entitlement is not necessarily narcissism. However, future research may reduce the issue of overlap by assessing the relationship between self-control and specific subscales of the NPI.

Another method of reducing the issue of overlap in a study of narcissism, self-control and aggression would be to manipulate self-control. As described earlier, Vohs et al. (2005) depleted participants of their self-regulatory resources, thus, reducing their

self-control. All studies of narcissism, self-control and aggression will deal with the issue of overlap in constructs. The best way of addressing the issue is to measure the constructs using multiple types of measures (behavioral, cognitive) and attempt to avoid overlap within the measures themselves. This project, while subject to overlap of measures, does highlight the need for further research among the relationships of narcissism and self-control in the explanation of aggression.

In fact, the results of the present study revealed that self-control served as a moderator of the relationship between narcissism and physical aggression on the SPST. The combination of low self-control and narcissism, as two separate constructs, increases the likelihood of physically aggressive response. Highly narcissistic individuals who lack self-control are at greatest risk of responding with physical aggression to interpersonal conflict.

Summary

In summary, the present study supports theory implicating both the person and the situation as antecedents to aggressive behavior (Marshall & Brown, 2006). Further, support for affective, physiological, and cognitive mechanisms through which the person and situation influence aggression is found (Anderson & Bushman, 2002). The fact that participants appeared to “cool down” prior to completing the situational vignette suggests affective/physiological mechanisms are important in aggression. Additionally, cognitive schemas significantly affected aggressive response. Figure 3 presents a model of the process through which individual difference and situational variables affected aggression in the present experiment.

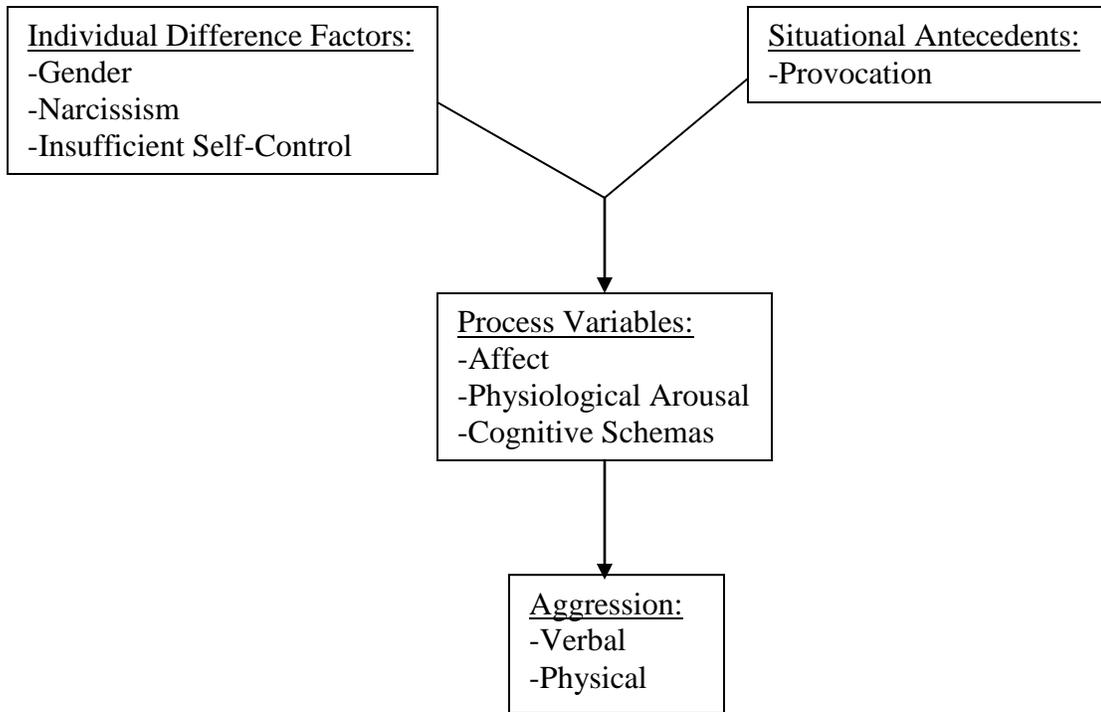


Figure 3. Model of the process through which the situation and the person affected aggressive behavior in the present study.

Limitations

There are several limitations to the present study that must be mentioned. First, the study may be criticized based on the sample of college students. The ability of the findings to generalize to other age groups is unknown. However, the main goal of the study was not to generalize the findings to a particular population in the real world, but to generalize the relationships among the theoretical constructs to the real world (Anderson & Bushman, 1997).

Previous research has found several variables associated with aggression in the laboratory show even stronger relationships with aggression in field studies. For example, self-reported trait aggression and Type A personality are associated with aggression in both laboratory and field studies. The correlation between the traits and aggression is

stronger in field studies than in laboratory experiments (Anderson & Bushman, 1997). The experimental method was chosen as the optimal method for addressing the questions in the present study due to the ability to manipulate provocation while randomly assigning participants to groups. It is expected that the same relationships would be found in the field, and their associations would be strengthened.

One challenge for all aggression researchers, especially those using experimental methods, is that aggression is not a particularly common behavior. Additionally, the present study was conducted with a sample of young adults from the normal population rather than youth prone to aggressive/violent behavior, further reducing the observations of aggressive response. It is possible that the relationships found in the present study were attenuated due to the sample used. Had youth with aggression problems been assessed in the study, the significant relationships should be strengthened.

Another limitation to the study is the lack of explanation offered for female aggression. The differences and similarities in the quality of aggression exhibited by the two genders in the present study are mostly consistent with past research. Previous research, similar to the present study, has found that males are more physically aggressive than females (Crick & Grotpeter, 1995). The equality of male and female verbal aggression found here is also consistent with previous research (Anderson & Bushman, 1997; Bettencourt & Miller, 1996; Jacquin et al., 2006). It was expected that females would be more likely than males to use passive aggressive strategies to resolve conflict. However, there was no significant difference in the genders. This may be due to a lack of construct validity of the measure of passive aggression.

The construct validity of the measure of passive aggression is questioned by the equality in the amount of passive aggressive responses to the provoking versus the nonprovoking situational vignette. The nonprovoking vignette described a situation in which the protagonist is approached and asked to commit to volunteer work. There would be no reason to use aggressive, even passive aggressive solutions to this situation. Thus, it is possible that passive aggression was simply difficult to code. The interreliability of the codings suggest that it was more difficult to reliably identify passive aggressive ($r = .70$ to $.73$) responses than physically ($r = .81$ to $.96$) or verbally ($r = .80$ to $.89$) aggressive responses. Difficulty coding could be due to an inability to recognize covert (indirect) aggression. People get “away with” this type of aggression because it is less obvious (Bjorkqvist et al., 1992); unfortunately, it may also be less obvious to researchers categorizing the behavior, at least as a written response to a vignette.

A final limitation to the present study is the overlap in the constructs of narcissism, insufficient self-control, and aggression. To the extent that the impulsive nature of the narcissist is represented by insufficient self-control and results in an impulsive behavior of reactive aggression, these are all the same concept measured using different instruments. Notably, though, the association between narcissism and insufficient self-control ($r = .27$), while significant, was not a perfect correlation. Therefore, there must be some differences in the two constructs. To further limit the potential for tautology in the study of narcissism and self-control on aggression, future research should assess specific subscales of the NPI (e.g., entitlement) that are less conceptually overlapped with aggression and self-control.

It is possible that alternative mechanisms could explain the relationship between narcissism and aggression, and perhaps better explain the findings of the present study. For example, the situational manipulation of provocation was measured here, while baseline affect and situational stressors in participants' lives prior to entering the research lab were not assessed. Such life stressors could influence aggressive response, yet were omitted variables from the present study. Future research will be tasked with identifying the factors that are most important in determining aggression why, and in what situations, narcissists aggress.

Future Research

Another suggestion for future research examining narcissism and reactive aggression is to further vary the level of provocation administered. A moderate level of provocation would be expected to result in the greatest influence of narcissism and insufficient self-control. This research would allow us to better predict situations in which narcissism would be most likely to result in aggressive response. At the same time, future research should attempt to inform our abilities to reduce aggressive response among narcissists. While several studies have identified a link between narcissism and aggression, few have investigated means of reducing aggression among provoked narcissists (see Konrath et al., 2006 for an exception). For example, are there situations in which social influence affects narcissistic aggression, or are narcissists, as individuals who are not concerned with appearing to behave in a socially desirable manner, impervious to social pressure against reactive aggression?

Implications

The findings of the present study have implications for the treatment of aggression through anger management and cognitive restructuring. For example, provocation through negative evaluation influenced retaliation to the provoker, but was not carried over to influence response to the situational vignettes. This suggests that taking a brief moment to cool down after provocation may significantly reduce aggressive response. Thus, the present research is supportive of commonly used anger management techniques to increase relaxation and reduce impulsivity of responses (e.g., counting to ten). Indeed, previous research has found anger management techniques effective in the reduction of aggressive behavior among youth (Lochman, Nelson, & Sims, 1981), adult psychiatric patients (Haddock, et al., 2009) and forensic patients with mental deficiency (Taylor, Novaco, Gilmer, Robertson, & Thorne, 2005). Schools and places of business are wise to consider the adoption of anger management workshops to prevent verbal and physical aggression.

Not only was affect implicated in the process of aggression, maladaptive cognitive schemas were also responsible for aggressive retaliation. Schema therapy, developed by Young, Klosko, & Weishaar (2003), is an approach that combines several therapeutic paradigms (cognitive, behavioral, and object relations) to address maladaptive schemata. During this therapy, cognitive mechanisms of interpretation and response to situations are identified and altered, as necessary. By addressing cognitive schemas such as insufficient self-control and entitlement, aggression may be reduced among those at most risk for poor decision-making in response to provocation (Tremblay & Dozios, 2009).

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Appendix A
Evaluation Sheet

