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"ARE YOU TALKING TO ME?": EVALUATING POSSIBLE COGNITIVE MEDIATORS ON

THE RELATION BETWEEN NARCISSISM AND

AGGRESSIVE TRAITS IN ADOLESCENTS

by

Jessica Diane Pickard

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

December 2011

ABSTRACT

"ARE YOU TALKING TO ME?": EVALUATING POSSIBLE COGNITIVE MEDIATORS ON

THE RELATION BETWEEN NARCISSISM AND

AGGRESSIVE TRAITS IN ADOLESCENTS

by Jessica Diane Pickard

December 2011

Narcissistic personality characteristics (e.g., grandiosity, entitlement, exploitativeness, exhibitionism) are associated with various forms of problem behaviors in children or adolescents, including aggression. The aim of this study was to extend what is known about the relation between narcissism and aggression. Specifically, social-cognitive factors (i.e., hostile attributions, attitudes supporting the use of aggression) were hypothesized to mediate this relation. Two hundred nineteen (219) participants between the ages of 16 and 19 years ($M = 16.83$ yrs; $SD = .80$) were recruited for this study. Participants were of both sexes (85% male) and of Caucasian (62%), African American (37 %) and other (1%) ethnic origin. Overall, the data showed that adolescents with more narcissistic personality traits were more likely to report higher levels of both reactive and proactive aggression. Also, adolescents' beliefs supporting the use of aggression partially mediated the relation between narcissism and both proactive and reactive aggression. Hostile attributions and retaliatory beliefs supporting aggression did not mediate the relation between narcissism and aggression including different forms. Important theoretical implications are discussed to shed light on these findings, as well as on possible intervention targets and future research directions.

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Jessica Diane Pickard

A Dissertation
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December 2011

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CHAPTER I

INTRODUCTION

Childhood aggression is fairly stable (Dodge, 1991), predictive of later antisocial

behaviors in adulthood (Patterson, Reid, & Dishion, 1992) and is often a focus of child mental

health referrals (Dumas, 1989; Kazdin, Siegel, & Bass, 1990). Aggression is also associated with

several other negative outcomes such as learning problems, delinquency, peer rejection, substance

abuse and dropping out of school (DeWall, Twenge, Gitter, & Baumeister, 2009; Rubin,

Bukowski, & Parker, 1998). Etiologically, aggression is a complex construct because it can result

from a variety of antecedents and underlying mechanisms (Vitaro & Brendgen, 2005; Vitaro,

Brendgen, & Tremblay, 2002). Individual factors such as personality traits, attitudes, goals,

beliefs and genetic tendencies appear to have an influence on the use of aggression (Anderson &

Bushman, 2002; Dodge & Coie, 1987). For example, persons with hostile biases (Crick & Dodge,

1996; Dewall et al., 2009) and narcissistic personality traits (Barry et al., 2003; Bushman &

Baumeister, 1998) have been shown to be more prone to aggression than those lower on these

attributes.

Guided by these research findings, this study was designed to extend what is known

about the influence of a particular set of personality traits (i.e., narcissism) and cognitive styles

(e.g., beliefs and attitudes) on youth aggression. More specifically, this study investigated the

potential mediating effects of hostile attributions and beliefs about the appropriateness of

aggression on the relation between narcissism and both reactive and proactive aggression.

Aggression and its Functions Defined

Past research suggests that conceptualizing aggression in terms of dimensions or subtypes

is worthwhile. Studies investigating child and adolescent aggressive behavior distinguish between

two dimensions of aggression, namely one that relates to the form (i.e., physical versus relational

aggression) or type of aggressive behavior and the other that relates to the function (i.e., reactive

versus proactive aggression) or purpose of the behavior (Bailey & Ostrov, 2008; Little, Jones,

Henrich, & Hawley, 2003; Vitaro et al., 2002). Studies on the latter domain have shown that proactive and reactive aggression relate to different behavioral outcomes (Marsee et al, in press; Polman, Orobio de Castro, Koops, Boxtel, & Merk, 2007; Poulin & Boivin, 2000b), social information processing patterns (Schwartz et al., 1998; Vitaro et al., 2002), and antecedents or goals (Anderson & Bushman, 2002; Dodge & Coie, 1987).

Reactive aggression is defined as a defensive response to a perceived threat that is often associated with emotional outbursts (Crick & Dodge, 1996; Dodge, 1991; Vitaro et al., 2002). On the other hand, proactive aggression is characterized as planned, unprovoked behavior enacted to gain possession of something or to intimidate or dominate (e.g., Crick & Dodge, 1996; Dodge, 1991; Vitaro et al., 2002). Reactive aggression has its theoretical basis in the cognitive-neoassociationistic model (Berkowitz, 1962; Berkowitz, 1989), which is a reformulation of Dollard, Doob, Miller, Mowrer, and Sears's (1939) frustration-aggression hypothesis. This theory conceptualizes aggression as resulting from the perception of hostile intent or as an angry and retaliatory response to perceived frustration. This model underscores the role of precipitants including perceived interpersonal provocation (e.g., insults, obstructions that interfere with goal attainment, physical/verbal aggression from others, etc.) and negative affect (e.g., anger, frustration, or embarrassment) on the use of aggression (Berkowitz, 1993; Green, 2001). To the contrary, proactive aggression has its roots in social learning theory (Bandura, 1973), which assumes that aggression is learned through direct experience or the observation of others. From this perspective, aggression is a conditioned response to learned cues that are controlled by reinforcements or punishments within the environment. Thus, this theory highlights the role of reward, incentives, personal benefits or success on the aggressive response. Overall, the interpretation of real or imagined threat is thought to produce reactive aggression, whereas the anticipation of a desired outcome or reward presumably motivates proactive aggression (Dodge & Coie, 1987).

It is worth noting that the cognitive-neoassociationistic model and the social learning theory of aggression are not contradictory theories, but rather, they provide a foundation for understanding the conditions under which either reactive or proactive aggression occur (Walters, 2005). To wit, Berkowitz (1962, 1989) suggested that rewards might influence the use of aggression by altering the strength of motivating factors, and Bandura (1973) recognized the role of emotions (e.g., frustration and anger) on aggression. Moreover, children who are more aggressive tend to use both proactive and reactive aggression to serve their goals or purposes depending upon the situation at hand (Bailey & Ostrov, 2008; Dodge & Coie, 1987). Given this perspective, some researchers (e.g., Anderson & Bushman, 2002; Bushman & Anderson, 2001; Walters, 2005) have criticized categorizing aggression as either proactive or reactive because they consider this distinction to be too simplistic. Conceptualizing proactive and reactive aggression as two dimensions of aggression can serve to downplay findings on child aggression that repeatedly show that the two constructs are highly correlated with one another, yet it acknowledges that they appear to be motivated by different antecedents (e. g., Bailey & Ostrov, 2008; Dodge & Coie, 1987; Marsee & Frick, 2007; Walters, 2005). Thus, distinguishing between proactive and reactive aggression still appears worthwhile considering the breadth of information that doing so has revealed about aggression.

Research has been useful for identifying precursors, correlates and prognoses specific to reactive versus proactive aggression (Vitaro, Brendgen, & Barker, 2006). Specifically, reactive aggression is often associated with the tendency to interpret others' intentions as hostile in ambiguous situations and with emotional dysregulation (Crick & Dodge, 1996; Nas, Orobio de Castro, & Koops, 2005; Orobio de Castro, Merk, Koops, Veerman, & Bosch, 2005). It is also associated with impulsivity and inattention (Crick & Dodge, 1996; Vitaro et al., 2002), poor social skills (Crick & Dodge, 1996; Poulin & Boivin, 2000a), having fewer friends (Poulin & Boivin, 2000a, 2000b), peer victimization (Schwartz et al., 1998), emotional problems (Crick & Dodge, 1996; Schwartz et al., 1998) and perceived social incompetence (Dodge, Lochman,

Harnish, Bates, & Pettit, 1997). Conversely, past research has shown that proactive aggression is more often linked to the tendency to view aggression as producing positive outcomes or to having more values that favor aggression (Crick & Dodge, 1996; Dodge et al., 1997; Schwartz et al., 1998). In addition, proactive aggression is correlated with school disruptive behaviors (Dodge & Coie, 1987), delinquency (Raine et al., 2006) and the initiation of fights (Connor, Steingard, Anderson, & Melloni, 2003). Interestingly, it has also been correlated with peer-nominated leadership and humor (Dodge & Coie, 1987), a lack of peer rejection or victimization (Poulin & Boivin, 2000b) and an overestimation of one's social competence (Dodge et al., 1997).

Although gender differences appear to exist with regard to overall aggression, the effects of gender on reactive or proactive forms of aggression is less clear. Regarding aggression overall, males tend to be more physically aggressive than females (Buss & Perry 1992; Dodge, Coie, & Lynam, 2006). On the contrary, females, depending upon their age, cultural background and the measure used to assess aggression, tend to display more relational aggression (e.g., indirect aggression that focuses on damaging or threatening relationships) compared to males (e.g., Little et al., 2003; Ostrov & Keating, 2004). Similarly, many studies report that males have higher levels of proactive and reactive physical aggression compared to females (e.g., Buss & Perry 1992; Dodge, Coie, & Lynam, 2006; Lansford, Dodge, Bates, & Pettit, 2002; Salmivalli & Nieminen, 2002; Xu & Zhang, 2008). However, other studies (e.g., Connor et al., 2003; Werner & Nixon, 2005) show a lack of gender differences between proactive and reactive aggression altogether. Considering these differences, gender was evaluated as a potential covariate in all analyses in the present study.

From this review, it is clear that aggression serves different functions and has many apparent causal factors, and that the same individual may engage in different forms of aggression (Anderson & Bushman, 2002; Bushman & Anderson, 2001). Nevertheless, focusing on specific types of aggression remains important, as doing so has helped researchers identify factors that are most relevant for understanding and potentially preventing one type of aggressive behavior versus

another (Little, Brauner, Jones, Nock, & Hawley, 2003). Identifying specific functions or precursors of aggression presumably would lead to more effective prevention or intervention programs for aggression. For instance, programs focusing on anger management or coping (e.g., Lochman, 1985; Lochman et al., 2000) may be more useful to treat reactive forms of aggression, whereas programs focusing on changing reinforcement contingencies (e.g., Kempes et al., 2005; Patterson, 1982; Vitaro et al., 2006) may be more appropriate for treating proactive aggression (Crick & Dodge, 1996; Xu & Zhang, 2008).

Overall, this study addressed whether personality factors influence children and adolescents' proactive and reactive aggressive tendencies. Personality variables, such as narcissism, may place children and adolescents at risk for developing aggressive behaviors, including both reactive and proactive aggression (Barry et al., 2003; Barry, Thompson et al., 2007). Moreover, perceptual biases, beliefs, or attitudes may underlie the presumed relation between narcissism and aggression. Therefore, one major focus of the present study was to examine the social-cognitive bases of aggression associated with youth narcissism. Specifically, this study investigated whether certain cognitive factors (i.e., hostile bias and attitudes about the legitimacy of aggression) explain the relation between adolescent narcissism and aggression, including whether any particular variable does a better job of explaining the role of narcissism in reactive or proactive aggression.

Narcissism and Aggression in Adolescents

Given that aggression is related to negative consequences for both the perpetrator and victim, and that different forms of aggression seem to have different correlates, it is important to further investigate a variety of factors that may place children and adolescents at particular risk for aggressive behavior. For example, narcissistic personality traits have recently begun to be recognized as risk factors for both externalizing (i.e., conduct problems and delinquency) and internalizing (i.e., depression and anxiety) problems in children and adolescents (e.g., Barry et al., 2003; Barry, Frick et al., 2007; Barry, Grafeman, Adler, & Pickard, 2007; Barry & Malkin, 2010;

Washburn et al., 2004). Specifically, Barry, Frick et al. (2007) explored the usefulness of narcissism for predicting problem behaviors across a three-year period. They found that certain features of narcissism (i.e., entitlement, exploitativeness and exhibitionism attributes) at baseline were associated with delinquency one, two, and three years later. These traits were predictive of delinquency even after controlling for the effects of the other risk factors assessed (e.g., CU traits, parenting practices, impulsivity, early conduct problems).

Although researchers of adult aggression once believed that low self-esteem was a key factor in violence and aggression (Baumeister et al., 1996), research on narcissism has revealed the importance of considering the influence of at least seemingly positive self-perceptions on social behavior. In particular, this line of inquiry has shown that the grandiosity (i.e., inflated, unrealistic view of the self) often attributed to narcissism more likely accounts for aggression or violence than self-esteem (Bushman & Beaumeister, 1998; Twenge & Campbell, 2003). Unfortunately, the child literature has still largely focused on investigating the influence of self-esteem on aggression (e.g., Hymel, Rubin, Rowden, & LeMare, 1990; Zakriski & Coie, 1996) rather than on other constructs of the self, such as narcissism. In fact, the self-esteem literature has revealed discrepant findings prior to adulthood. Low self-esteem has been associated with positive attitudes toward delinquency as well as with the adoption of delinquent peer groups in adolescents (e.g., Brendgen, Vitaro, & Bukowski, 1998). However, grandiose self-views (Brendgen, Vitaro, Turgeon, Poulin, & Wanner, 2004; David & Kistner, 2000) and high self-esteem (Menon et al., 2007; Thomaes, Stegge, Bushman, Olthof, & Denissen, 2008) have also been linked with a tendency to be aggressive in children and adolescents.

Understanding how narcissism manifests in social situations may help explain its apparent influence on aggression. Generally speaking, individuals with narcissistic tendencies seem to think extremely well of themselves and believe that others should share and show the same regard (Barry et al., 2003; Bushman & Baumeister, 1998; Raskin et al., 1991). Research supports this conceptualization, as persons high on narcissism have been shown to seek out the

attention and appraisal of others to validate and maintain their apparently inflated self-esteem (Morf & Rhodewalt, 2001; Raskin et al., 1991). Importantly, they also tend to become hostile or aggressive when their self-views are invalidated (Morf & Rhodewalt, 2001). Much of the narcissism research has focused on its relation to hostility and aggression in adults. Nevertheless, preliminary studies suggest that narcissism and aggression are positively correlated in younger samples (Ang & Yusof, 2005; Barry, Thompson et al., 2007; Thomaes et al., 2008; Washburn et al., 2004). For instance, Thomaes and colleagues (2008) found that childhood narcissism was positively correlated with self-reported as well as peer-nominated aggression after an ego threat in a sample of pre- to early adolescents from various public schools in The Netherlands. This pattern was supported even after controlling for the significant negative correlation between narcissism and lack of empathy for others. The authors concluded that the aggression associated with narcissism is at least partially motivated by their need to protect self-views as well as their indifference for others.

Additionally, though aggression is treated as a unitary construct in adult empirical studies of narcissism, some data suggest that distinguishing between types of aggression as it relates to narcissism is fruitful. Persons with more narcissistic personality traits have been shown to become aggressive to gain social status or attention from others (Salmivalli, 2001), which is suggestive of proactive or instrumental aggression. Other studies have shown that individuals high on narcissism often resort to retaliatory aggression after negative performance feedback or life events (Bushman & Baumeister, 1998; Morf & Rhodewalt, 1991; Morf & Rhodewalt, 1993; Smalley & Stake, 1996), which is consistent with the notion of reactive aggression. Preliminary data with children and preadolescents high on narcissistic characteristics also suggest that distinguishing between reactive and proactive aggression is worthwhile.

From the child literature, one study by Barry and colleagues (Barry, Thompson et al. 2007) found that, in a sample of moderately to highly aggressive children, psychopathy-linked narcissism uniquely predicted parent- and teacher-reported proactive and reactive aggression,

after controlling for the effects of other correlated predictors (i.e., other aspects of psychopathy, the alternative form of aggression, and demographic variables). A study by Washburn and colleagues (Washburn et al., 2004) showed that, in a sample of children and preadolescents from violent and low-income communities, narcissistic exploitativeness (i.e., manipulating people for personal gain) and exhibitionism (i.e., wanting to be the center of attention) predicted unique variance in self-reported proactive aggression. However, narcissism and its dimensions were unrelated to reactive aggression. In line with that study, Seah and Ang (2008) found that narcissism predicted proactive aggression but not reactive aggression. Given the general paucity of research, especially with older adolescents, further replication of the relation between narcissism and aggression (including reactive versus proactive aggression) and the variables that might help explain such a relation is necessary. Furthermore, although these studies clearly demonstrate the connection between narcissism and different forms of aggression, few studies (see Ang, Ong, Lim, & Lim, 2009 for an exception) to date have addressed the question of what underlying mechanisms may be operating to maintain these relations.

<center>The Trouble of Misperception in Narcissism</center>

Characteristically, individuals high on narcissism tend to adopt both self-serving interpersonal (e.g., derogation of others, self-handicapping prior to performance; Morf & Rhodewalt, 1998; Rhodewalt, Sanbonmatsu, Feick, Tschanz, & Waller, 1995) and self-affirming intrapersonal strategies (e.g., overestimating intelligence and attractiveness; Gabriel, Critelli, & Ee, 1994; Rhodewalt & Eddings, 2002) to get others' attention and praise. Like most individuals, yet perhaps more so, persons with narcissism appear to seek and acquire knowledge about the self through their social interactions. Although theorists disagree about the exact etiology of narcissism (e.g., Emmons, 1984; Freud, 1953; Kernberg, 1976; Kohut, 1971), they seem to agree that persons with narcissism garner self-knowledge or personal worth primarily from external sources. However, due to this over-reliance upon external sources for the validation and maintenance of their inflated self-perceptions (Morf & Rhodewalt, 2001; Rhodewalt & Morf,

1998), such persons are often vulnerable to negative feedback or experiences that are incongruent with their self-beliefs. Indeed, adult studies consistently demonstrate that individuals with narcissism tend to react more strongly to positive and negative experiences than those with fewer of these personality characteristics (Morf & Rhodewalt, 2001; Paulhus, 1998; Wallace & Baumeister, 2002). Several studies have also shown that individuals with narcissism experience extreme fluctuations in self-esteem after perceived successes and failures (e.g., Rhodewalt, Madrian, & Cheney, 1998; Rhodewalt & Morf, 1998).

It is surprising that individuals with high levels of narcissism do not seem to learn from their mistakes by modifying their social behaviors. The connection between narcissism and aggression is, in some ways, puzzling considering that their need for others' attention and praise is contrary to their apparent lack of appreciation for social approval. Consequently, the self-serving social strategies employed by such individuals (e.g., aggression, hostility, anger and insulting of others; Morf & Rhodewalt, 2001) may contribute to the termination of the very social interactions and relationships upon which their self-esteem hinges (Campbell, 1999; Paulhus, 1998; Rhodewalt et al., 1995). Similarly, their self-affirming perceptions (e.g., believing oneself is superior to others or entitled to special privileges or rewards; Raskin & Terry, 1988) are also largely socially counterproductive (Elliot & Thrash, 2001; Morf & Rhodewalt, 2001). For instance, the superficial charm and flattery associated with narcissism are frequently interpreted by others as amusing and charming (Paulhus, 1998) and energetic (Raskin & Terry, 1988) at first. However, Paulhus (1998) showed that although observers tend to rate partners high on narcissism more approvingly or positively (i.e., as handsome and charming) at their first encounter, they tend to rate the same individuals negatively (i.e., as arrogant, boastful, and hostile) by their seventh encounter. Empirical data from Paulhus and others (see Morf & Rhodewalt, 2001 for a review) suggest that persons with narcissism have few close relationships, which is likely related to their tendency to react with hostility or aggression when their self-image is perceived to be threatened (Morf & Rhodewalt, 2001; Rhodewalt & Morf, 1998).

Recent theories have looked to models of motivation to explain the behaviors of individuals with narcissism (Campbell & Foster, 2007; Elliot & Thrash, 2001; Foster & Trimm, 2009). According to one such perspective, narcissism can be explained in terms of relative approach and avoidant motivations. Specifically, empirical studies have shown that narcissism (Foster & Trimm, 2009), as well as aggression (Harmon-Jones, 2003), reliably relates to high approach and low avoidance motivations. According to approach-avoidance motivation principles, persons should repeat behaviors that bring about desirable outcomes (i.e., approach motives), whereas they should inhibit actions that produce undesirable responses (i.e., avoidance motives). In a sample of college students across three separate studies, Foster and Trimm (2009) showed that approach-avoidance motivation partially explained the link between narcissism and impulsivity. They found that, overall, persons with narcissism were highly motivated by approach motives (e.g., social reinforcement), whereas they were relatively unaffected by avoidant motives or punishment (e.g., rejection, loss of acceptance). In short, Foster and Trimm's (2009) findings seem to suggest that persons high on narcissism are relatively insensitive to the negative consequences of their actions because they tend to have an "unmitigated approach orientation" (Foster & Trimm, 2009, p. 1015) that makes them highly sensitive and motivated by desirable outcomes (e.g., positive social feedback).

Though motivation seems to play a role in narcissism, such models still fall short of explaining why those with narcissistic personality characteristics appear unable to learn from their mistakes and modify their social strategies to bring them closer to achieving what they desire. When persons are denied things they desire or need (e.g., others' praise to validate the self) they should presumably be motivated to use different strategies to obtain them (e.g., maintain good relationships with others to better one's opportunity for praise). However, individuals high on narcissism often resort to the use of aggression to reach personal and social goals or repair damaged self-perceptions, which often leads to severe consequences like social exclusion or rejection (see Morf & Rhodewalt, 2001 for a review).

Why would such persons who need others to bolster their grandiose self-esteem frequently engage in self-defeating social behaviors (i.e., hostility or aggression) that eventually limit their opportunities for others' attention and positive appraisal? It would appear that other underlying psychological processes govern their behaviors and that these mechanisms interfere with, or minimize, their ability to revise their social strategies.

Review of the empirical evidence suggests that the link between narcissism and aggressive behaviors may be explained by aspects of social cognition that initiate, and maintain, the use of aggression. For example, in a sample of aggressive and nonaggressive 2nd and 3rd graders, idealizing and inflating one's social competency and the quality of one's relationships with others were associated with the highest levels of aggression (Hughes, Cavell, & Grossman, 1997). These authors note that having an unrealistic or inflated self-view reflects a distortion in social reasoning that puts children at risk for aggressive behavior that is ultimately socially destructive (Hughes et al., 1997). This study indicates that unrealistic self-perceptions, which are a characteristic of narcissism, may be a facilitator of aggression; however, research has generally not expanded on this issue as it pertains to youth narcissism and aggression. It was presumed that underlying social-cognitive processes (i.e., hostile self-statements and beliefs about aggression) may partially explain the relation between narcissism and aggression in adolescents.

<center>Social Cognitive Factors</center>

Children differ in their ability to understand and interpret social situations, and consequently, differences in social reasoning influence children's perceptions and use of aggression (Lemerise & Arsenio, 2006). Although many factors (e.g., demographic variables, Goldstein, 1994; developmental level, Lochman & Dodge, 1994; parenting factors, Patterson, 1986; and peer relationships, Coie, Dodge, & Cappotelli, 1982) are involved in the development and perpetuation of child and adolescent aggression, cognition is viewed as having a vital role (e.g., Crick & Dodge, 1994; Huesmann, 1988; Huesmann & Eron, 1984). Social information processing theory (Crick & Dodge, 1994) has generated the most studies about the influence of

cognition on child and adolescent aggression. According to Crick and Dodge's (1994) social information processing theory (SIP), when faced with a social predicament, children's social behavior results from six sequential steps of information processing. The first step is an encoding process in which certain internal (e.g., emotions like frustration or anger) and external (e.g., specific persons, places, or situations) social cues are programmed. The second step involves an interpretive process in which social cues, including judgments about others' intentions, are deciphered and evaluated. The third step results in the choosing of a particular goal or outcome for the given situation. The fourth step is a constructive process whereby one generates alternative responses or choices (sometimes triggered by a particular goal) that fits the situation. The fifth step is an evaluative process in which one chooses the best response based on perceived positive consequences, and the final step is the end behavioral response used. Empirical studies of SIP with children from the general population (Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002), high-risk (Dodge, Laird, Lochman, & Zelli, 2002) or clinically aggressive males in middle childhood (Lochman & Dodge, 1994; Orobio de Castro et al., 2002), and delinquent adolescents (Nas et al., 2005) support the importance of social-cognitive processing to the understanding of child aggression.

Hostile Attributions

Studies of SIB have repeatedly shown that hostile cognitive bias strongly correlates with, and predicts, aggressive behavior regardless of gender (Crick & Dodge, 1996; Orobio de Castro et al., 2005). Hostile cognitive bias is defined as the tendency to interpret others' actions as intentional and harmful (e.g., Crick & Dodge, 1994; Dodge, Laird, Lochman, Zelli, & Conduct Problems Prevention Research Group, 2002; Tremblay & Belchevski, 2004). Considering the retaliatory nature of reactive aggression (i.e., aggression in response to perceived provocation), it is not surprising that hostile cognitive bias has been consistently associated with reactive aggression rather than proactive aggression (e.g., Crick & Dodge, 1996; Dodge et al., 1997; Dodge, Price, Bachorowski, & Newman, 1990; Hubbard et al., 2001). The hostile self-statements

or automatic thoughts of children or adolescents with aggressive tendencies can be an indicator of this hostile cognitive bias. Hostile self-statements (e.g., Most people are against me) have been associated with externalizing problems in general (Schniering & Rapee, 2004a) and particularly with themes of being wronged or wanting revenge, which is also often associated with retaliatory forms of aggression (Crick & Dodge, 1994; Dodge, Price et al., 1990; Dodge, Schniering & Rapee, 2004b). Additionally, these self-statements have reliably discriminated between children and adolescents with or without clinical behavior disorders, with children and adolescents with disruptive behavior disorders showing significantly more hostile self-statements than controls and those with depressive or anxious disorders (Schniering & Rapee, 2002). These thoughts have also been found to be the best predictors of aggression in both clinical and non-clinical youth samples (Schniering & Rapee, 2004a).

In a sample of 624 younger (third and fourth graders) and older children (fifth and sixth graders) from four public school districts, Crick and Dodge (1996) assessed whether different social information processing patterns were predictive of different subgroups of aggression. Children were identified as either reactively-aggressive or proactively-aggressive (i.e., greater than 1 SD above the group mean for reactive or proactive aggression) based on their aggression scores on a teacher-reported measure. Their findings revealed that hostile attributions predicted reactive-aggression among older children but not younger children. On the other hand, children identified as proactively aggressive were significantly more likely to favorably rate the use of verbal or physical aggression and to prefer positive instrumental outcomes (e.g., the kids let you have the ball) than positive relational outcomes (e.g., the kids like you). In summary, retaliatory or reactive aggression was motivated by childrens' perception (real or imagined) of peers' hostile intentions in social conflict, whereas instrumental or proactive aggression was motivated by children's positive view toward the use of aggression, and by potential positive instrumental outcomes of aggression. Although hostile cognitive bias did not account for younger children's reactive-aggression scores in this sample, other studies have revealed hostile attributional biases

to predict retaliatory or reactive aggression in both children and adolescents (Dodge, 1990; Dodge & Coie, 1987; Dodge, Lochman, Harnish, Bates, & Pettit, 1997; Kempes, Matthys, Maassen, van Goozen, van Engeland, 2006).

Similarly, in a sample consisting of aggressive and nonaggressive boys, Lochman and Dodge (1998) found that aggressive boys displayed more hostile cognitive biases (i.e., viewing others' intent or actions as hostile in ambiguous situations) in competitive dyadic interaction tasks than did nonaggressive peers. Specifically, aggressive boys tended to overestimate partners' aggression and underestimate their own aggression during competitive tasks, whereas nonaggressive boys showed the opposite pattern, compared to independent observer ratings of these interactions. As Lochman and Dodge (1998) propose, those who perceive others as being more aggressive are less likely to take responsibility for their own behavior because they see their aggression as warranted in the face of others' hostility. Indirect evidence seems to support that this theory also applies to narcissism.

As was previously mentioned, individuals with narcissistic personality qualities have grandiose self-views (i.e., an aggrandized or ideal self; Raskin et al., 1991), desire others' attention and praise, and often become hostile or aggressive when their self-perceptions are threatened (Morf & Rhodewalt, 2001). Children with more narcissistic personality traits may be more prone to perceiving others' intentions as hostile and to reacting with aggression or hostility in social situations because of their tendency toward self-enhancement, which makes them sensitive to ego-threats (i.e., negative self-evaluations). In other words, hostility and aggression may be enacted, as a defensive form of self-preservation, when one's inflated sense of self (i.e., his/her ideal self) conflicts with his or her life experiences (i.e., his/her objective self; Raskin et al., 1991). Consequently, over time, the repeated use of aggression may lead to the formation of hostile self-statements or schemas about others or the world. Thus, such self-statements may function as catalysts, or maintaining factors, for aggression, especially in youths who display

narcissistic personality traits. These self-statements would be particularly relevant for reactive forms of aggression that are aimed at responding to a perceived threat in the environment.

Beliefs Supporting Aggression

Schemas related to one's normative beliefs about aggression (i.e., one's values for or against aggression) have also been recognized as a major contributor to childhood aggression. Specifically, Huesmann and colleagues' (Huesmann, 1988; Huesmann & Guerra, 1997) information processing theory postulates that early learning experiences initiate the development of scripts or "cognitive abstractions of knowledge" (Huesmann & Guerra, 1997, p. 417) that help regulate behavior. Briefly, scripts are programs for behavior that are encoded, rehearsed and stored in children's memory through active experience (i.e., self-actions) and observational learning (i.e., witnessing others' actions; Huesmann, 1986; Huesmann, 1988). Scripts are retrieved, enacted, and maintained through learned situational cues, emotional states (i.e., frustration, anger, and shame), one's understanding and interpretations of ambiguous situations, and after an evaluation of the consequences of using an action. Accordingly, aggressive children are those who have learned and repeatedly use aggressive scripts to solve social problems (Huesmann, 1988, 1998). Through the enactment of these scripts, children develop and adopt beliefs about aggression that determine the suitability or unsuitability of such behaviors or scripts for different social situations (Guerra & Slaby, 1988; Huesmann & Guerra, 1997; Slaby & Guerra, 1988). Theoretically speaking, beliefs about aggression seem to provide children with self-regulating standards about the legitimacy of aggression when faced with particular social dilemmas (Huesmann, 1988; Huesmann & Guerra, 1997).

Longitudinal and cross-sectional studies have revealed that generalized normative beliefs about aggression are relatively resistant to change later in development (Huesmann & Guerra, 1997) and are predictive of child and adolescent aggression (Guerra, Huesmann & Hanish, 1994; Huesmann, 1998; Slaby & Guerra, 1988) as well as later antisocial behaviors (Burks, Laird, Dodge, Pettit, & Bates, 1999; Henry, Guerra, Huesmann, Tolan, VanAcker, & Eron, 2000;

Huesmann & Guerra, 1997). Some gender effects have also been identified with men tending to have significantly more normative beliefs about aggression than women (Bailey & Ostrov, 2008). Theoretically speaking, according to Huesmann and Guerra (1997, beliefs can be situation-specific and largely retaliatory in nature (e.g., If a boy hits another boy, it's okay for the boy to hit back) or global (e.g., In general, it is wrong to hit other people). Past studies with elementary school children have shown that normative beliefs about the appropriateness of physical aggression predict physical aggression (Huesmann & Guerra, 1997) and that normative beliefs that support the use of relational aggression predict relational aggression, using a modified version of the original measure (Werner & Nixon, 2005).

Investigating the effects of one's normative beliefs about aggression seems especially relevant to investigations of narcissism and aggression in youths. Specifically, distorted perceptions (i.e., believing one is superior and thinking that others should reciprocate this view with attention and praise) may lead to continued aggressive behavior through the activation of beliefs when the individual feels a need to assert his or her superiority or defend his or her beliefs from perceived threats (e.g., insults or slights that are inconsistent with one's self-views). Likewise, exposure to aversive interpersonal interactions and repeated activation of aggressive scripts may reinforce beliefs favoring the use of aggression, especially when such responses yield favorable outcomes (e.g., a chance for revenge or possession of a desired object). This response may actually perpetuate further negative social consequences for persons with high levels of narcissistic personality qualities, even though the individual him or herself may view the results of aggression positively. Indeed, such individuals tend to have few long-term and close relationships, and others tend to become disenchanted by their initial impressions of narcissists over time (Morf & Rhodewalt, 2001; Paulhus, 1998). Nevertheless, the narcissist may still claim to be effective at influencing and attracting others. Considering the mediating impact of youths' normative beliefs about the appropriateness of aggression may help to explain its ties to

aggression. Thus, this study investigated the possible mediating effects of one's normative beliefs about aggression on the relation between narcissism and aggression.

CHAPTER II

PRESENT STUDY

Given the association between narcissism and problem behaviors (e.g., Ang et al., 2009; Barry et al., 2003; Barry, Grafeman et al., 2007) and emerging research linking narcissism to aggression in children and adolescents (e.g., Barry, Thompson et al., 2007; Seah & Ang, 2008; Washburn et al., 2004), this study sought to determine explore the potential mechanisms involved in the association between youth narcissism and both reactive and proactive aggression.

It is clear that social-cognitive factors play a major role in children or adolescents' aggressive tendencies (e.g., Crick & Dodge, 1996; Huesmann, 1998; Lochman & Dodge, 1998). Although indirect evidence suggests that cognitive as well as motivational factors play a role in narcissism, few studies to date have investigated if social-cognitive factors may account for the relation between narcissism and aggression. Ang and colleagues (2009) recently published a paper that explored the potential moderating or mediating role of beliefs supporting aggression on the relation between narcissistic exploitativeness (one aspect of narcissism defined as a willingness and ability to exploit others for personal gain) and bullying behavior in Asian adolescents. The data revealed that approval of aggressive beliefs was the underlying mechanism through which narcissistic exploitativeness was related to bullying, lending some initial basis for some of the hypotheses investigated in the present study. However, more specifically, different types of beliefs were expected to relate differently to proactive and reactive forms of aggression in the present study.

Unlike the study conducted by Ang and colleagues (2009), the present study explored the possible mediating role of specific types of normative beliefs about aggression (global versus retaliatory) as well as hostile attributions on proactive and reactive aggression, in a more ethnically diverse sample. Furthermore, it examined whether certain variables (i.e., hostile attributions and beliefs about the legitimacy of aggression) help explain aggression in youths higher on a broader conceptualization of narcissism than solely exploitativeness. Identifying the

underlying social-cognitive factors that connect narcissism to different forms of aggression may inform efforts at intervention to thwart the development or continuation of aggression into adulthood, particularly for youth whose self-perception and self-presentation place them at risk for such behaviors.

<div align="center">Study Hypotheses</div>

Narcissism was expected to be significantly correlated with both reactive and proactive aggression (Hypothesis 1). Furthermore, each form of aggression was expected to relate differently to the cognitive variables of interest (i.e., hostile self-statements, normative beliefs about aggression) based on the theoretical distinction between reactive and proactive aggression. Specifically, hostile attributions and retaliatory beliefs supporting aggression were expected to be more strongly correlated with reactive aggression than with proactive aggression because of the defensive nature of reactive aggression (Hypothesis 2). To the contrary, due to the instrumental nature of proactive aggression (i.e., use of aggression for personal gain without provocation), proactive aggression was hypothesized to correlate more strongly than reactive aggression with having more global beliefs supporting aggression (Hypothesis 3). Because of indirect evidence linking aspects of narcissism to cognitive misperceptions (e.g., inflated self-perceptions; Hughes et al., 1997) and aggressive behavior in children (e.g., Barry, Grafeman et al., 2007), narcissism was predicted to be correlated with hostile attributions, retaliatory beliefs and global beliefs supporting aggression (Hypothesis 4). Hostile attributions, retaliatory beliefs, and global normative beliefs about aggression were expected to separately and partially mediate the anticipated relation between narcissism and overall youth aggression (Hypothesis 5). Due to the link between child and adolescent reactive aggression and hostile attributions as well as the retaliatory nature of reactive aggression, hostile attributions and retaliatory beliefs about aggression were predicted to separately mediate the relation between narcissism and reactive aggression (Hypothesis 6). Because of the instrumental nature of proactive aggression, having

more global beliefs about aggression was hypothesized to mediate the relation between

narcissism and proactive aggression (Hypothesis 7).

CHAPTER III

METHOD

Participants

Two hundred nineteen participants (n = 219) between the ages of 16 and 19 years (M = 16.83 yrs; SD = .80) were recruited for this study. Participants were recruited from the Camp Shelby Youth Challenge Program (YCP) hosted by the Mississippi National Guard, which is a military-style residential intervention program designed for youths who have dropped out of school. Participants were of both sexes (85% male) and of Caucasian (62%), African American (37 %) and other (1%) ethnic origin. Data were collected in the fall of 2009 as part of a larger ongoing research project.

Materials

Demographic Information

Participants were asked to report general background information (e.g., gender, age, and ethnicity) to describe the sample data, or to control for the effects of these variables on the criteria of interest (i.e., total aggression and its subtypes).

Narcissistic Personality Inventory for Children

The Narcissistic Personality Inventory for Children (NPIC; Barry et al., 2003) is a 40-item measure directly adapted for child and adolescent samples from the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979), which has been used extensively with adult samples. Participants were presented with a pair of statements (e.g., I try not to show off; I usually show off when I get the chance) and were asked to endorse one of the two statements. Next, participants were asked to rate the statement they chose as being sort of true or really true of them, resulting in a four-point Likert-type scale for each item. Overall, the NPIC appears to have good reliability, as well as content and criterion-related validity (e.g., Barry et al., 2003; Barry, Frick et al., 2007; Barry & Wallace, 2010). A total NPIC score (i.e., narcissism) was generated for each

participant ranging from 0 to 120. The internal consistency coefficient for the total NPIC

composite in this study was .83.

Peer Conflict Scale

The Peer Conflict Scale (PCS; Marsee et al., in press) is a 40-item measure that assesses

aggression in interpersonal interactions. Participants are presented with statements (e.g., I have

hurt others to win a game or contest) and asked to rate the extent to which the statement is true for

them on a four-point Likert-type scale from 0 (not at all true) to 3 (definitely true). This measure

includes 20 items that assess various forms of reactive aggression and 20 items that assess

proactive aggression. A total aggression score was calculated, with greater scores reflecting

higher levels of aggression. Separate scores for reactive aggression and proactive aggression were

also created. Reliability statistics from the current sample data revealed a coefficient alpha of .91

for total aggression, .83 for reactive aggression, and .88 for proactive aggression composites.

Overall, the PCS appears to have good internal consistency reliability estimates, content validity,

and good factor structure. In particular, Marsee and colleagues (in press) performed confirmatory

factor analyses and identified a 4-factor model that fit well for both boys and girls across high

school, detained, and residential settings. Reactive and proactive forms of aggression were found

to be uniquely correlated with related constructs. For example, proactive aggression subscale

scores were uniquely associated with callous unemotional traits, consistent with other research

findings (Marsee & Frick, 2010). Reactive aggression was correlated with participants' arrest

history even when the effects of the proactive aggression subscale scores were partialed out;

however, proactive aggression was no longer correlated with an arrest history after controlling for

the effects of the reactive aggression subscale scores. On a delinquency measure, proactive

aggression was correlated with more forceful, cruel, unprovoked and premeditated aggressive

acts, whereas reactive aggression was correlated with impulsive aggressive acts.

Children's Automatic Thoughts Scale

The Children's Automatic Thoughts Scale (CATS; Schniering & Rapee, 2002) is a 40-item measure that assesses negative self-statements on a 5-point Likert-type scale ranging from 0 (not at all) to 4 (all the time). The CATS was developed on a diverse sample of children and adolescents (ages 7-16), including 762 from a community sample and 131 diagnosed with internalizing and/or disruptive behavior disorders (Schniering & Rapee, 2002; Schniering & Rapee, 2004a; Schniering & Rapee, 2004b). Confirmatory factor analysis revealed four distinct cognitive factors: physical threat (e.g., There is something very wrong with me), social threat (e.g., People are thinking bad things about me), personal failure (e.g., I can't do anything right), and hostility (e.g., Most people are against me). Each factor contains 10 items. The score for the hostility factor was the focus of the present study and serves as the index of hostile self-statements. Reliability statistics of the total score and subscales reveal high internal consistency, acceptable test-retest reliability (1 to 3 months), and good discriminant validity among clinical disorders (Schniering & Rapee, 2002; Schniering & Rapee, 2004a; Schniering & Rapee, 2004b). The present study revealed a coefficient alpha of .79 for hostile threat.

Normative Beliefs about Aggression Scale

The Normative Beliefs About Aggression Scale (NOBAGS; Huesmann & Guerra, 1997) is a 20-item measure that assesses beliefs about the appropriateness of physical and verbal aggression on a 4-point Likert-type scale ranging from 0 (it's perfectly ok) to 3 (it's really wrong). The NOBAGS consists of 12 items that assess Retaliatory Beliefs (e.g., Suppose a boy hits another boy, John. Do you think it's wrong for John to hit back?) about the appropriateness of defensive aggression, and eight items that measure General Beliefs about the legitimacy of aggression in general (e.g., It is wrong to insult other people), with a possible range of 0 to 36 and 0 to 24, respectively. Previous research has revealed good reliability and validity for this measure (Huesmann & Guerra, 1997). Reliability statistics for this study revealed a coefficient alpha .83 for the retaliatory beliefs and .87 for global beliefs composites.

Rosenberg Self-esteem Scale

The Rosenberg Self-esteem Scale (RSE; Rosenberg, 1965) is a ten-item measure of global self-esteem wherein participants are asked to respond on a five-point Likert-type scale ranging from 0 (strongly disagree) to 4 (strongly agree). A total RSE score was calculated, with scores ranging from 0 to 40, as a measure of self-esteem for each participant to explore the effects of narcissism on aggression after controlling for the anticipated shared variance between narcissism and self-esteem. Due to the correlation and shared variance between self-esteem and narcissism identified in previous research (e.g., Barry, Frick et al., 2007; Thomaes et al., 2008; Washburn et al., 2004), self-esteem was assessed and controlled in all analyses to more clearly evaluate the unique relations among narcissism and aggression in this study. The RSE has been used widely in adolescent and adult samples and has repeatedly demonstrated good reliability and content and criterion-related validity in adolescent samples (e.g., Lockett & Harrell, 2003; Scheier, Botvin, Griffin, & Diaz, 2000). An internal consistency coefficient alpha of .78 was obtained for the total RSE in the present sample.

Procedure

Parents were fully informed of the purpose and procedures of the study. Parents were asked to give written consent for the youth to be informed of the study, with the adolescents being allowed to choose whether to participate. Questionnaire data were collected in a classroom setting in groups of approximately 12-18 participants. Participants were fully informed about the study and asked to give written assent for their participation. Their decision regarding participation in this study in no way affected their status in the intervention program. Questionnaires were orally administered to assist participants with reading difficulties, with the items also being provided on paper. The data for this study were collected in three to four 45-minute sessions over approximately seven to ten days.

CHAPTER IV

RESULTS

Descriptive Statistics and Zero-order Correlations for Potential Controls

Table 1

Descriptive Statistics for the Variables of Interest

Variable (possible range)	N	M	SD	Min	Max	Skew[a]	Kurtosis[b]
Total Aggression (0 to 120)	204	16.62	13.24	0	75	1.30	1.96
Proactive Aggression (0 to 60)	204	5.23	6.34	0	31	1.87	3.67
Reactive Aggression (0 to 60)	204	11.40	8.00	0	44	.98	1.25
Narcissism (0 to 120)	208	55.08	14.85	15	102	.16	-.19
Retaliatory Beliefs (0 to 36)	206	17.32	7.06	0	35	-.16	-.05
Global Beliefs (0 to 24)	206	6.97	6.01	0	24	1.06	.84
Hostile Attributions (0 to 40)	203	12.42	7.43	0	34	.49	-.12
Self-Esteem (0 to 40)	208	20.21	5.25	4	30	-.53	.21

All composites were pro-rated, by multiplying the average score for all items by the number of items, to correct for any missing data on that variable/measure. [a]Standard error estimates for skewness are all .17. [b]Standard error estimates for kurtosis are all .34.

As shown, there was ample variability in adolescents' scores to detect any possible associations among the variables. This data also showed that the distributions for all of the aggression variable scores (i.e., total aggression, reactive and proactive aggression) as well as for the global beliefs supporting aggression variable were significantly positively skewed and leptokurtic. Thus, there were relatively few high values on these variables, with scores tending to center around a few particular, relatively low values. Therefore, the majority of adolescents reported relatively low levels of aggression in general as well as low levels of global beliefs supporting aggression.

Zero-order correlation analyses were conducted to examine the relations among the predictors (i.e., narcissism), mediators (i.e., retaliatory beliefs about aggression, general beliefs about aggression, hostile attributions), criteria (i.e., total aggression, proactive and reactive aggression), and the demographic or control variables (i.e., gender and self-esteem) in this sample. These results are summarized in Table 2.

Table 2

Zero-Order Correlations among the Controls, Variables and Outcomes of Interest

	1	2	3	4	5	6	7	8	9
1. Gender[a]	-	-.16*	.06	.09	.02	-.04	.01	.09	.01
2. Self-esteem		-	.03	-.02	.07	.35**	.19**	.08	-.19**
3. Agg			-	.91**	.94**	.24**	.30**	.32**	.42**
4. Proact Agg				-	.71**	.23**	.25**	.31**	.27**
5. React Agg					-	.21**	.31**	.29**	.48**
6. Narcissism						-	.10	.24**	.01
7. Retal Belief							-	.48**	.15*
8. Glob Belief								-	.06
9. Hostile									-

Agg = Total Aggression; Proact Agg = Proactive Aggression; React Agg = Reactive Aggression; Adapt Narc = Adaptive Narcissism; Mal Narc = Maladaptive Narcissism; Retal Belief = Retaliatory Beliefs Toward Aggression; Global Belief = Global Beliefs Toward Aggression; Hostile = Hostile Attributions. [a]Gender was coded such that male= 0 and female = 1. *$p < .05$; **$p < .01$.

These analyses revealed that gender was not correlated with any of the aggression variables or mediators. As was expected, narcissism was significantly positively correlated with self-esteem, $r = .35$, $p < .001$, suggesting that participants who endorsed characteristics of narcissism also tended to have higher self-esteem scores. Thus, self-esteem was evaluated as a possible control variable in all analyses involving narcissism.

Correlations among the Variables of Interest

H₁. Zero-order correlation analyses revealed that narcissism was positively related to both reactive, *r* = .23, *p* = .003, and proactive aggression, *r* = .21, *p* = .001 (see Table 2). Thus, the first hypothesis was supported.

H₂. Zero-order correlation analyses showed that hostile attributions (reactive: r = .48, p < .001; proactive: r = .27, p < .001) and retaliatory beliefs toward aggression (reactive: r = .31, p < .001; proactive: r = .25, p = .01) were significantly positively correlated with both reactive and proactive aggression. William's t test (see Kenny, 1987) revealed a significant difference between the correlation coefficients for hostile attributions between reactive and proactive aggression, t(200) = 4.44, p < .001, indicating that the association between hostile attributions and reactive aggression was stronger than that for hostile attributions and proactive aggression, t(200) = 3.66, p < .001. This test also showed a significant difference between the correlation coefficients for retaliatory beliefs toward aggression between reactive and proactive aggression, suggesting that the relation between retaliatory beliefs and reactive aggression was stronger than that for retaliatory beliefs and proactive aggression. Therefore, the second hypothesis was fully supported.

H₃. Zero-order correlation analyses indicated that global beliefs about aggression) were positively associated with both reactive, r = .29, p = .001, and proactive aggression, r = .31, p = .002. William's t test revealed a significant difference between reactive and proactive aggression for global beliefs toward aggression, indicating that the relation between global beliefs and reactive aggression was stronger than between global beliefs and proactive aggression, t (200) = 4.13, p < .001. Thus, the third hypothesis was supported.

H₄. Zero-order correlation analyses revealed that overall narcissism was positively associated with global beliefs supporting aggression, *r* = .24, *p* = .001. However, overall narcissism was not correlated with either hostile attributions, *r* = .01, *p* = .94, or retaliatory beliefs supporting aggression, *r* = .10, *p* = .17. Therefore, investigating potential meditating effects of hostile attributions or retaliatory beliefs toward aggression on the narcissism-aggression relation

is not appropriate given that these variables were not correlated with narcissism. Given that global beliefs toward aggression and narcissism are positively linked, the fourth hypothesis was partially supported, and running meditation analyses was suitable.

<div align="center">Mediation Analyses using Path Analyses</div>

As the present study sought to explore the relations among the variables of interest, particularly to identify possible underlying mechanisms or explanatory variables for these relations, structural equation modeling (SEM) was conducted using Mplus Version 6 (Muthén & Muthén, 1998-2010). Path analysis, because only observed or measured variables were modeled, was used to examine the mediation effects (i.e., indirect effect) of global beliefs regarding the appropriateness of aggression on the relation between narcissism and aggression. This approach also allowed for the examination of the unique effects of such beliefs and narcissism on aggression. Path analysis can be used to simultaneously model indirect effects as well as the unique effects of all variables and can handle multiple criteria variables entered at the same time while controlling for the influence of potential covariates; thus, it seemed most appropriate to evaluate Hypotheses 5-7. All cases, including those with missing data, contribute to the estimation of these values. Also, path analysis does a good job of correcting, or controlling for, the effects of missing data. Thus, full-information maximum likelihood (FIML) was computed on all analyses to correct for any missing data. FIML identifies the population parameters that best fit the observed data through the use of iterative logarithms that evaluate different values to estimate the unknown parameters (MacKinnon, 2008). The values that maximize the log likelihood are then chosen as the final parameter values.

Two separate mediation models were conducted to test the hypothesized effects of global beliefs toward aggression on the different dependent variables (e.g., total aggression, reactive aggression, and proactive aggression), controlling for the effects of covariates (see above). Specifically, Model 1 tested the effects of global beliefs toward aggression on the relation between narcissism and total aggression to examine Hypothesis 5. This model also served to

evaluate the overall model fit for the sample data. Model 2 tested the indirect effects of global beliefs toward aggression on the relation between narcissism and reactive and proactive aggression, simultaneously entered, to evaluate Hypotheses 6 and 7, despite the high correlation between reactive and proactive aggression, $r = .71$, $p < .01$. This approach was used because of somewhat different expectations regarding the cognitive mediators that would play a role in the link between narcissism and each form of aggression. As noted above, all variables in this study were considered as measured or observed scores, and all continuous variables were centered to reduce multicollinearity.

Prior to examining the specific mediation models, the model specification strategy included running preliminary models for each of the two models to determine the appropriate inclusion of covariates. Paths from covariates (e.g., gender, self-esteem) were retained if they significantly explained unique variance in any of the mediators or aggression variables. The only covariate pathway that was maintained in both final models was for self-esteem because it uniquely predicted narcissism. For all final models, narcissism, self-esteem, global beliefs toward aggression, and the aggression variables were entered as correlated variables. However, the pathways between self-esteem and aggression, and self-esteem and global beliefs toward aggression, were excluded from both final models because self-esteem was not correlated with any of these variables, and did not predict unique variance in any of the dependent variables (e.g., overall aggression, reactive or proactive aggression).

PRODCLIN (distribution of the PRODuct Confidence Limits for INdirect effects; MacKinnon, 2008) was used to find critical values, or lower and upper confidence limits (if the range includes zero it is a non-significant mediation effect), for the indirect effect of global beliefs about aggression on the relation between narcissism and aggression (i.e., total aggression, reactive aggression, and proactive aggression). This method more accurately computes Type I error rates and gives more power compared to other tests such as the Baron and Kenny (1986) method or the Sobel (1988) test (MacKinnon, 2008; MacKinnon, Fritz, Williams, & Lockwood,

2007). To explain, the indirect effect is computed by subtracting the reduction of the effect of the mediator from the initial direct effect (e.g., the bivariate correlation between the predictor and outcome), which is theoretically equivalent to the product of the effect of the predictor (i.e., narcissism) on the mediator (e.g., global beliefs) multiplied by the product of the effect of the mediator on the outcome (e.g., aggression; see Baron and Kenny, 1968; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Sobel, 1988, for a more detailed explanation). The problem is that this method assumes that the product of the two distributions has a normal distribution, when in fact they are often asymmetric due to skew and thus could yield inaccurate confidence limits. Thus, PRODCLIN takes the shape and distribution of the indirect (mediated) effect (i.e., the product of the pathway between the predictor and mediator and the pathway between the mediator and outcome divided by its standard error) into account and computes asymmetric confidence limits when estimating the amount of mediation (indirect) effect (see MacKinnon, 2008).

H_5. First, a standard linear regression analysis was performed to determine the total effect of narcissism on total aggression (shown in Table 3).

Table 3

*Standard Linear Regressions for the Total Effects between Narcissism and Aggression Outcomes*

	Outcomes								
	Total Aggression			Reactive Aggression			Proactive Aggression		
Predictor									
	b	B	t	b	β	t	b	β	t
Narcissism	.21(.06)	.24	3.42**	.11(.04)	.21	2.97**	.10(.03)	.23	3.36**

Unstandardized (b-weights) and standardized regression coefficients (β) are shown with standard errors estimates in the parentheses. All variable composites were coded such that high scores indicate more of the construct. **$p < .01$.

Narcissism, $\beta = .24$, $p < .001$, explained a significant portion of the variance in total aggression, $F(1, 199) = 11.67$, $p = .001$. The R^2 for the model was .06.

Second, path analysis was used to test global beliefs about aggression as a mediator in the relation between narcissism and overall aggression. This hypothesized mediation model fit the data well: $X^2_{(1)}$ =1.504, p = .47; comparative fix index (CFI) = 1.00; root mean square error of approximation (RMSEA) = .00; standardization root mean square residual (SRMR) = .02. Narcissism uniquely predicted global beliefs, β = .23, p = .001, indicating that adolescents with more narcissistic personality qualities endorsed more beliefs supporting aggression in general. Also, global beliefs, β = .30, p < .001, and narcissism, β = .16, p = .02, each uniquely predicted total aggression. See Figure 1 for the final model results.
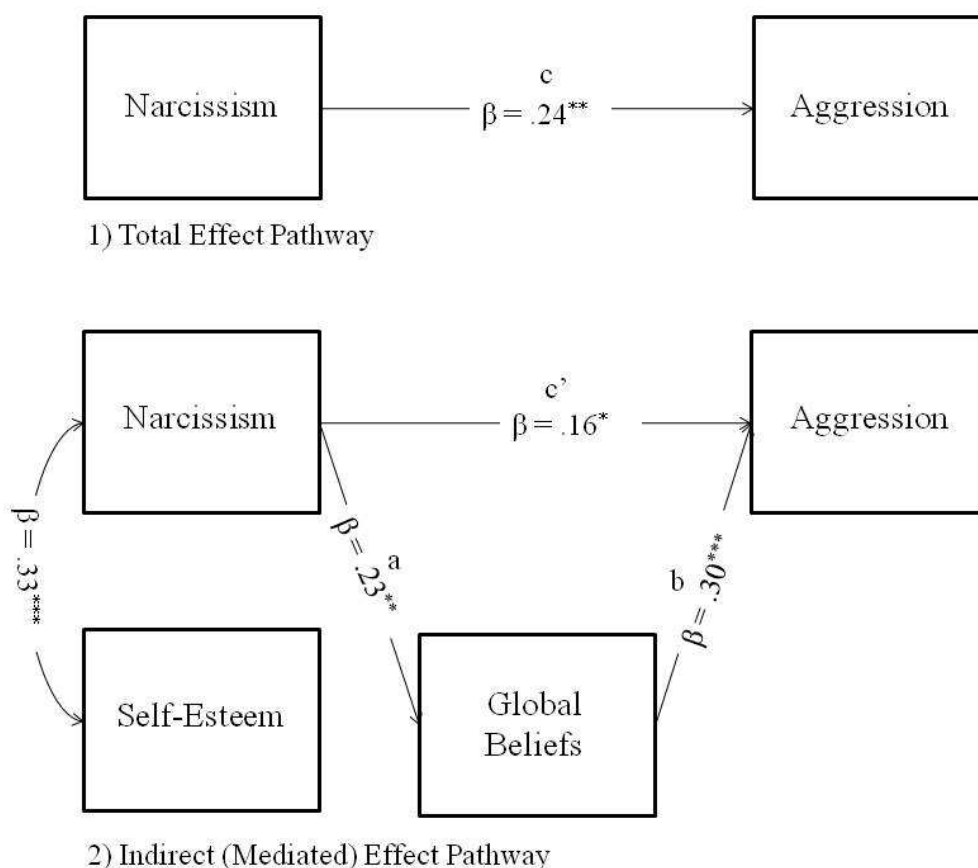
Figure 1. Global beliefs significantly mediated the relation between narcissism and aggression (Model 1). The correlations among the variables of interest were modeled to determine indirect or mediation effects. Standardized path coefficients (β) are shown. c_1 = total relation between narcissism and total aggression; a = direct relation between narcissism and global beliefs; b = direct relation between global beliefs and total aggression; c' = relation between narcissism and total aggression adjusted for the indirect (mediated) effects of the global beliefs. *p < .05; **p

$< .01$; $^{***}p < .001$. The results indicated that 14 % of the variance in total aggression was explained by the final model (i.e., the mediated effect), $R^2 = .14$, $p = .003$.

Using PRODCLIN with a 95% confidence interval, global beliefs toward aggression significantly mediated the relation between narcissism and total aggression, lower confidence limit (LCL) = .02107, upper confidence limit (UCL) = .11558. That is, having more narcissistic personality qualities is associated with greater levels of aggression can be partially and indirectly explained by adolescents' general attitudes supporting the use of aggression. An examination of standardized betas revealed that all significant effects were small (Cohen, 1992). Nevertheless, with regard to global beliefs, Hypothesis 5 was supported.

H₆. Hostile attributions or retaliatory beliefs supporting aggression were predicted to mediate the relation between narcissism and reactive aggression. However, the possible mediation effects of hostile attributions and retaliatory beliefs supporting aggression could not be explored because they were not significantly interrelated (review Table 2). Thus, Hypothesis 6 was not supported for this data.

H₇. First, separate standard linear regression analyses were conducted to determine the total effect of narcissism on reactive aggression and on proactive aggression (refer to Table 3). Narcissism, $\beta = .21$, $p = .001$, explained a significant portion of the variance in reactive aggression, $F(1, 199) = 8.84$, $p = .003$. The R^2 for the model was .04. In addition, narcissism, $\beta = .24$, $p = .001$, explained a significant portion of the variance in proactive aggression, $F(1, 199) = 11.28$, $p = .001$. The R^2 for the model was .05.

Second, path analysis was used to test global beliefs about aggression as a mediator in the relation between narcissism and reactive as well as proactive aggression. The hypothesized mediation model for narcissism and both reactive and proactive aggression fit the data well: $X^2_{(3)} = 6.79$, $p = .08$; comparative fix index (CFI) = .98, root mean square error of approximation (RMSEA) = .08; standardization root mean square residual (SRMR) = .03. See Figure 2 for a graphical representation of these results.
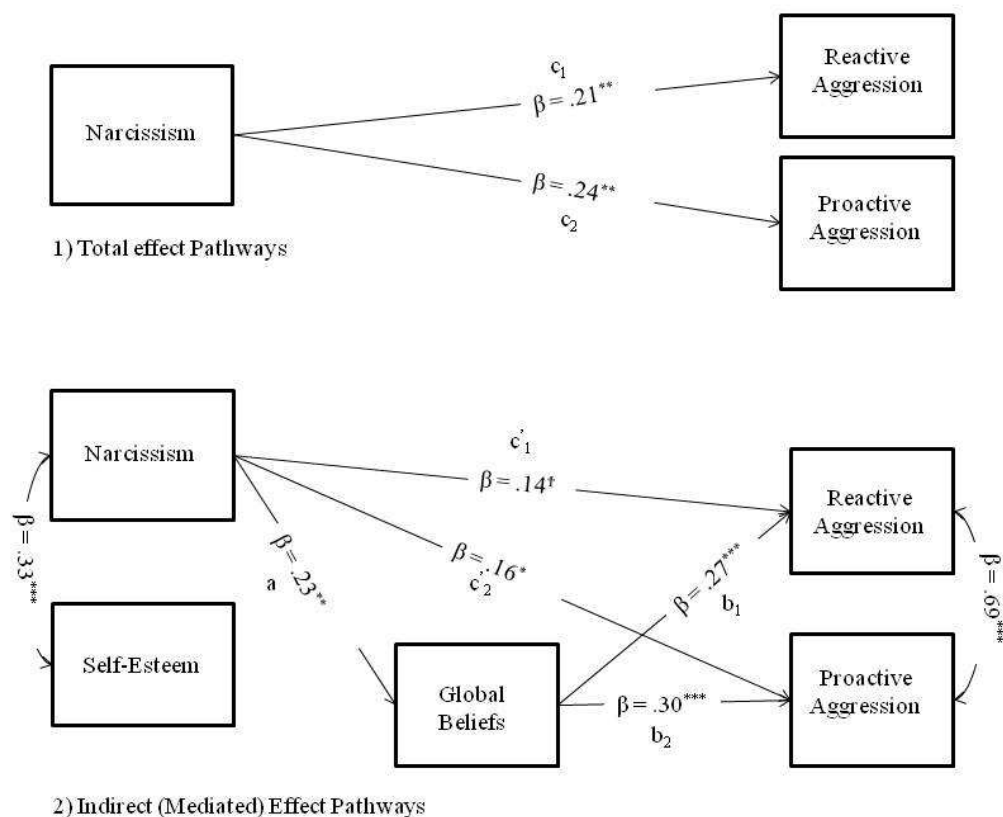
Figure 2. Global beliefs significantly mediated the relation between narcissism and both reactive and proactive aggression (Model 2). The correlations among the variables of interest were modeled to determine the indirect or mediation effects. Standardized path coefficients (β) are shown. c_1 = total relation between narcissism and reactive aggression; c_2 = total relation between narcissism and proactive aggression ; a = direct relation between narcissism and global beliefs; b_1 = direct relation between global beliefs and reactive aggression; b_2 = direct relation between global beliefs and proactive aggression; c'_1 = relation between narcissism and reactive aggression adjusted for the indirect (mediated) effects of the global beliefs; c'_2 = relation between narcissism and proactive aggression adjusted for the indirect (mediated) effects of the global beliefs. $^{t}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Narcissism uniquely predicted global beliefs, $\beta = .23$, $p = .001$, suggesting that

adolescents with more narcissistic personality characteristics predicted more general beliefs

favoring aggression. Global beliefs uniquely predicted reactive aggression, $\beta = .27$, $p < .001$, and

proactive aggression, $\beta = .30$, $p < .001$, indicating that having more beliefs supporting aggression

in general predicted both proactive and reactive aggression. Additionally, narcissism predicted

proactive aggression, $\beta = .16$, $p = .02$, over and above the effects of global beliefs. A trend was

also revealed such that narcissism predicted reactive aggression when global beliefs were in the model, $\beta = .14$, $p = .05$. See Figure 2 for the final model results. The results indicated that 14% of the total variance in reactive and proactive aggression was accounted for by the final model or the mediated effect, $R^2 = .14$, $p = .003$.

Using PRODCLIN with a 95% confidence interval, global beliefs toward aggression significantly mediated the relation between narcissism and reactive aggression, LCL = .01015, UCL = .06251, and proactive aggression, LCL = .01010, UCL = .05540. That is, having more beliefs supporting the use of aggression in general partially explained why youth with more narcissistic personality qualities also tended to report higher levels of reactive, as well as proactive, aggression. The effects in this model were small (Cohen, 1992). Regardless, with regard to global beliefs toward aggression, Hypotheses 6 and 7 were supported, but they were not supported regarding the other proposed mediators (i.e., hostile attributions, retaliatory beliefs) investigated in this study.

CHAPTER V

DISCUSSION

The aim of this study was to extend what is known about the relation between adolescent narcissism and aggression. The data showed that narcissism was associated with higher levels of reactive and proactive aggression. This is consistent with previous research that found that childhood narcissism was associated with reactive (Barry, Thompson et al., 2007)) as well as proactive aggression (Ang & Yusof, 2005; Sullivan & Geaslin, 2001; Washburn et al., 2004). However, some child studies that assessed for both reactive and proactive aggression identified a significant connection between narcissistic personality features and proactive aggression only (e.g., Sullivan & Geaslin, 2001; Washburn et al., 2004). Research looking at the connection between adult narcissism and aggression also seems consistent with the present study findings, as adults high on narcissism tend to respond with hostility or aggressive behaviors after a perceived threat (e.g., Morf & Rhodewalt, 1993; Rhodewalt & Morft, 1998; Smalley & Stake, 1996), which can be considered a type of defense or reactive aggression. Because of these mixed findings more research is needed to be able to draw more clear conclusions about the connection between narcissism and different forms of aggression for younger and older samples.

Narcissism and Beliefs Supporting Aggression

As was hypothesized, adolescents with higher levels of narcissism were relatively likely to endorse more beliefs legitimizing the use of aggression. In other words, individuals with narcissistic qualities were more likely to view aggression as a viable solution to social problems. Furthermore, having more global beliefs supporting the use of aggression helped explain why adolescents with more narcissistic personality qualities also tended to have higher levels of aggression; including both defensive, or reactive, and instrumental, or proactive, aggression. The apparent importance of aggressive schemas is consistent with Huesmann and colleagues' (Huesmann, 1988; Huesmann & Guerra, 1997) information processing theory. Specifically, this theory states that children develop cognitive scripts that help them regulate their behavior, such as

using aggressive behaviors to solve social problems. In the case of the present study, narcissistic adolescents may be particularly likely to translate these scripts into aggressive action. The findings are also consistent with a study by Ang and colleagues (2010) described above, which found that one's approval of aggression significantly mediated the association between narcissistic exploitativeness and bullying.

Fontaine (2007) outlined a conceptual model that hypothesizes about why adolescents choose to employ certain antisocial behavior scripts, which may help to explain the connection between narcissism and aggression in general. Fontaine's instrumental antisocial decision-making (IAD) model examines five interactive cognitive processes in which adolescents engage. These processes can lead to the repeated activation of aggressive scripts. Briefly, first a certain goal is identified (i.e., something an individual wants to gain, avoid, end, or maintain). Second, a decision is made about whether the goal is actually obtainable. Third, through a social-moral reasoning process, the adolescent must decide whether obtaining the goal fits with his or her social norms or moral codes. Next, a mental list of possible responses (scripts) or choices (triggered by a particular goal) as well potential consequences (positive or negative) are generated. This process finally leads to the adoption and enactment of a particular behavioral script (or decision).

Logically speaking, and according to Fontaine (2007), this process may be influenced by other factors (e.g., one's emotional state or level of impulse control) that may affect decision-making Specifically, factors like egocentrism (i.e., the tendency to see things from your perspective only) and having a sense of entitlement (i.e., seeing yourself as deserving of what you want or need) may be potential influences on this process, as egocentrism and entitlement have been associated with, and predictive of, antisocial behaviors like aggression in adults (Hare, 1993; Nestor, 2002). Given that both are often considered core features of narcissism (see Emmons, 1984; Freud, 1953; Kernberg, 1976; Kohut, 1971), the IAD model proposed by Fontaine may be applicable to narcissistic individuals who may readily identify dominance over others as a worthy

social goal and aggression as a means to attain such a goal. Adolescents with more narcissistic personality qualities who presumably are more self-focused (e.g., a grandiose sense of self) and self-serving (e.g., put their needs and wants first), and who approve of the use of aggression, may be more likely to enact aggressive strategies. In short, consistent with the IAD model, narcissistic personality features themselves (e.g., entitlement, egocentrism, inflated self-views) may predict certain cognitive patterns (i.e., attitudes favoring aggression) that, in turn, promote aggression toward others.

Similarly, other aspects of narcissism have been linked to aggression in younger samples, which fits with the IAD model, and may also help explain the present study findings. Idealizing and inflating one's social competency and the quality of one's relationships with others has been associated with the aggression in children (Hughes et al., 1997). In addition, having an inflated sense of self and being described as sensitive to criticism, also thought to be characteristic of narcissism (Morf & Rhodewalt, 1998; Morf & Rhodewalt, 2001; Paulhus, 1998; Wallace & Baumeister, 2002), have also been associated with high levels of adolescent bullying behavior (Salmnivali, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999). Overall, these studies suggest that having an unrealistic or inflated self-view (a major feature in the conceptualization of narcissism for this study) is indicative of cognitive schemas that put children or adolescents at-risk for aggressive behaviors.

Narcissism and Hostile Attributions

Contrary to hypotheses and previous studies (e.g., Crick & Dodge, 1996; Dodge et al., 1997; Dodge, Price, Bachorowski, & Newman, 1990; Hubbard et al., 2001), adolescents with more narcissistic personality qualities were not more likely to define social issues in hostile ways in this study. To review, the cognitive-neoassociationistic model (Berkowitz, 1962; Berkowitz, 1989) stated that retaliatory aggression results from the perception of hostile intent or is a response to perceived frustration (Berkowitz, 1993; Green, 2001). Also, empirical studies evaluating SIP have repeatedly shown that children or adolescents with a hostile cognitive bias

(i.e., the tendency to view others intent or actions as harmful or threatening) are more prone to aggressive behaviors (Crick & Dodge, 1996; Orobio de Castro et al., 2005). Given that hostile attributions did not mediate the narcissism-aggression relation, these theoretical models, which regard hostile attributions as an important antecedent to aggression, may not be particularly relevant for explaining the association between narcissism and aggression, including reactive aggression.

Findings from the adult literature on narcissism may help shed some light on this finding. Adults high on narcissism have been shown to resort to hostility and aggressive behaviors when they perceive that aspects of themselves (i.e., their desired self-image that is often unrealistic or grandiose) are being threatened, likely as a means of self-protection (e.g., Morf & Rhodewalt, 1993). Additional evidence indicates that individuals with high levels of narcissism tend to become hostile and aggressive toward evaluators following negative performance feedback (Smalley & Stake, 1996) and engage in hostile behaviors following failure on a task, after initial success on the same task (Rhodewalt & Morf, 1998). From these findings, it would appear that those high on narcissism may interpret others actions as hostile in the presence of a perceived threat. Therefore, it is possible that adolescents' hostile attributions were not primed in the present study given the lack of an experimental manipulation or the presence of an ego threat, which might have made underlying hostile thoughts or beliefs more salient. Thus, future studies evaluating the potential role of hostile attributions on narcissism may find that such cognitive misattribtutions do facilitate their aggressive behaviors in response to either perceived or real threat to their sense of self. This may also help to explain the mixed findings between narcissism and reactive forms of aggression; perhaps priming underlying hostile attributions (through an ego threat for example) would be necessary to facilitate a retaliatory or defensively aggressive response for younger and older samples.

Limitations, Implications & Future Directions

The present study is limited by the characteristics of the sample. Although there was enough variability in the scores to find effects, the distribution of scores for all of the aggression variables as well as for global beliefs supporting aggression were significantly positively skewed and leptokurtic. That is, participants were generally unlikely to endorse a high number of aggressive acts or global beliefs supporting the use of aggression. Despite the relatively few high scores on these variables, narcissistic personality qualities were still predictive of aggressive behaviors, and global beliefs favoring aggression mediated this relation.

Because adolescents who participated in this study were in a residential intervention setting, the generalizability of the results may be limited. Further, findings in this study may be limited to adolescents living in more rural areas or in the Southern part of the United States. This study is also limited in that it relied solely upon self-report data, which could be affected by social desirability, deception, and inaccurate recall of past events. Although each of the measures used in this study has previously been shown to be reliable and valid to assess the constructs of interest, the accuracy of adolescents' self-reports of their perceptions or behaviors cannot be fully known. Thus, some of the relations among study variables may have been inflated due to this lack of source variance. Overall, future studies should address some of the limitations of the present study such as obtaining data from sources other than self-report data, especially for verification of adolescents' report of their problem behaviors. Future research should also be conducted in an attempt to replicate the findings of the present study with a non-risk sample of adolescents, as the present findings may only be generalizable to a small subset of adolescents in residential treatment programs.

Most studies on narcissism, especially with adolescents, have centered on identifying its associated problematic behavioral (e.g., conduct problems, delinquency, bullying and aggression) and emotional (e.g., internalizing symptoms like depression and anxiety) correlates. There has been less of a focus on identifying the potential underlying internal processes such as cognitions

(e.g., beliefs supporting aggression and hostile attributions) or emotional factors (e.g., lack of empathy or remorse, low anxiety) that may underlie or affect the degree of the association between narcissism and problematic correlates. Although both lines of inquiry are important to further our understanding of narcissism in general, and with regard to children or adolescents in particular, identifying internal factors that are linked to narcissism seems important for the development of interventions targeting aggression when self-perception features, such as narcissism, play a role.

It is possible that other social-cognitive factors not assessed in this study could additionally, or even more strongly, explain the narcissism-aggression connection. Given that few studies have attempted to identify the underlying mechanisms associated with narcissism in adolescents, it is difficult to come to a definitive conclusion as to the implications of the present findings without further replication of these results. Nevertheless, the present findings suggest that considering adolescents' attitudes may be important for understanding why adolescents with narcissistic personality features are also likely to use aggression in social situations. Research has not yet examined how such beliefs regarding aggression develop, particularly in individuals with narcissistic tendencies; therefore, it will be important for future research to investigate the developmental factors involved in the apparent interplay between self-perception constructs such as narcissism, beliefs and aggressive behavior. The question of why narcissists continue to use aggression as a viable solution into adulthood or how such attitudes or beliefs develop initially cannot be answered from this study given its cross-sectional design. Longitudinal studies should be conducted to examine how aggressive scripts or attitudes toward aggression develop in such individuals, including how or whether they evolve into adulthood.

Identifying specific underlying social-cognitive mechanisms like beliefs supporting aggression seems worthwhile, especially concerning factors that might heighten the risk of aggression in individuals with narcissistic tendencies. Generally speaking, interventions targeting youth aggression should evaluate the role of self-perceptions and beliefs or attitudes supporting

aggression. Although one's attitudes and beliefs may become more stable with age (Krosnick & Alwin, 1989), there is some evidence that adolescents' beliefs or attitudes are malleable and changeable (e.g., see Fontaine, 2007; Guerra & Slaby, 1990; Slaby & Guerra 1988) when such attitudes or beliefs are targeted with interventions. Narcissistic adolescents are more likely to have certain self-perception patterns (i.e., their unrealistic self-views, sense of entitlement, and egocentrism) and attitudes favoring aggression that seem to be especially linked to aggression. For narcissistic adolescents, interventions may be more successful for minimizing aggression if they focus on helping them develop more genuine or realistic self-views, as well as learn to devalue aggressive habits through learning alternative ways to bring about the social outcomes they want.

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