

consistently associated with aggression, it is less clear how different aspects of narcissism may influence the well-established association between CU traits and youth aggression. That is, these two personality features that have been conceptualized as components of psychopathy or as two aspects of a Dark Triad of personality (Paulhus & Williams, 2002) may be a relatively important combination of intrapersonal characteristics in understanding youth aggression. As discussed below, it may also be that those particular dimensions of narcissism that involve emotional responses to perceived ego threats or overt behavior designed to assert one's authority in the face of an uncertain or fragile self-image may be relevant for youth who also have a callous disregard for others and/or societal rules. On the other hand, narcissistic features involving a vain, arrogant, or grandiose self-presentation may not necessarily influence the CU traits-aggression connection. This issue has not been directly addressed in the literature on youth psychopathy; therefore, the purpose of the current study was to examine how three separate forms of narcissism influence the relation between dimensions of CU traits and adolescent aggression.

Callous-Unemotional (CU) Traits and Aggression

As noted above, psychopathy is characterized by affective, interpersonal, and behavioral dysfunction (Moreira, Almeida, Pinto, & Fávero, 2014), with CU traits representing the affective dimension (e.g., callous use of others, shallow affect, and lack of empathy and remorse). Whereas youth high in impulsive-irresponsible psychopathic traits tend to engage in more reactive forms of aggression consistent with anger coping difficulties, youth with elevated CU profiles engage in more calculated, predatory (i.e., proactive) aggressive acts against others in addition to high rates of reactive aggression and violent delinquency (Blais, Solodukhin, & Forth, 2014; Frick, Ray, Thornton, & Kahn, 2014; Kimonis et al., 2014). CU traits can be further conceptualized as involving different sets of features, including callousness (i.e., lack of empathy, disregard for others), uncaring (i.e., lack of concern for rules or regarding one's performance), and unemotionality (i.e., lack of affective response to distressing stimuli, lack of emotional expression; Kimonis et al., 2008).

CU traits may be particularly associated with persistent and extreme problem behavior, presumably because of how these traits impact interpersonal functioning. This pattern may differ depending on the dimension of CU traits being considered. For instance, callousness, which includes a lack of empathy for others, has been more strongly associated with aggression than

other dimensions of CU traits (Ansel, Barry, Gillen, & Herrington, 2015; Kimonis et al., 2008). This finding suggests that youth exhibiting a callous disregard toward others may not be inhibited from performing actions intended to hurt others. Uncaring features have been associated with delinquency, but unemotionality has not shown a clear connection to indices of adolescent problem behavior (e.g., Ansel et al., 2015). In general, the relations between CU trait dimensions and behavioral problems tend to be moderate in magnitude. Thus, there are other factors in need of consideration that influence whether such youth engage and persist in antisocial behavior. Given the role of interpersonal deficits in adolescent aggression, combinations of CU traits and different narcissistic personality traits may exacerbate risk for aggression in adolescents.

Narcissism and Aggression

Broadly defined, narcissism refers to an inflated self-image and a persistent need to establish and maintain that image at the expense of developing healthy, interpersonal relationships (Morf & Rhodewalt, 2001). Across conceptualizations, narcissism is characterized by a presentation of arrogance, self-importance, and a preoccupation with eliciting constant admiration from others to validate a grandiose sense of self (McCullough, Emmons, Kilpatrick, & Mooney, 2003). In addition, individuals with narcissistic tendencies manipulate others, often go to extreme lengths to maintain a sense of superiority over others, and show very little empathy for those around them (McCullough et al., 2003; Morf & Rhodewalt, 1993; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004). Importantly, some of the emerging evidence with adolescents has demonstrated that different dimensions of narcissism have different associations with constructs such as aggression, self-esteem and anxiety (Barry & Kauten, 2014; Barry & Malkin, 2010; Barry & Wallace, 2010). Thus, the potential moderating effect of narcissism on the relation between adolescent CU traits and aggression may vary according to the specific features of narcissism being considered.

Along with CU traits, some features of narcissism are central to the construct of psychopathy and are collectively referred to as psychopathy-linked narcissism. Psychopathy-linked narcissism is characterized by excessive bragging about oneself and an apparent belief of one's importance relative to others (Barry & Malkin, 2010; Barry & Wallace, 2010). Individuals scoring high on these traits may present as self-assured to the point that they are presumably unaffected by daily worries or the potential of their status being challenged by others; however, this dimension of narcissism has actually been positively associated with internalizing problems (Barry & Malkin, 2010).

On the other hand, non-pathological narcissism (i.e., “normal narcissism”) is characterized by the need to be the center of attention, vanity, exploitativeness, and feeling superior to others (Miller & Campbell, 2011). In certain respects, non-pathological narcissism is considered relatively healthy, as individuals endorsing these characteristics tend to exude authority in social situations and use self-enhancement strategies relatively adaptively (Falkenbach, Howe, Falki, 2013). However, this dimension of narcissism has been associated with adolescent aggression (Barry et al., 2007).

Although these forms of narcissism are moderately interrelated (Barry & Wallace, 2010), both have their own unique set of correlates. As noted above, psychopathy-linked narcissism is positively associated with internalizing problems (e.g., anxiety) and antisocial behavior and is negatively associated with self-esteem. Conversely, non-pathological narcissism is positively associated with perceived quality of interpersonal relationships, self-esteem, and self-reported aggression (Barry & Wallace, 2010). In this way, psychopathy-linked narcissism can be thought of as representing a less confident and more vulnerable form of narcissism than non-pathological narcissism.

Despite conceptual differences between non-pathological and psychopathy-linked narcissism, studies have consistently found that both are associated with adolescent reactive and proactive aggression (e.g., Barry et al., 2007; Golmaryami & Barry, 2010). In general, high levels of narcissism are thought to be linked to reactive aggression because of perceived threats to a grandiose sense of self (e.g., Bushman & Baumeister, 1998; Thomaes, Bushman, De Castro, & Stegge, 2009). However, youth high in narcissism may also be prone to engage in proactive aggression as a useful strategy to exploit and manipulate others for interpersonal gain, a connection that is also supported in previous research (Muñoz Centifanti, Kimonis, Frick, & Aucoin, 2013; Seah & Ang, 2008; Washburn et al., 2004).

Taken together, these findings indicate that a link between youth narcissism and different functions of aggression exists; however, the question remains as to whether separate dimensions of narcissism are associated with higher levels of aggression among youth with high levels of CU traits. Because CU traits and narcissism are associated with reactive and proactive aggression, one might propose that when an individual exhibits both CU and narcissistic traits he/she is apt to display even higher levels of aggression. Therefore, it is important to study the impact that each construct has on aggression both separately and in combination with one another. Moreover, such investigations should consider specific dimensions of CU traits and narcissism. This type of understanding may help to shed light on how

certain personality tendencies that are tied to CU traits may exacerbate reported levels of youth aggression.

Although many studies have investigated the relations of CU traits and narcissism with aggression, little is known about whether the interaction between CU traits and narcissism, including different dimensions of narcissism, provides additional utility in predicting variance in youth aggression. To examine this issue, two studies were conducted. Study 1 examined the moderating impact that non-pathological narcissism and psychopathy-linked narcissism have on the relation between CU traits and aggression in youth. Based on the findings of Study 1 and emerging literature on pathological narcissism in adolescents, Study 2 then investigated whether the two dimensions of pathological narcissism (see below) moderate the relation between CU traits and aggression in youth.

STUDY 1: NON-PATHOLOGICAL AND PSYCHOPATHY-LINKED NARCISSISM, CU TRAITS, AND AGGRESSION

First, both psychopathy-linked narcissism as measured by the Antisocial Process Screening Device (APSD; Frick & Hare, 2001) and non-pathological narcissism as measured by the Narcissistic Personality Inventory for Children (NPIC; Barry, Frick, & Killian, 2003) were examined in terms of their impact on the relation between CU traits and aggression. Based on a wealth of previous research, it was expected that both forms of narcissism and the callousness dimension of CU traits would be positively correlated with both proactive and reactive aggression (Hypothesis 1). A significant additive effect was expected, such that high levels of both CU traits and narcissism would correspond to relatively high levels of proactive and reactive aggression (Hypothesis 2).

METHOD

Participants

Data were collected from 358 participants (301 male, 55 female, 2 not reported) who ranged in age from 16 to 19 years ($M = 16.92$, $SD = .84$). The majority (61.7%) of participants were White, 37.7% were African-American, and .6% identified as “Other.” Participants were recruited from a 22-week military-style residential program for youth who have dropped out of school. Adolescents attending this program have no current legal system involvement and attend voluntarily as means of earning their high school equivalency and learning self-care/coping skills in a structured environment. This sample provided an opportunity to consider the research questions in participants who were likely to be more

variable on the constructs of interest than a community or detained sample. Approximately 85% of adolescents approached about the study agreed to participate and completed each measure included in this study.

Measures

Inventory of callous and unemotional traits (ICU; Essau, Sasagawa, & Frick, 2006). The ICU is a 24-item self-report questionnaire that measures CU traits. Each item is rated on a 4-point Likert scale (0 = *not at all true*, 1 = *somewhat true*, 2 = *very true*, and 3 = *definitely true*). Studies have consistently found support for the construct and criterion validity of scores on the ICU (e.g., Kimonis et al., 2008; Pihet, Etter, Schmid, & Kimonis, 2014). In the current study, the internal consistencies of ICU total ($\alpha = .74$) and Uncaring ($\alpha = .78$) scores were good, whereas the reliabilities for the Callousness ($\alpha = .62$) and Unemotional ($\alpha = .49$) subscale scores were lower.

Antisocial process screening device (APSD; Frick & Hare, 2001). The APSD is a 20-item self-report rating scale. Each item is rated on a 3-point Likert scale (0 = *not at all true*, 1 = *sometimes true*, 2 = *definitely true*). The APSD is used to assess psychopathy-linked traits and consists of three factors: a 7-item Narcissism scale, a 6-item Callous/Unemotional scale, and a 5-item Impulsivity scale. The Narcissism subscale was of particular interest in the current study and has demonstrated adequate internal consistency (Cronbach's α ranging from .59 to .75; Poythress et al., 2006) and validity (Dillard, Salekin, Barker, & Grimes, 2013). The internal consistency of scores on the Narcissism subscale in the current sample was moderate, $\alpha = .65$. The CU ($\alpha = .45$) and Impulsivity ($\alpha = .50$) scores, which were not used in analyses in this study, displayed lower reliability.

Narcissistic personality inventory for children (NPIC; Barry et al., 2003). The NPIC is based on the adult Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) and was developed for use with children and adolescents (Barry et al., 2003). Like the NPI, the NPIC is a 40-item forced choice questionnaire. Each item contains a pair of statements (e.g., "I am just like everybody else" vs. "I am an outstanding person"). The respondent chooses one of the statements and then rates it as being "sort of true" or "really true" for him/her. Thus, each item has a 4-point response scale, ranging from 0 to 3. The NPIC total scale had an internal consistency of $\alpha = .83$ in the current study.

Peer conflict scale (PCS; Marsee, Kimonis, & Frick, 2004). The PCS is a 40-item self-report inventory, with 20 items assessing reactive aggression and 20 items assessing proactive aggression. Sample items include, "I threaten others when they do something

wrong to me" (reactive) and "I carefully plan out how to hurt others" (proactive). Responses are made on a 4-point Likert scale (0 = *not at all true*, 1 = *somewhat true*, 2 = *very true*, 3 = *definitely true*). The PCS has demonstrated both adequate total scale and subscale reliability (Marsee, 2007; Marsee, Lau, & Lapré, 2014). The internal consistency coefficient for the total scale was $\alpha = .95$ in the current study. Internal consistencies for scores of the two subscales were also good (i.e., $\alpha = .92$ for proactive, $\alpha = .89$ for reactive).

Procedure

After approval from the Institutional Review Board (IRB) at the first author's affiliated university, the director of the residential program provided consent for the enrolled adolescents to be contacted about possible participation in the present study. Youth were then informed about the study and given the opportunity to voluntarily participate or decline to participate via a written informed consent/assent process. A participant's choice to participate did not affect his/her status in the program. All questionnaires were completed in a classroom setting in groups of approximately 15–18 adolescents across two to three 45-min sessions as part of a larger research project.

RESULTS

Descriptive statistics for the NPIC, APSD Narcissism subscale, ICU, and PCS are found in Table I. For the distributions of PCS total aggression, proactive and reactive aggression subscale scores, and ICU Callousness scores, two cases were identified as extreme outliers for each factor (i.e., more than four standard deviations above the mean). One of these cases was an outlier for all variables, whereas the other two cases were only an outlier for either aggression or Callousness scores.

TABLE I. Descriptive Statistics for NPIC Narcissism, APSD Narcissism, CU traits, and Aggression for Study 1

| Scale/subscale | <i>M</i> | <i>SD</i> | Range | Skewness | Kurtosis | α |
|------------------|----------|-----------|--------|----------|----------|----------|
| NPIC total | 56.19 | 14.86 | 16–105 | .12 | –.19 | .83 |
| APSD narcissism | 4.09 | 2.47 | 0–13 | .58 | .23 | .65 |
| ICU total | 27.56 | 8.22 | 7–65 | .27 | .90 | .74 |
| Callous | 7.75 | 3.87 | 0–19 | .76 | .09 | .62 |
| Uncaring | 11.31 | 4.88 | 0–24 | .12 | –.05 | .78 |
| Unemotional | 8.38 | 2.70 | 1–15 | .09 | .13 | .49 |
| Total aggression | 18.00 | 14.96 | 0–75 | 1.38 | 1.91 | .95 |
| Reactive | 12.72 | 9.06 | 0–47 | .90 | .59 | .89 |
| Proactive | 5.82 | 7.40 | 0–37 | 1.96 | 3.80 | .92 |

NPIC, narcissism personality inventory for children; APSD, antisocial process screening device; ICU, inventory of callous unemotional traits.
Note: Standard error of skewness = .13; standard error of kurtosis = .26.

TABLE II. Zero-Order Correlations Between Indices of Narcissism, CU Traits, and Aggression (Study 1)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-------------------------------|---|------|------|--------|-------|------|-------|-------|-------|
| Non-pathological narcissism | – | .34* | .03 | .08 | .01 | –.09 | .17** | .14** | .18** |
| Psychopathy-linked narcissism | | – | .27* | .37* | .16** | –.04 | .53* | .51* | .48* |
| ICU total | | | – | .67*** | .81* | .53* | .35* | .28* | .39* |
| Callousness | | | | – | .25* | .10 | .45* | .36* | .48* |
| Uncaring | | | | | – | .27* | .22* | .16** | .26* |
| Unemotional | | | | | | – | .00 | –.01 | .01 |
| Total aggression | | | | | | | – | .95* | .94* |
| Reactive aggression | | | | | | | | – | .78* |
| Proactive aggression | | | | | | | | | – |

ICU, inventory of callous unemotional traits.

* $P < .05$; ** $P < .01$; *** $P < .001$.

TABLE III. Prediction of Aggression From CU Traits and Psychopathy-Linked and Non-Pathological Narcissism (Study 1)

| Predictor | Psychopathy-linked narcissism | | Non-pathological narcissism | |
|------------------|-------------------------------|-----------|-----------------------------|-----------|
| | <i>B</i> | <i>SE</i> | <i>B</i> | <i>SE</i> |
| Step 1 | | | | |
| | | | | |
| ICU total | .36** | .08 | .57** | .09 |
| Narcissism | 3.19** | .28 | .19** | .05 |
| Step 2 | | | | |
| | | | | |
| ICU total | .39** | .09 | .57** | .10 |
| Narcissism | 3.09** | .28 | .19** | .05 |
| ICU × narcissism | .10* | .04 | .00 | .01 |

ICU, inventory of callous unemotional traits.

* $P < .025$; ** $P < .001$.

Analyses involving these measures were conducted including and excluding these cases¹.

To assess the relations between narcissism, CU traits, and aggression, zero-order correlations among non-pathological (i.e., NPIC) and psychopathy-linked (i.e., APSD) narcissism, CU, and aggression scores were calculated (Table II). Due to the large relation between reactive and proactive aggression, $r = .78$, $P < .001$, the following analyses utilize total aggression as the criterion variable, as considering these functions separately did not seem to best capture the self-report data in this study. Consistent with our hypothesis, aggression was positively correlated with non-pathological and psychopathy-linked narcissism, as well as with CU traits, particularly the callousness and uncaring components. Although small to medium associations were observed between non-pathological narcissism and aggression, large associations were noted between psychopathy-linked narcissism and aggression. The relations between CU traits and psychopathy-linked

narcissism, $r = .24$, $P < .001$, and between CU traits and non-pathological narcissism, $r = .02$, $P = .65$, were moderate and near-zero, respectively.

To examine the hypothesis that the interaction between CU traits and narcissism predicts aggression incrementally above the main effects of each factor, two linear regressions were conducted. Specifically, there was one model for each narcissism dimension (i.e., non-pathological or psychopathy-linked) in predicting overall aggression. CU traits (i.e., total ICU scores) were entered as the independent variable in each regression. The family-wise error rate was controlled using a Bonferroni correction (i.e., $\alpha_{pc} = .025$). The results of each test are displayed in Table III. For the model using non-pathological narcissism as a moderator, CU traits and narcissism were significant predictors of unique variance in the first step; however, contrary to the hypothesis, the interaction between non-pathological narcissism and CU traits at step 2 was not significant. This pattern of results was consistent when outliers were included.

For the model involving psychopathy-linked narcissism, narcissism and CU significantly predicted aggression at step 1. At step 2, the interaction between

¹ Descriptive statistics presented in Table 1 reflect those with the outliers removed.

psychopathy-linked narcissism and CU traits was significant (R^2 change = .013, $B = .10$, $SE = .04$, $P = .008$) such that, as hypothesized, CU traits were significantly related to aggression when psychopathy-linked narcissism was high (i.e., one SD above the mean). The pattern of results was the same when outliers were included in the analysis. Figure 1 displays the nature of the interaction, which was graphed by plotting mean aggression scores at one SD above and below the mean for CU and psychopathy-linked narcissism.

To examine the specific CU traits affecting the CU-psychopathy-linked narcissism interaction predicting aggression, each of the individual CU dimensions were included as independent variables in separate models rather than total CU scores. The error rate of conducting three follow-up regressions was controlled using a Bonferroni correction (i.e., $\alpha_{pc} = .017$). At step 1 in each of these models, psychopathy-linked narcissism predicted aggression (B s between 2.87 and 3.45, SE s = .28, P s < .001); whereas only the main effect of callousness ($B = 1.20$, $SE = .17$, $P < .001$) predicted aggression. Only the interaction between callousness and psychopathy-linked narcissism was significant before and after error-correction (R^2 change = .010, $B = .17$, $SE = .07$, $P = .014$), such that callousness was significantly associated with aggression, especially when narcissism was high.

STUDY 1 DISCUSSION

As expected, significant associations were evident between both forms of narcissism and aggression. However, it is important to note that the magnitude of the correlations between psychopathy-linked narcissism and aggression were large, whereas those between non-pathological narcissism and aggression were small. There were no significant interactions between CU traits

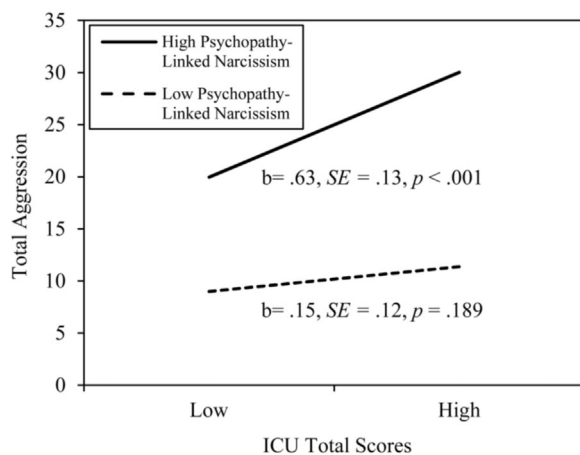


Fig. 1. Interaction between overall CU traits and psychopathy-linked narcissism in predicting aggression with outliers (Study 1).

and non-pathological narcissism for the prediction of aggression; however, a significant interaction occurred between psychopathy-linked narcissism and CU traits for the prediction of aggression. This pattern was particularly relevant for the callousness dimension of CU traits.

The findings from the study are consistent with evidence linking both narcissism and psychopathy to aggression (Falkenbach et al., 2013). Consequently, youth expressing elevated combinations of these psychopathic personality traits report engaging in more aggression than youth high in only a single dimension. The link between psychopathy-linked narcissism and aggression may be explained by the fact that psychopathy-linked narcissism, unlike non-pathological narcissism, is associated with internalizing problems such as anxiety (Barry & Malkin, 2010), and higher levels of anxiety have been linked to aggression in youth (Hatfield & Dula, 2014; Marsee, Weems, & Taylor, 2008). It is possible that other forms of narcissism related to adolescent internalizing symptoms, such as vulnerable narcissism (e.g., Barry, Loflin, & Doucette, 2015), may similarly moderate the relation between CU traits and aggression (Schoenleber, Sadeh, & Verona, 2011). Study 2 was designed to investigate this possibility.

STUDY 2: VULNERABLE NARCISSISM, CU TRAITS, AND AGGRESSION

Vulnerable narcissism is a subtype of pathological narcissism characterized by a sense of entitlement and exploitation, as well as significant distress at the thought of rejection and/or separation from others due to a fragile self-esteem (Besser & Priel, 2010). Vulnerable narcissism also involves a need for interpersonal validation and distress when it is not obtained. Thus, it makes sense that, similar to psychopathy-linked narcissism, vulnerable narcissism is moderately associated with anxiety, diverse aggressive acts, and hostility (Krizan & Johar, 2014; Malkin, Zeigler-Hill, Barry, & Southard, 2013; Schoenleber et al., 2011). Moreover, these studies found that a second subtype of pathological narcissism similarly typified by an arrogant and self-absorbed presentation but limited interpersonal distress (i.e., grandiose narcissism) is not robustly associated with anxiety or aggression. Although some evidence indicates similarities between grandiose and vulnerable narcissism in adolescence in terms of an association with aggression (Barry, Kauten, & Lui, 2014), vulnerable and grandiose narcissism appear to have clear differences in their relation to internalizing problems, with the former being more consistently related to adolescent anxiety (e.g., Barry & Kauten, 2014; Barry et al., 2015).

In the second study, the research questions from Study 1 were applied to vulnerable and grandiose narcissism, which have been the subject of more recent and growing research in adolescents and adults. In this study, we examined the moderating influences of vulnerable and grandiose narcissism in the relation between CU traits and aggression in two later cohorts of adolescents attending the same residential program. Based on the findings of Study 1 and existing literature (e.g., Barry et al., 2015; Malkin et al., 2013), it was predicted that vulnerable narcissism and CU traits would be positively correlated with proactive and reactive aggression, provided that it would be suitable to consider these domains of aggression separately in the sample for Study 2 (Hypothesis 1). Likewise, because psychopathy-linked narcissism and vulnerable narcissism are similarly associated with internalizing problems and aggression, it was hypothesized that vulnerable narcissism would moderate the relation between CU traits and aggression in a way similar to psychopathy-linked narcissism from Study 1 (Hypothesis 2).

METHOD

Participants

Data were collected from 362 participants (299 male, 59 female, 4 not reported) who ranged in age from 16–19 years ($M = 16.89$, $SD = .80$). The majority (i.e., 56.4%) of participants were White, 33.1% were African–American, 1.1% identified as “other,” and 9.4% did not report racial/ethnic background information. Approximately 80% of adolescents approached about the study agreed to participate and completed each measure included in this study. Participants were from two later cohorts that were recruited from the same 22-week military-style residential program for youth that was the site for Study 1.

Measures

ICU (Essau et al., 2006). The internal consistency of ICU total ($\alpha = .78$), Callousness ($\alpha = .70$), and Uncaring ($\alpha = .80$) scores were good for Study 2, whereas Unemotional scores displayed poor internal reliability ($\alpha = .17$), indicating that the items were little related to each other. Given the low internal consistency of Unemotional scores, this subscale was not included in subsequent analyses.

Pathological narcissism inventory (PNI; Pincus et al., 2009). The PNI is a 52-item self-report inventory that measures grandiose and vulnerable dimensions of pathological narcissism. In adolescents, vulnerable narcissism has been positively associated with aggression, whereas grandiose narcissism has been positively related to self-reported social support,

empathy, and aggression (Barry et al., 2014). Responses are made on a 5-point scale ranging from 0 (*not at all like me*) to 5 (*very much like me*). Sample items include: “I often fantasize about being admired and respected” (Grandiose Narcissism) and “Sometimes I avoid people because I’m concerned that they’ll disappoint me” (Vulnerable Narcissism). It has also exhibited strong internal consistency for both the Grandiose Narcissism ($\alpha = .84$) and Vulnerable Narcissism ($\alpha = .93$) facets (Wright, Lukowitsky, Pincus, & Conroy, 2010). In the current study, the internal consistency of scores for Grandiose Narcissism was $\alpha = .83$, and the internal consistency of scores on the Vulnerable Narcissism Scale was $\alpha = .92$.

PCS (Marsee et al., 2004). The internal consistency of the total score was $\alpha = .95$ for Study 2. Scores for reactive aggression from the PCS was $\alpha = .89$, and the internal consistency of scores on proactive aggression was $\alpha = .94$.

Procedure

The procedure followed for Study 2 was identical to the procedure described in Study 1, except that a slightly different battery of measures was administered to the participants as noted above.

RESULTS

Descriptive statistics for the PNI, ICU, and PCS are shown in Table IV. As in Study 1, PCS total and Proactive Aggression scores were positively skewed. The same two cases were identified as extreme outliers for each variable using the same criteria as Study 1; therefore, analyses involving aggression were conducted including and excluding these cases.

TABLE IV. Descriptive Statistics for Pathological Narcissism, CU Traits, and Aggression for Study 2

| Scale/subscale | <i>M</i> | <i>SD</i> | Range | Skewness | Kurtosis | α |
|------------------|----------|-----------|--------|----------|----------|----------|
| PNI total | 2.14 | .77 | 0–4.58 | .09 | –.13 | .93 |
| Grandiose | 2.58 | .84 | 0–4.61 | –.22 | –.08 | .83 |
| Vulnerable | 1.95 | .85 | 0–4.55 | .16 | –.34 | .92 |
| ICU total | 26.65 | 8.94 | 2–54 | .19 | –.20 | .78 |
| Callous | 8.73 | 4.34 | 1–26 | .96 | 1.08 | .70 |
| Uncaring | 9.39 | 4.87 | 0–24 | .10 | –.50 | .80 |
| Unemotional | 8.47 | 2.88 | 0–15 | .03 | .12 | .17 |
| Total aggression | 20.17 | 17.77 | 0–93 | 1.24 | 1.21 | .95 |
| Reactive | 12.83 | 9.56 | 0–52 | .83 | .50 | .89 |
| Proactive | 7.34 | 9.15 | 0–43 | 1.60 | 2.07 | .94 |

PNI, pathological narcissism inventory; ICU, inventory of callous unemotional traits; PNI total, grandiose and vulnerable scores are based on mean-item ratings.

Note: Standard error of the skew = .13; standard error of kurtosis = .26.

TABLE V. Zero-Order Correlations Between Pathological Narcissism, CU Traits, and Aggression (Study 2)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-------------------------|---|------|------|---------|------|--------|-------|------|------|
| Pathological narcissism | – | .79* | .95* | –.08 | .08 | –.12** | .24* | .20* | .23* |
| Grandiose narcissism | | – | .57* | –.15*** | .06 | –.21* | .12** | .06 | .09 |
| Vulnerable narcissism | | | – | –.02 | .09 | –.05 | .27* | .24* | .26* |
| ICU total | | | | – | .70* | .81* | .62* | .36* | .37* |
| Callousness | | | | | – | .31* | .38* | .45* | .43* |
| Uncaring | | | | | | – | .25* | .26* | .27* |
| Total aggression | | | | | | | – | .96* | .96* |
| Reactive aggression | | | | | | | | – | .83* |
| Proactive aggression | | | | | | | | | – |

PNI, pathological narcissism inventory; ICU, inventory of callous unemotional traits.

Note: $n = 360$.

* $P < .05$; ** $P < .01$; *** $P < .001$.

To assess the associations between pathological narcissism, CU traits, and aggression, zero-order correlations between PNI, ICU, and PCS total and subscale scores were calculated (Table V). As in Study 1, the focus of the analyses was on total aggression because of the large correlation between reactive and proactive aggression ($r = .83$, $P < .001$). Vulnerable narcissism was significantly moderately correlated with aggression as predicted. Grandiose narcissism was significantly correlated with aggression, but the magnitude of the correlation was small. Consistent with the hypothesis and with results from Study 1, CU traits, including the callous and uncaring domains, were significantly and moderately related to aggression. The magnitude of these correlations was comparable when outliers were retained in the analyses. The relation between CU traits and vulnerable narcissism was nonsignificant ($r = -.03$, $P = .52$), and CU traits were negatively related to grandiose narcissism ($r = -.16$, $P = .003$).

To examine the hypothesis that the interaction between CU traits and vulnerable narcissism would uniquely predict aggression incrementally above the main effects of each predictor, two different linear regressions were conducted. Specifically, there was one

model for each narcissism dimension (i.e., vulnerable or grandiose) in predicting overall aggression. As in Study 1, CU traits were entered as the independent variable in each test. The family-wise error rate was controlled using a Bonferroni correction (i.e., $\alpha_{pc} = .025$). The results of each test are displayed in Table VI. For the regression using grandiose narcissism as a moderator, step 1 significantly predicted aggression, with both CU traits and grandiose narcissism acting as significant predictors. The interaction between grandiose narcissism and CU traits was not significant at step 2. This pattern of results was consistent when outliers were included.

For the model using vulnerable narcissism as a predictor, CU traits and vulnerable narcissism were significant predictors in the first step. At step 2, the interaction between vulnerable narcissism and CU traits predicted aggression (R^2 change = .016, $B = .27$, $SE = .10$, $P = .008$), such that CU traits were significantly associated with aggression, but particularly when vulnerable narcissism was high, consistent with the hypothesis. Figure 2 displays the nature of this interaction. The interaction remained significant when outliers were included.

TABLE VI. Prediction of Aggression from CU Traits and Vulnerable and Grandiose Pathological Narcissism (Study 2)

| Predictor | Grandiose narcissism | | Vulnerable narcissism | |
|-------------------------|----------------------|---------------------|-----------------------|-----------------------|
| | <i>B</i> | <i>SE</i> | <i>B</i> | <i>SE</i> |
| Step 1 | | $R^2 = .154^*$ | | $R^2 = .194^*$ |
| ICU total | .78* | .10 | .76* | .10 |
| Narcissism | 2.55** | 1.04 | 4.92* | 1.00 |
| Step 2 | | R^2 change = .000 | | R^2 change = .016** |
| ICU total | .78* | .10 | .76* | .09 |
| Narcissism | 2.55** | 1.04 | 4.88* | .99 |
| ICU \times narcissism | .00 | .11 | .27** | .10 |

ICU, inventory of callous unemotional traits.

* $P < .025$; ** $P < .001$.

To examine the specific CU traits influencing the CU-vulnerable narcissism interaction, the Callousness and Uncaring dimensions of the ICU were entered as the independent variables in two separate models. The error rate was controlled for running two tests (i.e., $\alpha_{pc} = .025$). In step 1 in both regressions, vulnerable narcissism was associated with aggression, B s between 3.98 and 4.99, SE s between .99 and 1.04, P s < .001. The main effects of callousness ($B = 1.67$, $SE = .19$, $P < .001$), and uncaring traits ($B = 1.02$, $SE = .18$, $P < .001$) were significant. At step 2, only the interaction between callousness and vulnerable narcissism was significant (R^2 change = .021, $B = .58$, $SE = .19$, $P = .002$), such that callousness was significantly associated with aggression, especially when narcissism was high.

STUDY 2 DISCUSSION

As anticipated, in Study 2, vulnerable narcissism was positively correlated with both functions of aggression, whereas grandiose narcissism was not. In support of our second hypothesis, higher levels of vulnerable narcissism combined with higher levels of CU traits predicted relatively high levels of aggression. There was no significant interaction between CU traits and grandiose narcissism for the prediction of aggression. Overall, the results of Study 2 corroborate those found in Study 1 in that forms of narcissism related to anxiety or internalizing problems in general, may act as risk factors for aggression in youth high in CU traits. Notably, consistent with results from Study 1, the callousness facet of CU traits uniquely contributed to the resulting interactions. This pattern falls in line with previous literature, which specifically links callousness to

adolescent aggression beyond the variance contributed by other aspects of CU traits (Ansel et al., 2015).

GENERAL DISCUSSION

The present study extends prior research on CU traits in adolescents by considering the moderating impact of different dimensions of narcissism on the association between CU traits and aggression. A specific aim of these studies was to examine how these models might apply to both proactive and reactive aggression. However, because self-reported proactive and reactive were highly interrelated in both studies, indicating that they were not clearly distinguishable in these samples, we limited our analyses to overall aggression. Although studies have shown that CU traits and narcissism are related to adolescent aggression (e.g., Kauten, Barry, & Leachman, 2013), no known studies have specifically examined the impact that narcissism has on the relation between CU traits and aggression in youth. Findings in the present study indicated that particular forms of narcissism (i.e., psychopathy-linked, vulnerable) strengthened the association between CU traits and overall aggression.

In this way, the combination of specific interpersonal and affective psychopathic personality traits (i.e., elevated CU traits and psychopathy-linked narcissism) may be most salient in understanding the profile of teens at-risk for engaging in aggressive behavior. That is, examining individual psychopathy dimensions in isolation may not provide the most complete picture of the types of teens who engage in aggression. Similarly, it appears worthwhile to consider vulnerable forms of narcissism in addition to CU traits, particularly callous traits, when assessing self-reported aggression.

The fact that both psychopathy-linked and vulnerable narcissism exacerbated self-reported aggression in the presence of heightened CU traits could be attributed to their shared association with internalizing issues. Internalizing problems, such as anxiety, are positively associated with both psychopathy-linked narcissism and vulnerable narcissism but negatively associated or weakly related to non-pathological and grandiose forms of narcissism (Barry & Malkin, 2010; Miller et al., 2011; Schoenleber et al., 2011). According to Neumann, Veenema, and Beiderbeck (2010), excessive aggression may develop from emotional dysregulation. In line with this possibility, several studies have found a connection between anxiety and aggression that might precipitate some violent behavior (e.g., Hatfield & Dula, 2014; Korn, Plutchik, & Van Praag, 1997; Vitaro, Brendgen, & Tremblay, 2002). As this study did not directly measure internalizing problems, future research is needed to investigate this possibility.

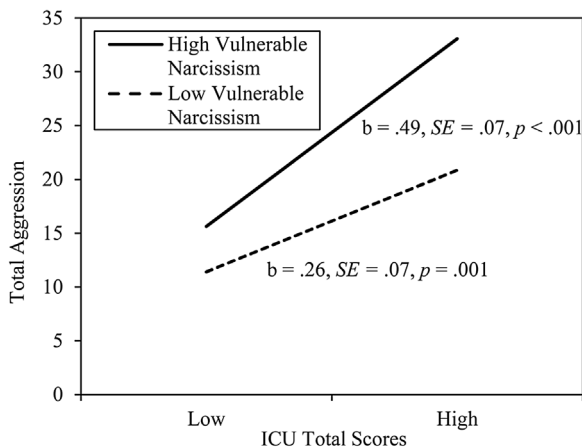


Fig. 2. Interaction between overall CU traits and vulnerable narcissism in the prediction of aggression (Study 2).

Our findings that vulnerable narcissism when combined with CU traits predicted aggression is consistent with previous findings on this topic. Individuals with high levels of CU traits have a lack of concern for others and lack of remorse for wrongdoing, whereas individuals high in vulnerable narcissism may resort to aggression to protect their tenuous sense of self. The callousness aspect of CU traits in particular may be important in this regard, as it specifically involves a lack of concern for others. Thus, the combination of these maladaptive personality features may be a particularly important contributor to aggression toward others. The reason that vulnerable narcissism may be particularly tied to aggression when CU traits are present is likely to be twofold: (i) to obtain social goals (i.e., dominance, superiority, and admiration) and/or (ii) to assuage concerns about social rejection. In line with this second point, evidence has found that anxious rejection sensitivity is associated with aggression (Bondü & Krahé, 2015). Notably, in general, individuals high in vulnerable narcissism tend to be anxious about their social standing and usually experience shame if they aggress toward others (Dickinson & Pincus, 2003). However, based on findings from Study 2, this shame may be attenuated by the presence of CU traits (e.g., lack of guilt/remorse), thus putting a person high in vulnerable narcissism with CU traits at a greater risk for engaging in aggressive behavior.

The finding that non-pathological narcissism did not moderate the relation between CU traits and aggression was unexpected. Both the current study and previous ones have found positive associations between this form of narcissism and overall aggression (Barry et al., 2014). In this way, findings from the current study support the notion that non-pathological narcissism is related to aggression independently of CU traits and does not provide additional predictive utility for aggression in conjunction with CU traits. Furthermore, this form of narcissism may not have served the moderating function evidenced by psychopathy-linked and vulnerable narcissism because it does not relate to emotional problems (e.g., low self-esteem, anxiety) or involve the same self-esteem regulation functions. Indeed, non-pathological narcissism shows positive relations with global self-esteem and negative associations with internalizing problems (Barry & Kauten, 2014; Barry & Wallace, 2010). Thus, for youth with CU traits, a need to maintain a sense of superiority such as that in vulnerable narcissism—as opposed to an arrogant belief that one routinely has that superiority—may predict even greater use of aggression.

Although grandiose and vulnerable narcissism tend to be significantly interrelated, both of these dimensions

have been differentially associated with certain behavioral characteristics, such as aggression (e.g., Krizan & Johar, 2014; Malkin et al., 2013). According to Dickinson and Pincus (2003), because individuals who are high in vulnerable narcissism are so keen on receiving laudatory feedback from others, they have a tendency to overtly express their hostility and anger when they do not receive the social approval that they expect. This process may help explain why there was a unique association between vulnerable narcissism and aggression in the current study.

There are several limitations to the current studies that should be noted. The samples used in both studies were taken from a group of adolescents in a residential placement in which the majority of participants were White males, which may limit the generalizability of the findings to the broader population of adolescents. Furthermore, the cross-sectional design prevented an examination of the developmental trajectory of narcissism and CU traits in terms of how they are temporally related to aggression. In addition, it may be that in some cases, early emergence of aggression and reinforcement of aggression promotes the development of CU traits. The present design prevented investigation of such a possibility. A longitudinal study would allow for the expansion of the current study by considering the potential influences that CU traits and narcissism have on later aggression, as well as the inverse pattern. The single-informant design also may have played a role in the findings in that the associations between variables could be inflated due to rater effects. Multiple sources (e.g., parent-report, clinical measures of CU traits) are needed to further understand how attributes such as CU traits and narcissism are related to various indicators of aggression and other problem behavior. Nevertheless, adolescent self-report carries some advantages such as providing unique information concerning adolescents' self-perceptions (e.g., narcissism) and regarding their behavior, of which other informants may be unaware. Lastly, the Unemotional scale of the ICU demonstrated poor internal consistency across both studies, with the other subscales demonstrating moderate internal consistency. Therefore, we could not consider the unemotionality aspect of CU traits in our hypothesized models.

Future research should continue to explore the impact that different forms of narcissism have on aggression and how other intrapersonal risk factors influence the association between CU traits and youth aggression. In the current study, non-pathological, psychopathy-linked, grandiose, and vulnerable narcissism differed in the extent to which they influenced the relation between CU traits and overall aggression. As noted above, those features (i.e., psychopathy-linked, vulnerable) that have been connected to internalizing problems

such as anxiety and fragile self-esteem appeared to be most relevant for explicating aggression among adolescents high in CU traits. Therefore, the results signal the potential utility of directing intervention efforts toward narcissistic self-presentations that involve attempts to mitigate insecurities. Such characteristics may be particularly relevant for the use of aggression to regulate self-esteem, particularly for youth who lack concern or empathy for others. Further work is also needed to uncover whether the same patterns hold for other forms of antisocial behavior. Additionally, the potential role that internalizing issues play in the present pattern of results should also be explored. Research in this area has the potential to identify specific personality traits (and combinations of those traits) that might be focal points of intervention methods designed to prevent or reduce aggression in adolescents.

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