CONCURRENT AND PROSPECTIVE CORRELATES OF GRANDIOSE AND VULNERABLE NARCISSISM IN A LONGITUDINAL SAMPLE OF AT-RISK MALES

by

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(Under the Direction of Joshua D. Miller)

ABSTRACT

The aim of the present study was to examine the concurrent and prospective correlates of grandiose and vulnerable narcissism. To do this, narcissism scales were created from an existing, broad personality measure. Then, data from a longitudinal sample of at-risk boys were used to examine relations between narcissism as measured by the new scales and variables in childhood and later young adulthood. Grandiose narcissism in childhood was associated with a number of problems in childhood and young adulthood, while vulnerable narcissism manifested less impairment overall. Findings are discussed in relation to the broader call for researchers to work to connect the presently disparate areas of child temperament and adult personality traits in order to understand how personality pathology develops over time.

INDEX WORDS: Narcissism, Vulnerable Narcissism, Grandiose Narcissism, Longitudinal Design, Personality, Externalizing Behaviors

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CHAPTER 1

INTRODUCTION

Narcissism, an antagonistic personality style and disorder associated with preoccupation about the self, has been linked to a number of correlates, both in adulthood and childhood. What is less certain, however, is whether narcissism in childhood predicts important outcomes in adulthood. Furthermore, because they exhibit trait-level differences (i.e., neuroticism and extraversion), appear to have different etiologies, and are perceived differently by others, grandiose and vulnerable narcissism may lead to different outcomes over time. In what follows, I review the current literature related to narcissism in childhood and narcissism in adulthood in order to make predictions about the longitudinal relationship of narcissism to life outcomes in early adulthood in a sample of inner-city boys.

Need for Increased Understanding of Personality Pathology Over Time

Researchers have asserted that much more work is needed to understand the developmental pathways of personality disorders (PDs; e.g., Shiner, 2009) and specifically, narcissism (Hill & Lapsley, 2011). There is an ongoing call to integrate our understanding of temperament (i.e., genetically-based individual differences that can be identified early in life) and personality traits (i.e., broad individual differences in thinking, feeling, and behavior) into a common model in order to better understand personality pathology (Caspi, Roberts, & Shiner, 2005; Widiger, Simonsen, Krueger, Livesley, & Verheul, 2005). As the field stands now, these two areas of research (temperament and personality traits) are largely studied and discussed separately. As Cicchetti and Crick (2009) note, the phenotypes (i.e., observable characteristics or

manifestations of genetic material) of PDs may be different for children and adults. Because child temperament and adult personality are often studied as isolated concepts, this issue is an important one to address. This question is beginning to be addressed, with some evidence accumulating that dark triad traits (i.e., narcissism, psychopathy, and Machiavellianism), manifest similarly in adolescents and adults (Klimstra, Sijtsema, Henrichs, & Cima, 2014). Furthermore, Thomaes and colleagues assert that narcissism is measureable by age 8, and that narcissism in childhood and adulthood overlaps meaningfully (Thomaes, Brummelman, Reijntjes, & Bushman, 2012). In addition to reviewing narcissism specifically, it is necessary to frame this discussion from a broader standpoint in order to understand where the field stands with respect to these concepts.

From a developmental psychopathology perspective, a multidisciplinary framework for understanding change over the lifetime, there are likely multiple causal pathways to developing PDs (equifinality), and there are also likely a number of outcomes stemming from PDs and personality pathology more generally (multifinality). The present study will focus on the latter; that is, concurrent and prospective correlates of traits. The developmental psychopathology perspective emphasizes the importance of multiple levels of analysis, from individual-level information (e.g., genetic correlates) to wider spheres of influence (e.g., neighborhood factors; Beauchaine & Hinshaw, 2008). As we move toward understanding the development of personality pathology over time, it will be important to consider these spheres, taking into account self, parent, family, peer, school, and neighborhood variables, among others. As narcissism may be increasing (Twenge, Konrath, Foster, Campbell, & Bushman, 2008; cf, Trzesniewski, Donnellan, & Robins, 2008), it is critical to understand how narcissism plays out over time if preventative or interventive approaches are to be developed.

From a broad, trait-based perspective, longitudinal research has been conducted to determine the pattern of development of personality traits over time (e.g., Caspi, Roberts, & Shiner, 2005). Much of this research has focused on the five-factor model of personality (FFM; i.e., neuroticism, extraversion, agreeableness, openness to experience, and conscientiousness; Costa & McCrae, 1992). One observed mean-level finding of this body of work is the maturity principle: people tend to become more dominant, agreeable, conscientious, and emotionally stable over the life course. Several researchers (e.g., Roberts, Edmonds, & Grijalva, 2010), discuss the possibility that some level of narcissism is developmentally normative earlier in life. From this perspective, narcissism could be conceptualized as a natural tendency that slowly becomes less predominant as an individual matures and must make commitments to others (e.g., friends, coworkers). However, longitudinal work calls this prediction into question. In a large study that tracked adults from their mid-30s to their late 50s, narcissism was associated with a decrease in empathy (Cramer 2011b), which appears inconsistent with the idea of increased maturity. In fact, reduced empathy suggests that narcissism became more pronounced.

We also know that the rank-order stability of FFM traits, or the degree to which the relative ordering of individuals on a given trait is maintained, is moderately stable (Roberts & DelVecchio, 2000). Personality traits appear to become more stable throughout adolescence and young adulthood. These trends may lend some insight into narcissism over time (from an aggregate level). Because narcissism is strongly related to the trait of antagonism (i.e., the opposite pole of agreeableness), one might expect antagonism to "mellow" over time based on these group-level trends, especially due to the apparent mean-level increase in social maturity (Roberts & Mroczek, 2008). Indeed, narcissism is negatively correlated with age (Foster, Campbell, & Twenge, 2003). In a 20-year longitudinal study, various versions of the California

Q-set, a measure of a range of behaviors, were used to rate personality throughout childhood and young adulthood up to the age of 23 (Carlson & Gjerde, 2009). In this sample, narcissism mean scores increased from middle to late adolescence, and then declined into emerging adulthood. Despite absolute changes in narcissism over time, the relative stability of personality would suggest that narcissistic children and teens will still be more narcissistic than their peers in adulthood, despite an overall decrease in mean scores. Moving forward, it will be important to examine why, and for whom, does narcissism persist (Thomaes, Bushman, de Castro, & Stegge, 2009).

Pathways to Personality Pathology: Relevant Findings in Antisocial PD

Although these trends have been identified, the pathways to PDs have not been established. It is largely unknown whether, or in what way, early manifestations of personality pathology could be indicative of later impairment and consequences. For example, does the manifestation of early narcissism pose a risk for later maladaptive behaviors (e.g., aggression, crime)? The most generative bodies of literature that have addressed questions about pathways have primarily investigated antisocial and psychopathic PDs. For example, Moffitt (1993) identified two pathways of antisocial behavior, one characterized by delinquency only for a brief period of time (adolescence-limited) and the other characterized by childhood antecedents and continuous engagement in delinquent behavior (life course persistent). Lynam and colleagues have found evidence that psychopathy is relatively stable from adolescence to adulthood (Lynam, Caspi, Moffitt, Loeber, & Stouthamer-Loeber, 2007) as well as that it is predictive of later offending (Lynam, Miller, Vachon, Loeber, & Stouthamer-Loeber, 2009). While this literature will not be reviewed here, it is worth noting that studies of narcissism over time could benefit from the example set by these and other studies about the development of antisocial

behavior, including attention to the possibility of different pathways and sophisticated longitudinal designs.

Clinically-Defined Narcissism is Associated with Consequences and Impairment in Adulthood

One area of personality pathology, narcissism, is associated with multiple consequences in adulthood but has not yet been fully explored over time. Thomaes and colleagues have called for increased research devoted to understanding narcissism from its early manifestations to its later implications in adulthood (Thomaes, Bushman, de Castro, & Stegge, 2009; Thomaes, Brummelman, Reijntjes, & Bushman, 2012). The clinically diagnosed form of adult narcissism, narcissistic personality disorder, is associated with distress (i.e., anxiety and depression) and impairment in multiple domains, including work, romantic, and social settings (Miller, Campbell, & Pilkonis, 2007). Adult narcissism, fundamentally, involves a pattern of interpersonal behaviors that negatively impact others. In adults receiving psychiatric treatment, higher levels of narcissistic personality disorder (NPD; based on diagnostic criteria from the Diagnostic and Statistical Manual of Mental Disorders, DSM-IV) have been associated with interpersonal impairment (e.g., domineering, vindictive, and intrusive styles of interaction) and higher rates of treatment dropout (Ogrodniczuk, Piper, Joyce, Steinberg, & Duggal, 2009). Given this substantial impairment and impact on others in adulthood, it is important to determine whether narcissism can be identified in childhood, and whether it predicts later adult narcissism and associated outcomes. Also, it is important to study narcissistic traits in addition to clinical symptoms of NPD. Most of the work reviewed in the present uses non-clinical samples. This is especially true for children, who would not possess an NPD diagnosis. Thomaes, Bushman, de

Castro, and Stegge (2009) provide a good overview of the development of narcissism over time, some of which will be discussed here.

Understanding and Assessing Narcissism in Childhood and Adolescence

Investigation of narcissism in children has only recently begun in earnest (Barry & Wallace, 2010). As Barry and Ansel (2011) note, there is not yet a theoretical model of youth narcissism. A number of correlates of narcissism have been identified, but it is still unclear whether childhood narcissism predicts later difficulties or pathology in adulthood. Additionally, some researchers have hypothesized that different manifestations of narcissism may lead to different outcomes in childhood (Barry & Wallace, 2010). Research from social-personality literature, which predominantly assesses narcissism via the Narcissistic Personality Inventory (NPI), recognizes narcissism as related to both positive (e.g., "adaptive") and negative qualities, as opposed to a more clinical, primarily maladaptive conceptualization of narcissism (Miller & Campbell, 2008).

One of the first issues that must be addressed when linking the child and adult literature is to develop a common terminology and conceptualization of narcissism; at present, there is incomplete agreement about these definitions. An empirically-based way to frame the study of narcissism is by employing a dual taxonomy of narcissism. As we seek to understand the different ways that narcissism may manifest, a focus on grandiose and vulnerable narcissism in adult samples has permeated the literature base (e.g., Wink, 1991; Pincus & Lukowitsky, 2010). Grandiose narcissism is characterized by extraversion and has an interpersonal presentation that initially is viewed positively by others (Friedman, Oltmanns, Gleason, & Turkheimer, 2006), although this positive perception changes polarity over time (i.e., becomes negative; Paulhus, 1998). Vulnerable narcissism is characterized by introversion and neuroticism (i.e., susceptibility

to anxiety and depression). Both narcissism variants share a propensity for antagonistic interpersonal behavior, but they demonstrate disparate nomological networks (Miller et al., 2011), including differential relations to putatively relevant etiological variables such as childhood trauma, received parenting, and attachment.

Only very recently has attention been paid to these specific dimensions in research about childhood narcissism. The two most frequently used measures that have been used to assess childhood narcissism are the Narcissistic Personality Inventory (NPI, or NPI-C when modified for use with children; Raskin & Terry, 1988) and the Pathological Narcissism Inventory (PNI; Pincus, Ansell, Pimentel, Cain, Wright, & Levy, 2009). Both the NPI and the PNI were originally developed for use with adult samples. Whereas the NPI has been modified for use with adolescent and child samples, the PNI was used in its original, adult form in the studies reviewed here. Use of these measures has revealed that narcissism in childhood is associated with a number of behaviors and characteristics; however, these different measures sometimes generate findings that could be interpreted as contradictory. The differences between NPI and PNI findings in children may be explained by framing these measures as they tap differentially into these narcissism dimensions. Of the current frequently-used measures of narcissism, some reflect a more grandiose style, some were intentionally created to assess vulnerable narcissism, and some appear to assess aspects of both variants of narcissism. Of the measures mentioned here (whether used for children or adults), the NPI generally reflects grandiose narcissism and the PNI contains subscales that assess both variants, albeit with an emphasis on the vulnerable/fragile aspects of narcissism (e.g., Miller, McCain et al., 2014).

One of the foremost researchers of childhood narcissism, Barry has conceptualized the NPI as reflecting “adaptive” narcissism (e.g., Barry, Grafeman, Adler, & Pickard, 2007b)

because it reflects qualities of leadership and self-esteem, which may be developmentally appropriate in adolescence (Barry & Kauten, 2014). However, Barry and others have noted that the NPI may include a mix of adaptive and maladaptive qualities, which may explain the so-called paradoxical findings in the literature. This explanation for inconsistent findings is also echoed by Ackerman and colleagues in studies involving adult scores on the NPI (Ackerman et al., 2011). Additionally, a small number of recent studies (both child and adult) have separated aspects of the NPI/NPI-C by grouping items associated with entitlement, exploitation, and exhibitionism into a maladaptive subscale, and leaving the rest to reflect a so-called adaptive subscale of narcissism. Conversely, the PNI has been conceptualized as reflective of maladaptive narcissism. Evidence suggests that the NPI and PNI do not overlap strongly, and studies of the association between subscales in adults reflect different patterns of relations (e.g., Maxwell, Donnellan, Hopwood, & Ackerman, 2011). However, framing these dimensions of narcissism as either adaptive or maladaptive is misleading. Some researchers argue that both manifestations of narcissism are associated with significant impairment, especially interpersonally, and thus NPI narcissism may not be best conceptualized as beneficial or adaptive. NPI narcissism does indeed correlate with NPD as measured from a clinical framework (Miller, Gaughan, Pryor, Kamen, & Campbell, 2009), and it generates personality profiles that are strongly related to expert ratings of prototypical cases of NPD (e.g., Miller, Lynam, & Campbell, in press; Miller, McCain, et al., 2014). In the following section, I will review correlates of narcissism in childhood and adolescence in a variety of domains.

Parenting. The question of whether parenting contributes to the development of narcissism is an area of recent empirical interest. It is difficult to answer this question for two major reasons: (1) narcissism is defined and measured in different ways, and (2) parenting

practices are operationally defined and measured in different ways (Horton & Tritch, 2014). There are also multiple theoretical perspectives that attempt to explain how parenting could influence narcissism, with more initial evidence for social learning processes than for psychoanalytic factors (Brummelman, Thomaes, Nelemans, Orobio de Castro, Overbeek, & Bushman, 2015). Specifically, parental overvaluing (e.g., seeing one's child as more entitled and special than other children), as interpreted via a social learning lens (e.g., that children model the behavior of others), predicts increases in child narcissism over time. To investigate this phenomenon further, Brummelman and colleagues (e.g., Brummelman, Thomaes, Nelemans, Orobio de Castro, & Bushman, 2015) recently developed a scale to assess parental overvaluation. Notably, parents who are likely to overvalue their children are more likely to be narcissistic themselves, so it is difficult to tease apart the genetic and environmental factors related to overvaluation.

In terms of parenting behaviors such as punishment and monitoring, grandiose narcissism has been linked to receiving positive parenting (e.g., parental involvement, positive reinforcement), whereas vulnerable narcissism has been linked to inconsistent discipline (Mechanic & Barry, 2014). In this same study, both grandiose and vulnerable narcissism were linked to poor monitoring and supervision. Vulnerable narcissism has also been linked to retrospective reports of child abuse and invalidating parenting styles (Miller, Dir, Gentile, Wilson, Pryor, & Campbell, 2010) as well as maladaptive attachment styles (Miller, Hoffman, Gaughan, Gentile, Maples, & Campbell, 2011). In another study, NPI narcissism was positively related to retrospective reports of parental warmth and negatively related to parental monitoring (Horton, Bleau, & Drwecki, 2006). In a follow-up to that study, NPI narcissism was positively related to psychological control and negatively related to parental coldness and again, monitoring

(Horton & Tritch, 2014). Notably, the correlations between grandiose narcissism and specific parenting styles tend to be smaller than those of vulnerable narcissism.

Besides specific parental behaviors, broad parenting styles have also been analyzed in the context of narcissism. In a longitudinal study of narcissism from age 3 to age 20, received parenting styles were related to the development of so-called adaptive narcissism; however, early narcissism scores (as measured by the California Q-set) were the best predictors of later maladaptive narcissism (Cramer, 2011a). Although a variety of parenting styles were investigated, the styles related to maladaptive narcissism were associated with developmentally inappropriate responses (i.e., either over-attending or under-attending to the child's needs, depending on age). Of note, the meaningfulness of early narcissism scores in this study is tenuous. It is unclear whether narcissism in age 3 is truly measureable or observable, especially considering the developmentally normative focus on the self that occurs at that young age. However, based on the studies reviewed, parenting appears to be important for the development of narcissism, but researchers have yet to determine consistent relations in this domain.

Aggression. Due to narcissism's association with antagonism, multiple studies have explored its links with aggressive behaviors. Grandiose narcissism, as measured by the NPI-C, has been linked to peer perceptions of increased relational aggression (*Mean* age = 16.8; Golmaryami & Barry, 2010) as well as high self-esteem and aggression in adolescents (*Mean* age = 17.1; Barry & Kauten, 2014). NPI-measured components of narcissism have also been linked to different types of aggression in middle schoolers (ages 12-14, Ojanen, Findley, & Fuller, 2012; *Mean* age = 12.5, Washburn, McMahon, King, Reinecke, & Silver, 2004). Exploitativeness (i.e., intentionally taking advantage of others so as to benefit) was related to self-reported proactive (i.e., purposeful or planned) aggression, whereas exhibitionism (e.g.,

showing off, seeking attention) was related to internalizing symptoms (i.e., depression and anxiety). In a meta-analysis of child and adolescent aggression (*Mean* age = 9.8), direct aggression (i.e., physical reactions and overt verbal attacks) was related to low prosocial behavior, poorer peer relations, and externalizing problems (Card, Stucky, Sawalani, & Little, 2008). Conversely, and interestingly, indirect aggression (i.e., manipulating relationships or damaging someone's social position covertly) was related to increased prosocial behavior and internalizing problems, suggesting that it may be useful to delineate different forms of aggression in childhood. Within a study on psychopathic traits in children (community sample *Mean* age = 10.7; clinical sample *Mean* age = 8.5), narcissistic traits were related to a number of externalizing behaviors, including oppositional defiant disorder, conduct disorder, and attention deficit/hyperactivity disorder (Frick, Bodin, & Barry, 2000).

Self-reported narcissism in adolescents (*Mean* age = 17), as measured by the PNI total score, has been positively linked to self-reported prosocial behavior as well as aggression (Kauten & Barry, 2014). The Self-Sacrificing Self-Enhancement PNI subscale (SSSE) was determined to be the strongest driving force behind prosocial behavior, whereas Exploitativeness and Entitlement Rage were related to aggressive behavior. This unexpected relationship between a narcissism subscale and more adaptive behaviors can be explained through other findings specific to the SSSE subscale. SSSE is primarily related to high extraversion and openness from the five-factor model perspective (Miller, Hoffman, et al., 2011), a communal interpersonal style (Pincus et al., 2009), does not tend to load with either grandiose or vulnerable narcissism scales (Miller, Price, Gentile, Lynam, & Campbell, 2012), and generates a personality profile unrelated to NPD (Miller, Lynam, & Campbell, in press). However, in this same sample, overall self-

reported narcissism was not significantly correlated with peer reports of prosocial behavior or aggression.

Mental health. NPI-C narcissism has been linked to a lower occurrence of internalizing problems (*Mean* age = 17.04; Barry & Kauten, 2014). Adolescent narcissism as measured by the PNI has been linked to low self-esteem, internalizing problems, and negative interpersonal relationships (*Mean* age = 17.04; Barry & Kauten, 2014). These findings in adolescence are consistent with the adult literature addressing vulnerable narcissism's association with high neuroticism.

Narcissism has been associated with college adjustment problems and mental health difficulties. In adults, Wink (1992) identified three narcissism scales using the California Adult Q-set by having expert raters sort 100 items to reflect the "typical" narcissistic person (i.e., a prototype). Factor analysis yielded three factors: willfulness ("overt" narcissism, which can denote grandiose narcissism), hypersensitivity ("covert" narcissism, which is another term for vulnerable narcissism), and autonomy ("healthy" narcissism"). A cluster analysis of adolescent narcissism has also identified these three clusters of narcissism (Lapsley & Aalma, 2006). Additionally, these narcissism factors, as measured by the Q-set, have been tracked in a large longitudinal study following adults from their mid-30s to late-50s (Cramer, 2011b). Willfulness, or grandiosity, manifested a decline in agentic behaviors. All factors of narcissism in this study were related to a decline in communal behaviors such as empathy over time.

Predictions of delinquency and adjustment. As noted above, the relationship between childhood narcissism and later behaviors is a relatively new area of exploration. In a three-year longitudinal study of children, a combination of the entitlement, exploitativeness, and exhibitionism (i.e., maladaptive) subscales of the NPI-C was uniquely predictive of later

delinquency at one-, two-, and three-year follow-ups (initial *Mean* age = 11.9; Barry, Frick, Adler, & Grafeman, 2007a). Furthermore, these subscales of narcissism were related to negative parenting styles (e.g., poor monitoring, inconsistent and corporal discipline), although the directionality of this relationship was not discernible in the study design. What have been called the more "adaptive" aspects of narcissism (i.e., the leadership and self-sufficiency subscales of the NPI-C) were not linked to delinquency unless positive parenting (i.e., parental involvement and positive reinforcement) was not present, suggesting again that the type of narcissism assessed matters.

Narcissism has been studied in a variety of settings including treatment facilities for teenagers and in prison. Multiple studies have established that the rate of narcissism is higher in the prison population than in the general population; this was true even in a recent study of young offenders (*Mean* age = 20; Herrington, Barry, & Loflin, 2014). In a study of at-risk male and female teenagers attending a 22-week military-style residential treatment program (*Mean* age = 16.7; Grafeman, Barry, Marcus, & Leachman, 2015), self-reported narcissism via the NPI-C was related to being rated as more antagonistic and more likely to engage in delinquent behaviors by peers in the same program. In another sample enrolled in the same program (*Mean* age = 17.1; Hepper, Hart, Meek, Cisek, & Sedikides, 2014), the "maladaptive" factor from the NPI-C (i.e., entitlement, exhibitionism, and exploitativeness) was related to disciplinary citations received in the program, although it was surprisingly not related to self- or parent-reports of a history of delinquent or aggressive behavior. Of note, though, disciplinary citations received in the program were not associated with delinquent histories regardless of narcissism score.

Measurement Concerns Regarding Childhood Narcissism and Variants of Narcissism

As noted, the PNI was not modified for use with adolescents in these studies. This concern about the PNI calls into question the childhood narcissism findings thus far. How well has narcissism been assessed in children? And although the PNI was not modified, the NPI has been downward extended to form the NPI-C. There are concerns relevant to both of these techniques. On the one hand, items that were initially developed and validated with adult samples may not be appropriate or understandable to children (e.g., "I often fantasize about accomplishing things that are probably beyond my means."). On the other hand, simply modifying phrases to be more relevant to children poses a problem because there may be items that would have been in the initial item pool that were not considered for the adult sample and thus may not be considered at all. These questions regarding the "ideal" assessment of narcissism are not limited to the literature about childhood narcissism, as the literature on the best ways of assessing narcissism in adulthood is notoriously contentious (e.g., Pincus & Lukowitsky, 2010; Miller, Lynam, & Campbell, in press; Miller, McCain, et al., 2014).

Measures of narcissism in childhood are beginning to be developed; however, they will only briefly be addressed here as they are only beginning to gain traction and are currently not as frequently used the PNI and NPI-C. These measures were initially developed in other countries and have been more recently tested in U.S. children. A promising, brief measure of childhood narcissism has been recently developed in the Netherlands and is available in English (i.e., the Childhood Narcissism Scale; Thomaes, Stegge, Bushman, Olthof, & Denissen, 2008). Another measure, the Narcissistic Personality Questionnaire for Children has also been developed (Ang, & Raine, 2009). It was initially constructed and tested in Singapore, and has recently been validated with a U.S. sample (Loke & Lowe, 2014).

How Does Self-Esteem Relate to Narcissism and Externalizing Behavior?

As noted in the review of findings relating narcissism and aggression, self-esteem is also an important construct that is worth differentiating from narcissism in this review. Self-esteem can be defined as a positive evaluation of oneself and one's own worth. There is debate about the relationship between self-esteem and narcissism (e.g., Barry, Frick, & Killian, 2003; Rosenthal & Hooley, 2010; Miller, Maples, & Campbell, 2011), and this relationship may be different for children as opposed to adults (Golmaryami & Barry, 2010). High self-esteem could have adaptive elements in childhood, but it may become more problematic in adulthood. It appears that low self-esteem may be related to conduct problems in youth; however, the combination of high narcissism and high self-esteem was most strongly related to relational aggression in adolescents (*Mean* age = 16.7; Barry, Grafeman, Adler, & Pickard, 2007b) whereas the combination of high narcissism and low self-esteem has been associated with conduct problems (*Mean* age = 11.9; Barry, Frick, & Killian, 2003). In a sample of at-risk adolescents, narcissism, not self-esteem, was associated with delinquency and aggression (*Mean* age = 16.7; Barry et al., 2007b). The relationship between narcissism and self-esteem differed with respect to their relationships with different types of aggression in a sample of children (*Mean* age = 10.8; Barry et al., 2007c). In adult research, self-esteem has been contrasted with narcissism by comparing self-concept, where self-esteem is related to both agentic and communal traits, and narcissism is related only to agentic traits (Campbell, Rudich, & Sedikides, 2002). Low self-esteem in children and adolescents has been linked to externalizing behaviors, independently of NPI-measured narcissism, which was also linked to self-reported aggression (Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005). Low self-esteem in adolescence has also been associated with poorer mental and physical health along with increased criminal behavior in adulthood (Trzesniewski et al., 2006). However, others have asserted that low self-esteem is not a primary cause of

aggressive behavior; rather, threatened egotism (i.e., challenges to high self-esteem associated with narcissism) appears to lead to aggression (Bushman & Baumeister, 1998; Baumeister, Bushman, & Campbell, 2000). Notably, when seeking some convergence with respect to these findings, age may be an important factor, such that self-esteem in childhood and adolescence emerges in different ways.

The Present Study

Although much work has begun to answer questions about narcissism during the life span, there are gaps between the child and adult literature. The goal of the present study is to examine the concurrent correlates and long-term outcomes of grandiose and vulnerable narcissism. To do so, measures of grandiose and vulnerable narcissism will first be created by correlating frequently used measures of narcissism with items from a personality measure (the common language California Q-set) used in a longitudinal study of at-risk boys in Pittsburgh. These measures will be used to answer questions posed in the above discussion: Does childhood narcissism predict adult outcomes? Is there a difference between grandiose and vulnerable narcissism in childhood, and does this difference play out in different ways over time?

Hypotheses

Concurrent correlates

Based on the relationship between narcissism and antagonism, I predict that narcissism in childhood will be related to higher ratings of delinquent behavior and aggression. Given past research linking vulnerable narcissism and maltreatment, I predict that vulnerable narcissism will be related to more family conflict and less positive parenting styles.

Long-term outcomes

Given that central components of narcissism are antagonistic intra- and interpersonal traits (e.g., self-absorption; manipulativeness; callousness), I predict that both manifestations of childhood narcissism will be related to a higher delinquency rating, self-reported arrests, and court-reported convictions. Because research supports narcissism as interpersonally impairing in multiple spheres, including work, I predict that childhood narcissism will predict lower rates of current young adult employment (and similarly, greater periods of unemployment). Given evidence that grandiose narcissism has negative consequences within long-term relationships (e.g., Campbell & Campbell, 2009), I predict that grandiose narcissism will be associated with higher rates of divorce. Because vulnerable narcissism is associated with introversion and neuroticism, I hypothesize that individuals who are vulnerably narcissistic will report lower rates of being in a current relationship or living with a significant other. I also predict that vulnerable narcissism will be related to higher rates of internalizing disorders such as anxiety and depression, due to its established association with neuroticism.

CHAPTER TWO

METHOD

Participants

Sample 1. Participants (N = 198; 61.6% male; 73.2% White; *Mean* age = 19.74, *SD* = 1.67) were undergraduate students recruited from a research participant pool at a large Southeastern university. Participants gave written informed consent, completed questionnaires, and received research credit.

Sample 2. Undergraduate student participants (N = 240; 64.6% male; 74.2% White; *Mean* age = 18.99, *SD* = 1.46) were recruited from a research participant pool at a large Southeastern university. Participants gave written informed consent, completed questionnaires, and received research credit.

PYS Sample. Participants (N = 266) were male adults (*Mean* age = 24.04, *SD* = 0.91) who participated in a life history interview in their mid-20s as part of a longitudinal study (the Pittsburgh Youth Study (PYS); Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998) intended to assess the antecedents and consequences of delinquent behavior. These participants were initially recruited in the Pittsburgh at age 10 and were reassessed once at age 12-13 as well as another time at age 22-26 (see Procedure for more details). The sample size represents the individuals who were assessed at all three time points (see Procedure for more information regarding attrition). Concurrent analyses will use all participant data available from the initial screening (N = 508). Predictive analyses will use data available from the interview in young adulthood (N = 297).

This sample represents the "middle sample" of the PYS – two other cohorts (one younger and one older) were assessed in the context of this study; only data from the middle sample was available and used for the present study.

Materials: Samples 1 and 2

Demographics. Participants were asked to complete questions about their ethnicity, age, gender, and year in college.

Hypersensitive Narcissism Scale (HSNS). The HSNS (Hendin & Cheek, 1997) is a 10-item self-report measure of hypersensitivity, entitlement, and vulnerability. The items are rated on a 1 (*very uncharacteristic*) to 5 (*very characteristic*) scale. The HSNS produces a single score to reflect vulnerable narcissism. Cronbach's alpha was .76 for Sample 1 and .67 for Sample 2.

Narcissistic Grandiosity Scale (NGS). The NGS (Rosenthal et al., 2007) asks participants to rate themselves on 16 adjectives such as "superior" and "omnipotent" on a 1 (*not at all*) to 7 (*extremely*) scale. The NGS produces a single score to reflect grandiose narcissism. Cronbach's alpha was .95 for Sample 1 and .94 for Sample 2.

Narcissistic Personality Inventory (NPI). The NPI (Raskin & Terry, 1988) is a 40-item forced-choice assessment of grandiose narcissism on which participants rate each item as true or false. Factor analysis has been used to identify three subscales of the NPI (Ackerman et al., 2011). Ackerman and colleagues have conceptualized the 4-item Entitlement/Exploitation subscale (NPI EE; Sample 1 $\alpha = .51$; Sample 2 $\alpha = .55$) as reflective of more maladaptive aspects of narcissism, whereas the other two subscales, Leadership/Authority (NPI LA; Sample 1 $\alpha = .79$; Sample 2 $\alpha = .85$) and Grandiose Exhibitionism (NPI GE; Sample 1 $\alpha = .71$; Sample 2 $\alpha = .78$) are thought to tap into elements that may be considered more adaptive. Cronbach's alpha for the total NPI measure was .86 for Sample 1 and .89 for Sample 2.

Pathological Narcissism Inventory (PNI). The PNI (Pincus, Ansell, Pimentel, Cain, Wright, & Levy, 2009) is a 52-item measure of vulnerable and grandiose narcissistic traits. Items are rated from 0 (*not at all like me*) to 7 (*very much like me*). The PNI consists of seven subscales. Four of these subscales reflect vulnerable narcissism: Contingent Self-Esteem (CSE; Sample 1 α = .92; Sample 2 α = .90), Hiding the Self (HS; Sample 1 α = .76; Sample 2 α = .74), Devaluing (DEV; Sample 1 α = .84; Sample 2 α = .80) and Entitlement Rage (ER; Sample 1 α = .86; Sample 2 α = .80). The remaining subscales reflect primarily grandiose narcissism: Exploitative (EXP; Sample 1 α = .83; Sample 2 α = .80), Self-Sacrificing Self-Enhancement (SSSE; Sample 1 α = .73; Sample 2 α = .71), and Grandiose Fantasy (GF; Sample 1 α = .83; Sample 2 α = .81). However, these subscales are not necessarily pure reflections of one narcissism variant as the putative grandiose subscales demonstrate more limited fit with expert conceptualizations of this construct (Miller, McCain, et al., 2014). Thus, the PNI subscales are considered individually in the present analyses and are not pre-grouped.

Common Language Childhood Q-set. Based on Block and Block's (1980) original items, 100 statements were modified by Caspi et al. (1992) to reflect a wide range of behaviors in terms understandable to the layperson. Participants in samples 1 and 2 completed a self-report version of the Q-set by rating their agreement with each statement from 1 (*least characteristic of you*) to 9 (*most characteristic of you*).

Materials: PYS Sample

Initial screening of randomly selected 4th graders

Child, caregiver, and teacher reports were obtained for the initial screening. Children completed the Self-Reported Antisocial Behavior Scale (SRA; Loeber et al., 1989), a 40-item, age-adjusted version of the Self-Reported Delinquency Questionnaire with additional questions

about substance use. Caregivers (predominantly mothers) completed the Child Behavior Checklist (Achenbach & Edelbrock, 1983) and the Perception of Child Problem Behavior Scale. Teachers completed a version of the Child Behavior Checklist (Achenbach & Edelbrock, 1986) to which 23 items were added assessing antisocial behavior. Scores from these measures were combined to create a risk score (either low or high) from which the sample was drawn (see Procedure for more information).

Assessment measures given in 5th grade

Demographics. All participants from the PYS were male. Ethnicity (white, black, Hispanic, Asian, or biracial were available codes), family socioeconomic status (SES; based on Hollingshead's (1975) index), and neighborhood SES variables were obtained. Tract level variables from census reports were used to characterize neighborhood composition (i.e., SES).

Common Language California Q-Set (Q-Set). Based on the original set of psychodynamically derived items developed by Block and Block (1980), the Q-set (Caspi et al., 1992) includes 100 items (in terms understandable to the layperson) that assess a range of behaviors. Caregivers completed the Q-set in order to provide a rating of their son's personality. Items were administered through sorting, where caregivers were asked to sort each item individually into categories ranging from 1 (*least characteristic of him*) to 9 (*most characteristic of him*). These items initially were administered to assess general personality and were used to create FFM scores for each child participant.

Delinquency (self and peer). A rating of delinquency was available from 0 (no delinquent acts to date) to 5 (multiple serious acts). Values were assigned based on child self-report on the SRA (see White et al., 1994 for a detailed breakdown of these ratings). Of note, this coding system was designed to reflect seriousness of behaviors rather than simply counts of

delinquent acts. Children also completed a 15-item scale assessing delinquent behaviors of their peers. A peer delinquency variable was constructed to reflect the proportion of friends reported by participants to have engaged in delinquent behaviors.

Home environment. Both child and caregiver completed measures about received parenting practices; from this information, four scores were generated. These scores included amount of physical punishment administered by the caregiver, inconsistent discipline, extent of parental supervision (scored in reverse as lax supervision), and use of positive parenting techniques (scored in reverse as low positive parenting).

Cognitive functioning. A brief measure of intelligence was obtained via a short form of the Wechsler Intelligence Scale for Children, Revised (WISC-R; Weschler, 1974). Total IQ, Verbal IQ, and Performance IQ scores were available.

Impulsivity. Multiple measures of impulsivity (both free-standing tests and subtests from existing measures) were administered. These measures were coded as two scores grouped into dimensions of impulsivity, based on factor analysis (White et al., 1994). A cognitive impulsivity score, which reflects effortful and planful cognitive activity, was generated from performance on a trail making test, a Stroop test, time perception, a disinhibition task, circle tracing, and a delay of gratification task. A behavioral impulsivity score, which reflects level of disinhibited and undercontrolled behavior, was generated from caregiver-reported undercontrol, observer-rated motor restlessness, teacher-reported impulsivity, self-reported impulsivity, and observer-rated impatience-impersistence.

Early adulthood outcomes

Life History Interview. In young adulthood (*Mean* age = 24.11, *SD* = .93, Range = 21.8 – 27.4), 297 participants completed a structured life history interview conducted in their homes (or in some cases, in prison).

Home life. If participants had children, the age at which they had their first child was recorded. Fatherhood before age 18 (i.e., teenage fatherhood) and unplanned first-born children were coded as binary variables. Information about relationships was also obtained, including rates of marriage, cohabitation (e.g., whether and for how long they had lived with a partner), and divorce.

Education. Educational attainment (or equivalent training) was coded as a continuous variable from 7 (junior high school) to 18 (graduate level training). Binary variables regarding school history were obtained, including graduation from high school, dropping out of school, being expelled from school, and obtaining a GED (General Education Development; a high school degree equivalent).

Employment. Time spent engaged in full-time or part-time work during the past two years was obtained, as well as overall rate of unemployment. These rates were converted to reflect proportion of time relative to the age of the participant.

Externalizing Behaviors. Self-reported criminal behavior was obtained. Also, documentation of convictions through age 27 was obtained via court records. The data available for the present study includes the total number of arrests and the variety of crimes committed, as well as the total number of convictions along with the variety of convictions obtained. This information was also converted into scores to reflect the proportion of time spent in jail or arrested.

Psychopathy. Also in young adulthood, the interviewer-rated Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox, & Hare, 1995) was used to assess psychopathy. The PCL:SV assesses four aspects of psychopathy (interpersonal style, affect, impulsivity, and antisocial behavior) and is structurally similar to the PCL-R (Psychopathy Checklist; weighted mean r = .80), a frequently used measure of psychopathy (Lynam, Caspi, Moffitt, Loeber, & Stouthamer-Loeber, 2007). The total PCL-R score and four facet scores (interpersonal, affective, impulsive/lifestyle, and antisocial behaviors) are presented here. Additionally, antisocial personality disorder (ASPD) symptom count and whether a participant met criteria for an ASPD diagnosis was recorded.

Substance use. Use of substances, including cigarettes, alcohol, and other drugs, was recorded. Rate of use as well as variety of drugs used was also coded. Heavy alcohol use (typically drinking five or more drinks in one sitting) was coded as a binary variable.

Internalizing symptoms. Information about internalizing symptoms were assessed during the interview and were coded into scores for anxiety, depression, and somatization based on DSM-IV criteria.

Procedure

Sample 1. Participants were recruited via a research participant pool at a large southeastern university. Data were collected via an online website, Qualtrics.

Sample 2. Participants were again recruited via a research participant pool at a large southeastern university. Data were collected in small classrooms in groups of approximately 15 participants at a time.

Pittsburgh Youth Study (PYS). Participants were initially recruited in 1987 and 1988. Public school records from the Pittsburgh Board of Education were obtained in order to identify

all males currently enrolled in 4th grade. From the list of enrolled boys, 1,432 males were randomly selected for recruitment. After contacting 1,004 boys, 868 4th grade boys (*Mean* age = 10) in Pittsburgh, Pennsylvania, were recruited and screened. Based on previous disruptive behavior (from self-, caregiver- and teacher-reports; see Materials), boys were classified according to risk for delinquency and criminal behavior. From these classifications, the highest 30% of boys at risk were selected for inclusion along with a randomly selected subset of the lower 70%, forming a sample of 508 boys.

In 1990, 80% of boys were assessed more thoroughly (between ages 12-13). Adolescents who did not participate in this second assessment did not differ on race, SES, delinquency, or risk status. Finally, in 1999-2000, approximately 60% of the original sample completed a life history interview (N = 297, *Mean* age = 24.04, SD = 0.91). Of the original sample, those who demonstrated attrition did not differ on most variables, including age, SES, personality, IQ, education, occupation, or delinquency. However, they did differ on ethnicity, neighborhood status, and family structure. That is, those who were excluded were more likely to be Black, exhibited lower neighborhood SES, and were from single-parent homes.

CHAPTER 3

RESULTS

Creation of narcissism composites. First, Sample 1 was used to create measures of grandiose and vulnerable narcissism. All narcissism subscales (those from the PNI and NPI), as well as totals from the HSNS and NGS, were z-scored. Exploratory factor analysis was used to determine how subscales grouped together. This procedure was selected so that scale development would be data-driven rather than theory-driven, especially as there are inconsistencies in the literature regarding the grandiose/vulnerable delineation between some scales such as the PNI subscales. A principal axis factoring extraction method was used with oblimin rotation so that the factors were allowed to correlate (due to expected overlap). The data suggested that either two or three factors could be extracted (first five Eigenvalues: 4.48, 2.12, 1.14, .83, .64). To extract factors based on empirical support, additional analyses were implemented. A MAP (minimum average partial) test supported two factors; Parallel Analysis suggested up to three factors could be extracted. Two factors were extracted as they were empirically consistent with previous factor analyses of these types of scales (e.g., Miller et al., 2011; Table 1). Based on this analysis, z-scores from NPI LA, NPI GE, NPI EE, NGS total and PNI EXP (factor loadings ranged from .53 to .81) were summed to form a grandiose narcissism composite. Similarly, z-scores from HSNS total, PNI CSE, PNI DEV, PNI ER, PNI HS, and PNI GF (factor loadings ranged from .39 to .88) were summed to form a vulnerable narcissism composite. As has been found in other studies (e.g., Miller, Price, Gentile, Lynam, & Campbell,

2012), the PNI SSSE subscale did not clearly map onto either factor (grandiose factor loading = .22; vulnerable factor loading = .29), and thus was not included in further analyses.

Initial item selection. Using Sample 1, each narcissism composite (grandiose and vulnerable) was correlated with Q-set items (Table 2). Items with correlations of greater than |.30| were retained for scales. For the 15-item grandiose narcissism scale, Cronbach's alpha was .83 and the mean inter-item correlation was .25. For the 29-item vulnerable narcissism scale, Cronbach's alpha was .92 and the mean inter-item correlation was .28. The correlation between the two scales was statistically significant (r = .22; p<.01). The Q-set scales were also compared with narcissism subscales to ensure they exhibited expected patterns (Table 3). The grandiose composite correlated with all related subscales at p<.01 (rs ranged from .40 to .59). The vulnerable composite correlated with all related subscales at p<.01 (rs ranged from .34 to .66).

Initial item revision. Item-specific statistics were analyzed for each initial scale (Tables 4 and 5). Items were removed if their deletion would increase the overall scale alpha. Tables 4 and 5 reflect items that were dropped: two items were dropped from the grandiose scale, and four items were dropped from the vulnerable scale. The revised item list for Sample 1 is presented in Table 6. For the 13-item revised grandiose narcissism scale, Cronbach's alpha was .83 and the mean inter-item correlation was .28. For the 25-item revised vulnerable narcissism scale, Cronbach's alpha was .92 and the mean inter-item correlation was .32. The correlation between the two scales was statistically significant (r = .15; p<.05). The revised Q-set scales were also compared with narcissism subscales to ensure they exhibited expected patterns (Table 7). The grandiose composite correlated with all related subscales at p<.01 (rs ranged from .41 to .58). The vulnerable composite correlated with all related subscales at p<.01 (rs ranged from .30 to .65).

Scale validation. The revised grandiose and vulnerable narcissism scales were validated using data from Sample 2. Q-set items were summed to create grandiose and vulnerable scales based on the Sample 1 revised items. For the 13-item grandiose narcissism scale, Cronbach's alpha was .83 and the mean inter-item correlation was .27. For the 25-item vulnerable narcissism scale, Cronbach's alpha was .89 and the mean inter-item correlation was .26. The correlation between the two scales was statistically non-significant (r = -.13; ns).

The revised Q-set scales were also compared with narcissism subscales to ensure they exhibited expected patterns with established measures of narcissism in Sample 2 (Table 8). Consistent with the original composites, the grandiose narcissism scale was significantly positively correlated with NPI LA (r = .66; p<.01), NGS total (r = .52; p<.01), PNI EXP (r = .58; p<.01), NPI GE (r = .63; p<.01), and NPI EE (r = .39; p<.01). In addition, the grandiose narcissism scale was positively correlated with three subscale measures that were also part of the vulnerable narcissism scale: PNI ER (r = .35; p<.01), PNI GF (r = .19; p<.01), and PNI DEV (r = .17; p<.01). Notably, these three subscales are all from the PNI, which does not clearly line up with narcissism variants by subscales.

Also consistent with the original composites, the vulnerable narcissism scale was significantly positively correlated with PNI CSE (r = .58; p<.01), HSNS total (r = .56; p<.01), PNI DEV (r = .41; p<.01), PNI ER (r = .33; p<.01), PNI HS (r = .23; p<.01), and PNI GF (r = .18; p<.01). In addition, the vulnerable narcissism was significantly negatively correlated with a few of the subscales intended to tap into grandiose narcissism, indicating some orthogonality. These scales were NPI LA (r = -.36; p<.01), NGS total (r = -.21; p<.01), and NPI GE (r = -.20; p<.01).

First PYS scale construction. Next, the PYS sample was used to determine correlates of the Q-set narcissism scales with concurrently and longitudinally assessed variables. Q-set items were summed into grandiose and vulnerable narcissism scales based on the Sample 1 revised items. For the 13-item grandiose narcissism scale, Cronbach's alpha was .65 and the mean inter-item correlation was .11. For the 25-item vulnerable narcissism scale, Cronbach's alpha was .76 and the mean inter-item correlation was .11. The correlation between the two scales was statistically non-significant (r = .02; ns).

Final PYS scale construction. Due to the low initial PYS scale reliability, the PYS narcissism scales were revised based on item-total statistics (Tables 9 and 10). Items were removed if their deletion would increase the overall scale alpha. Tables 9 and 10 reflect items that were dropped: four items were dropped from the grandiose scale, and five items were dropped from the vulnerable scale. For the final 9-item grandiose narcissism scale, Cronbach's alpha was .73 and the mean inter-item correlation was .23. For the final 20-item vulnerable narcissism scale, Cronbach's alpha was .79 and the mean inter-item correlation was .15. Similar to the initial scales constructed with Sample 1, the correlation between the two scales was statistically significant (r = .28; p<.01). Table 11 lists the final items used for the PYS scale construction.

Concurrent correlation analyses and independent t-tests. PYS grandiose and vulnerable narcissism scores were correlated with concurrent ratings of delinquency, home environment, cognitive ability, and impulsivity obtained in childhood (Table 12). Relations between narcissism means and binary variables were assessed using two-sample independent t-tests. In the following descriptions, GN is used to refer to the set of Q-set items used to form the

final grandiose scale in the PYS data, and VN is used to refer to the set of items that form the final vulnerable scale.

Demographics. GN and VN scores did not differ by race (e.g., white vs. non-white; GN: $t(410)= -.30$, *ns*; VN: $t(410)= .49$, *ns*). Of note, race comparisons were set up in this way because the majority of participants identified as white or black; beyond this, 11 participants identified as Asian or biracial.

Delinquency. Both GN ($r = .24$; $p<.01$) and VN ($r = .21$; $p<.01$) were positively related to delinquency, whereas only GN was correlated with peer delinquency ($r = .11$; $p<.05$); these values were not statistically different from one another. Regarding risk level, children who were rated as high risk had significantly higher mean GN and VN scores than low risk children (GN: $t(422)= -7.79$, $p<.001$, $d = .76$; VN: $t(418)= -4.87$, $p<.001$, $d = .47$).

Home environment. GN was positively related to experiencing physical punishment in the home environment ($r = .22$; $p<.01$) whereas VN was not ($r = .08$; *ns*); these values differed significantly from one another. VN was significantly negatively related to SES ($r = -.15$; $p<.01$) and positively related to inconsistent parental discipline ($r = .10$; $p<.01$) whereas GN was not significantly related to either (SES $r = -.04$, *ns*; inconsistent discipline $r = .09$, *ns*). Both GN and VN were positively related to lax supervision (GN $r = .16$, $p<.01$; VN $r = .14$, $p<.01$) and non-positive parenting (GN $r = .12$, $p<.05$; VN $r = .22$, $p<.01$).

Cognitive ability. VN manifested statistically significant negative relations with all three measures of cognitive ability, including Full-Scale IQ ($r = -.25$; $p<.01$), Verbal IQ ($r = -.23$; $p<.01$), and Performance IQ ($r = -.20$; $p<.01$). GN manifested significant negative relations with Full-Scale IQ ($r = -.11$; $p<.05$) and Verbal IQ ($r = -.13$; $p<.01$), but not Performance IQ ($r = -.06$; *ns*). GN and VN correlations differed significantly for Full-Scale IQ and Performance IQ.

Impulsivity. Both forms of narcissism were positively related to cognitive impulsivity (GN r = .11, p<.05; VN r = .20, p<.01) and behavioral impulsivity (GN r = .52, p<.05; VN r = .38, p<.01). GN and VN differed significantly on the behavioral impulsivity correlations.

Prospective correlation analyses and independent t-tests. PYS grandiose and vulnerable narcissism scores were correlated with variables assessed in early adulthood, including home life, employment, personality, externalizing behaviors, psychopathy, substance use, and internalizing symptoms (Table 13). Relations between narcissism means and binary variables were assessed using two-sample independent t-tests.

Home life. Neither GN nor VN manifested statistically significant correlations with marriage rates, cohabitation rates, and number of children (Table 13). However, participants who had one or more children as a teenager had higher mean GN scores than participants who did not endorse teenage fatherhood, t(87)= -2.38, p<.05, d = .51, but did not differ on VN, t(87)= .42, *ns*. Similarly, age of fatherhood was negatively correlated with GN (r = -.23; p<.05) but not significantly correlated with VN (r = .00; *ns*); these values differed significantly from one another. Mean narcissism scores did not differ for participants who endorsed unplanned pregnancies and those who did not (GN: t(105)= -1.24, *ns*; VN: t(105)= -.04, *ns*). Divorce rate comparisons were not able to be assessed because no participants in the sample endorsed experiencing a divorce.

Education. Participants who did not graduate from high school had higher mean GN scores than those who did not graduate, t(142)= 2.97, p<.01, d = .52, but did not differ on VN, t(142)= -.36, *ns*. Similarly, participants who obtained a GED had higher GN scores than those who did not graduate, t(142)= -3.17, p<.01, d = .62, but did not differ on VN, t(142)= .22, *ns*. There was no difference in narcissism means for those who dropped out of high school (GN:

t(142)= 1.06, *ns*; VN: *t*(142)= .50, *ns*) or those who were expelled (GN: *t*(142)= -1.25, *ns*; VN: *t*(142)= -.13, *ns*).

Employment. Both variants manifested significant positive relations with overall unemployment rates (GN *r* = .19; *p*<.01; VN *r* = .16; *p*<.05). GN also exhibited a negative relation with amount of part time work (*r* = -.12; *p*<.05) whereas VN did not manifest a statistically significant relation with this variable (*r* = -.11, *ns*). These correlations did not differ statistically. Rates of full-time work were not significantly correlated with GN or VN.

Externalizing behaviors. GN manifested positive relations with measures of externalizing behaviors, including number of arrests (*r* = -.20; *p*<.01), variety of arrest reasons (*r* = .21; *p*<.01), number of convictions (*r* = .15; *p*<.01), and variety of conviction types (*r* = .21; *p*<.01). It was also positively related to time spent in jail (*r* = .30; *p*<.01) and the proportion of arrests in the calendar year (*r* = .27; *p*<.01). VN exhibited nonsignificant relations that differed significantly from GN on all of these variables except for number of convictions (VN *r*s ranged from .02 to .09; see Table 13). Participants who were incarcerated after age 18 (for any length of time) had higher mean GN scores, *t*(422)= -3.86, *p*<.001, *d* = .38, than those who were not, but they did not differ on VN scores, *t*(422)= -1.71, *ns*.

Psychopathy. Both GN and VN were positively related to PCL-R total score (GN *r* = .28, *p*<.01; VN *r* = .17, *p*<.01) as well as the ASPD symptom count (GN *r* = .24, *p*<.01, *d* = .67; VN *r* = .22, *p*<.01, *d* = .48). GN manifested statistically significant positive correlations with all PCL-R facets (see Table 13), whereas VN manifested significant correlations with Factor 2 facets (impulsive/lifestyle and antisocial behaviors) but not Factor 1 facets (interpersonal and affective variables). These scores did not differ significantly for GN and VN. Participants who actually

met criteria for ASPD had higher mean GN and VN scores (GN: $t(422)= -3.92$, $p<.001$; VN: $t(422)= -2.77$, $p<.01$) than those who did not meet criteria.

Substance use. GN was positively related to cigarette use ($r = .14$; $p<.05$), although this correlation did not differ significantly from VN ($r = .11$; *ns*). Participants who endorsed problems with alcohol had higher mean GN scores, $t(422)= -2.44$, $p<.05$, $d = .35$, than those who did not, but they did not differ on VN scores, $t(422)= .65$; *ns*. However, mean narcissism scores did not differ for those with problems with drug use (GN: $t(422)= -1.71$, *ns*; VN: $t(422)= -1.26$, *ns*) or who reported heavy alcohol use (GN: $t(422)= .26$, *ns*; VN: $t(422)= -.53$, *ns*).

Internalizing symptoms. VN was positively related to somatic symptoms ($r = .13$; $p<.05$), although this correlation did not differ from GN ($r = .08$; *ns*). Neither narcissism variant manifested relations with depression or anxiety symptoms.

CHAPTER 4

DISCUSSION

The goal of the present study was to examine the concurrent and prospective correlates of grandiose and vulnerable narcissism. To do this, narcissism scales were created from an existing, broad personality measure. Then, data from a longitudinal sample of "at-risk" boys were used to examine relations between narcissism as measured by the new scales and variables in childhood and later young adulthood.

Narcissism and correlates in childhood

As hypothesized, grandiose and vulnerable narcissism were related to ratings of delinquency, and children who were rated as high risk (based on a combination of measures) exhibited higher narcissism scores in childhood. This is consistent with previous work that has established that entitlement, exploitation, and exhibitionism is predictive of delinquent behavior (Barry, Frick, Adler, & Grafeman, 2007a), that aspects of NPI-measured narcissism are associated with aggression in childhood (Washburn, McMahon, King, Reinecke, & Silver, 2004) and adolescence (Golmaryami & Barry, 2010; Barry & Kauten, 2014), and that childhood narcissism is linked to externalizing clinical diagnoses (e.g., oppositional defiant disorder and conduct disorder; Frick, Bodin, & Barry, 2000). This link between narcissism and delinquent behavior in childhood is consistent with the correlation between narcissism and antagonism.

Furthermore, narcissism in childhood was associated with parenting practices. Both variants of narcissism were related to lax parenting and low levels of positive parenting, suggesting that the home environment is also related to childhood narcissism, although

causality/directionality cannot be established here. That is, these relations are likely bidirectional, such that children evoke certain behaviors from their parents, and parents evoke certain behaviors from their children. Given the heritability of personality traits (e.g., Jang, Livesley, & Vernon, 1996), it is possible that genetic effects (e.g., Miles & Francis, 2014), environmental effects, and the interaction of these factors all play a role in the relationship between childhood narcissism and received parenting practices. Indeed, some have argued that the relations between parenting variables and narcissism are more complex than current study designs have permitted, although this is beginning to change (Horton, 2011). The relationship of these parenting variables to childhood narcissism is consistent with previous findings associating both variants of narcissism with poor monitoring and supervision (Mechanic & Barry, 2014; Horton, Bleau, & Drwecki, 2006). However, in one of these same studies, grandiose narcissism was actually related to increased positive parenting (Mechanic & Barry, 2014), and narcissism as measured by a PNI total score in college students has also been associated with receiving overparenting (i.e., parental hyperinvolvement in their children's lives; Segrin, Woszidlo, Givertz, & Montgomery, 2013).

Beyond these similarities, there were also differences between the two narcissism variants (grandiose and vulnerable) and childhood variables. As predicted based on previous literature that has linked vulnerable narcissism to negative home environments, vulnerable narcissism was associated with low levels of positive parenting. An unexpected finding was that grandiose narcissism, not vulnerable narcissism, was related to experiences of physical punishment in childhood. This is surprising because past research has established links between retrospective reports of childhood maltreatment and vulnerable narcissism (Miller, Dir, Gentile, Wilson, Pryor, & Campbell, 2010; cf Cater, Ziegler-Hill, & Vonk, 2011), as well as physical

abuse and NPD, which is defined with multiple vulnerably oriented symptom descriptions (Cohen et al., 2014). Importantly, the present study used concurrent reports of parenting practices (obtained from both caregiver and child) and the variables available did not distinguish types of physical punishment. In other words, physical punishment as it was assessed in this sample does not necessarily equate to physical abuse. At the same time, however, the lack of relationship observed in the present data between physical punishment and vulnerable narcissism is still unexpected. As researchers strive to determine causes of narcissism, it may be useful to consider these parenting variables, which may send a message that affects development of identity and self-concept. For example, a measure of overvaluation was not available in the present dataset, but would certainly be worth studying further in a longitudinal design. Noted here is the combination, for grandiose narcissism, of physical punishment techniques coupled with reduced supervision. It is possible that a complex combination of received parenting practices, rather than one single behavior, contributes to the development of narcissism in childhood.

It is important to consider parenting variables such as punishment and supervision within the larger context of community norms. The sample discussed here consists of disproportionately high-risk individuals from urban areas with lower SES. Notably, this sample differs from much of the previous research on parenting and narcissism, which is based on primarily white college students reporting retrospectively on their experiences as children. As such, these methodological differences could be responsible, in part, for the different patterns present in these samples. The field has yet to determine what these explicit differences are, but some have offered theories. For example, Washburn and Paskar (2011) discuss the possibility that so-called "rougher" neighborhoods (i.e., urban, low SES) would encourage aggrandizing behavior that

establishes an image of oneself as entitled in order to maintain safety. That is, building a reputation designed to reduce the likelihood of being aggressed upon. However, there is also the possibility that having to constantly inflate and defend one's image would engender a sense of vulnerability. Conversely, the way in which narcissism might manifest in a wealthy or privileged community might have more to do with pressure to achieve or maintain a specific social group identity. Of course, these are simply predictions – more research is needed in order to determine how broader spheres of influence, such as neighborhood context, could influence the development of narcissism.

In addition to parenting and neighborhood variables, differences emerged with respect to intelligence and executive functioning. Interestingly, vulnerable narcissism was associated with notably lower scores on cognitive measures, more so than grandiose narcissism. Both variants of narcissism were linked to impulsivity, a finding consistent with a meta-analysis establishing a consistent positive link between adult narcissism (most frequently as measured by the NPI) and impulsivity (Vazire & Funder, 2006; cf, Miller et al., 2009). Grandiose narcissism in particular had a significantly stronger association with behavioral impulsivity whereas vulnerable narcissism was associated with cognitive impulsivity. Investigation of the variables that comprised these impulsivity scores may help to explain these patterns and differences in executive functioning. The behavioral impulsivity tasks primarily tapped into observable behaviors, such as physical restlessness, impatience, and difficulty controlling behavior. This finding is consistent with other studies that have found relations between narcissism and attention deficit/hyperactivity disorder (Frick, Bodin, & Barry, 2000). The cognitive impulsivity tasks, on the other hand, were based on more formal testing measures and tasks. Given the

relationship between vulnerable narcissism and impairment on cognitive tasks (i.e., IQ tests), performance on a variety of cognitive tasks is likely to be negatively impacted.

Does narcissism in childhood predict later outcomes?

Regarding prospective correlations, one of the clearest patterns of findings was that childhood grandiose narcissism was associated with greater impairment in adulthood than childhood vulnerable narcissism. This was true in a variety of spheres, including educational attainment, teenage fatherhood, criminal activity, and alcohol use. Grandiose narcissism in childhood was associated with failure to graduate from high school, experiencing fatherhood before age 18, incarceration at least once after age 18, and reported alcohol problems in adulthood. These problems reflect a series of difficulties that continued from the teenage years through young adulthood. A notable difference between grandiose and vulnerable narcissism as well was the higher rates of criminal arrests and convictions linked to grandiose narcissism, both in count and variety. This pattern of criminal behavior was hypothesized to be true for both narcissism variants, but only held true for grandiose narcissism in this sample. The relationship between grandiose narcissism and behavioral impulsivity in childhood could help to explain the pervasiveness of criminal activity in this sample, in addition to trait antagonism.

Childhood narcissism did not clearly predict later interpersonal or family impairment. Additionally, the hypothesis that vulnerable narcissism would be related to lower rates of cohabitation or marriage was not substantiated. This was notable because adult narcissism is associated with relational impairment (Miller, Campbell, & Pilkonis, 2007). However, there are characteristics of the sample that help to explain the limited interpersonal impairment observed here. Children were only followed longitudinally into young adulthood (mid-twenties). It is possible that this length of time was not sufficient enough for relational problems to manifest.

Indeed, the proportion of participants that were married at all out of the young adults who presented for the life history interview was 5.5%, and none endorsed a history of divorce. Given that the number of marriages was low and the rate of divorce was negligible, the hypothesis that grandiose narcissism would be associated with higher divorce rates was not able to be tested. Furthermore, this dataset did not include subjective assessments of functioning in romantic, peer, and occupational relationships, which might have helped to provide more nuanced information about the social worlds of these individuals.

Regarding internalizing symptoms (anxiety, depression, and somaticism), there were minimal relations observed, such that neither narcissism variant manifested a clear pattern. Although childhood vulnerable narcissism was related to later somatic symptoms in young adulthood, it was not linked to anxiety or depression, as was predicted. This was surprising as a key aspect of vulnerable narcissism is susceptibility to negative emotions due to its association with neuroticism. As will be discussed later, it is possible that the Q-set scales did not have items that fully captured this negative emotionality. It is also possible that neuroticism in childhood manifests in different ways than in adulthood, although this trait is one of the few aspects of personality that has been linked to temperamental differences in infancy. Also, internalizing disorders are typically more accurately assessed by children themselves better than their caregivers.

As hypothesized, childhood narcissism was predictive of unemployment rates in young adulthood. This finding is consistent with other observed patterns in this dataset. Narcissism was also related to impairment in educational attainment – presumably, this would cause later difficulties in obtaining employment due to lower qualifications, depending on the job requirements. Narcissism, especially grandiose, was related to criminal activity and time spent in

jail/prison. These factors would be expected to hinder maintenance of long-term employment. Additionally, as narcissism in adulthood is associated with interpersonal difficulties, it is possible that these difficulties could manifest in the work setting. It would be useful for future studies to parse apart factors related to unemployment, such as whether an individual was ever fired.

Implications and connections with previous literature

With respect to the growing body of literature about narcissism in childhood and adolescence, some patterns of the present study were consistent with established work as discussed above, but there were also a few notable unexpected findings. Broadly, in this sample, grandiose narcissism emerged as more pathological, whereas vulnerable narcissism was associated with less impairment. In fact, grandiose narcissism shared many commonalities with psychopathy. This observed difference between grandiose and vulnerable narcissism may be due to the fact that the present sample was better suited to assess impairment associated with grandiose narcissism given the dataset's greater focus on externalizing problems. It is well-established that grandiose narcissism and psychopathy are correlated, especially through research addressing the dark triad (e.g., Paulhus & Williams, 2002). A significant level of overlap is to be expected, given that these constructs share a key element: high levels of antagonism. The items used to create the narcissism scales may have tapped indiscriminately into antagonism and less so into behaviors that define narcissism separately. This issue will be discussed more thoroughly in the limitations section, but it is worth noting specifically with regard to psychopathy. Also, it is possible that there is more overlap between narcissism and antisocial behaviors early in adolescence, and that these differences become more pronounced as youth become more socially aware and capable of more complex thinking. Along these lines, Barry and others have raised questions about the stability of narcissism in youth (Barry, Grafeman, Bader, & Davis, 2011).

Essentially, it is unclear to what extent narcissistic attitudes are developmentally normative for young childhood, and at what point children could "grow out" of these behaviors. Such a question is beyond the scope of the present study, but would be an important topic to investigate in longitudinal studies with many time points.

Regarding the patterns observed for vulnerable narcissism in the present study, we found less pathology where we expected there to be more. Namely, vulnerable narcissism was expected to correlate with a negative parenting/home environment and to predict internalizing problems. Although surprising, there are a number of possible explanations. First, the sample available for analysis was based on an oversampling of risk. Risk was defined as delinquent and problematic behaviors rated by self, caregiver, and teachers. Although this strategy allowed for a more fine-grained look at externalizing behaviors, perhaps it limited the variety of other problems available for analysis. As vulnerable narcissism, at least in college samples and adults, is associated with introversion and neuroticism, imposing this risk-representativeness on the sample statistics may have generated a restriction of range. Second, the variety of variables available were primarily focused on externalizing outcomes (e.g., criminal activity/prosecution, substance use). As for the lack of correlation with anxiety and depression measures, this finding was unexpected and is difficult to explain beyond the possibility that this pattern is an artifact of this specific sample. Internalizing symptoms were obtained as part of the life history interview, which was given at a participant's home via face-to-face questions by an interviewer. It is possible that internalizing symptoms, such as anxiety or depression, were information that participants felt less comfortable disclosing, whereas other sensitive outcomes (e.g., prison time, divorce) could be obtained remotely via legal records.

These patterns observed in the present study lend additional support to the literature that delineates grandiose and vulnerable narcissism. Although some similarities were seen here, it is clear that in this sample, childhood grandiose narcissism was associated with a greater number and rate of the problematic behaviors that were assessed (e.g., educational impairment, criminal activity) when compared to vulnerable narcissism. These patterns call into question the trend observed in the child narcissism literature: dividing narcissism into "adaptive" and "maladaptive" forms. In most articles that use this terminology, NPI-C narcissism (i.e., grandiose narcissism, sometimes with entitlement/exploitation/exhibitionism items removed) is used to assess adaptive narcissism. However, as seen here, grandiose narcissism is predictive of significant impairment in young adulthood. Many of the items that mapped onto this grandiose narcissism scale are the types of items that are included in measures of so-called adaptive narcissism (see Table 11). With the increased focus on merging the child and adult personality literature into a common language, there is a need for a more consistent conceptualization of narcissism. The use of the word adaptive could be misleading as we establish connections between the child and adult literature. Although this issue has been discussed at length in the field, it is worth noting that narcissistic personality disorder was at one point considered for removal in the most recent DSM (see Miller, Widiger, & Campbell, 2010, for further discussion). A large body of literature exists that investigates narcissism; the impairment seen here that is associated with narcissism further supports the argument that narcissism is worth studying not only as an interesting phenomenon but also as a genuine issue that is linked to problems that are costly to the self and society.

Strengths

The present study has a number of strengths. Notably, this longitudinal dataset allowed narcissism to be tracked over time into young adulthood. The variables spanned a variety of areas, including family environment, cognitive ability and impulsivity, employment, educational attainment, externalizing behaviors and internalizing symptoms. This sample was relatively large, and although not all participants were available for the follow-up interview, information was able to be gathered from a variety of sources, including legal records. Indeed, variables in childhood were assessed by multiple raters, including child, caregiver, and teachers.

The present study represents a step toward a larger movement in the field. There is increased interest in the field in linking factors over the lifespan and drawing connections between research with children and adults (e.g., Thomaes et al., 2009). There is also a need to identify precursors to problem behaviors, especially the criminal activity noted here, in order to plan and implement useful interventions. Given that narcissism appears to be measureable in childhood, it is possible that the timing of these interventions could be as early as middle school or high school, especially in preventing earlier observed outcomes such as unplanned fatherhood and failing to complete high school.

Limitations

Although this study had a number of strengths, there were some limitations that should be discussed. First, scale construction of narcissism measures was limited by items available in the California Q-set. As the items presumably were not initially developed with narcissism in mind, it is possible that aspects of narcissism were not able to be assessed using only Q-set items. In particular, although entitlement is an aspect of narcissism that is consistently associated with negative outcomes, there are no clear items in the Q-set that assess entitlement or related concepts of arrogance, over-confidence, and low modesty. This is problematic as others have

identified entitlement as a central aspect of narcissism (e.g., Lynam & Widiger, 2001; Samuel, Lynam, Widiger, & Ball, 2012). Although the grandiose narcissism scale developed in the present study manifested good concurrent validity with established measures of narcissism, the lack of this key aspect limits the conclusions that can be drawn here.

Second, childhood narcissism was rated by caregiver (most commonly mothers in the present dataset). As scale construction progressed, it became clear that some items, when rated by a caregiver in childhood, would not have the same meaning as in adulthood. For example, "He is an interesting child. People notice and remember him." has different implications when rated by a parent than "I am an interesting person. People notice and remember me." as self-rated. Of course, caregiver ratings do have benefits, especially as children may lack insight or understanding of their own personality. In addition, items that appeared to assess narcissism at face value may actually have assessed developmentally normative self-focused behaviors and attitudes, when given to younger children. Third, as mentioned in the above discussion, participants were only followed through young adulthood, which may not have allowed enough time to pass to measure various aspects of impairment (e.g., divorce rates). Fourth, the sample consisted of males only. Although this study represents a step toward connecting narcissism in childhood and later outcomes, the patterns seen here may or may not extend to females – additional research is essential.

Future directions

The findings of the present study, in tandem with recent calls in this field for increased attention to the connections between personality in childhood and adulthood (e.g., Thomaes, Bushman, de Castro, & Stegge, 2009), expose a number of avenues for future study. Notably, there is a need for the development of established measures of childhood narcissism. There has

already been movement toward this in the field (e.g., Barry and colleagues); however, much of this work has adapted existing adult measures ("downward extension") rather than generate new measures. There are certainly benefits to maintaining links between the adult measures and new child measures (e.g., the ability to make connections between literature bases that are at present engaging in limited communication), but it is important to establish whether narcissism in childhood manifests differently than it does in adulthood – and if so, respective assessments must address these differences. Many datasets from the same era as the PYS (i.e., the 1980s) use the California Q-set, which was a popular measure at that time. Thus, the narcissism scales developed in the present study could be easily scored in existing datasets to investigate other available correlates.

With these new child measures of narcissism, additional longitudinal work is needed, especially for studies to follow children for a longer period of time into adulthood in order to observe later outcomes including the marital relationship, parenting practices, and other areas of life. But, these studies should not just observe adult life in greater detail. If narcissism is increasing (Twenge et al., 2008), it is important that researchers work to answer why this is so. More detail about childhood variables would help to identify possible precursors of narcissism – not just in the home environment, but in other spheres such as school and play with peers. Social learning theory may be a helpful framework – not just for parental modeling but also peer modeling. The digital neighborhood (i.e., social media) is another arena of existence that is engaging children at younger and younger ages; this too is a possible precursor to the development of narcissism. In turn, multi-rater sources, such as peers and teachers, and later spouses or coworkers, could provide a wealth of information. Multi-method strategies such as

observation would also increase our understanding of narcissism as it manifests at different points in the lifespan.

Concluding notes

In conclusion, narcissism as assessed in childhood is related to a number of behaviors and environmental factors in both childhood and young adulthood. Furthermore, grandiose narcissism appears to be more problematic than vulnerable narcissism when it comes to externalizing behaviors that extend from childhood through adolescence, and even into young adulthood. However, it is important for continued longitudinal work to take place with a variety of populations. This study represents a further step forward in the call to draw connections between what is known about personality pathology in childhood and adulthood.

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Table 1. Factor loadings for narcissism scales

Scale/subscale	Factor 1	Factor 2
NPI LA	.81	-.10
NGS total	.75	.05
PNI EXP	.64	.01
NPI GE	.57	-.06
NPI EE	.53	.13
PNI SSSE	.22	.29
PNI CSE	-.12	.88
HSNS total	-.10	.84
PNI DEV	.05	.69
PNI HS	-.11	.64
PNI ER	.38	.63
PNI GF	.16	.49

Note. Factor 1 = Grandiose narcissism; Factor 2 = Vulnerable narcissism. NPI LA= Narcissistic Personality Inventory Leadership/Authority subscale; NGS = Narcissistic Grandiosity Scale; PNI EXP = Pathological Narcissism Inventory Exploitative subscale; NPI GE= Narcissistic Personality Inventory Grandiose Exhibitionism subscale; NPI EE= Narcissistic Personality Inventory Entitlement/Exploitation subscale; PNI SSSE = Pathological Narcissism Inventory Self-Sacrificing Self-Enhancement subscale; PNI CSE = Pathological Narcissism Inventory Contingent Self-Esteem subscale; HSNS = Hypersensitive Narcissism Scale; PNI DEV = Pathological Narcissism Inventory Devaluing subscale; PNI ER = Pathological Narcissism Inventory Entitlement Rage subscale; PNI HS = Pathological Narcissism Inventory Hiding the Self subscale; PNI GF = Pathological Narcissism Inventory Grandiose Fantasy subscale.

Table 2. List of Q-set items and their correlations with narcissism composites in Sample 1

	GRAND	VUL
1. I show my thoughts and feelings in the way I look and act, but I do not talk much about what I think and about how I feel.	-.03	.25**
2. I am considerate and thoughtful of other people.	-.02	-.16*
3. I am a warm person who responds with kindness to other people.	-.03	-.17*
4. I get along well with other people.	.04	-.21**
5. Other people look up to me and seek me out.	.27**	-.00
6. I am helpful and cooperate with other people.	.03	-.19*
7. I like physical affection.	.15	-.11
8. I like to keep my thoughts and feelings to myself.	-.13	.20**
9. I make good and close friendships with other people.	.12	-.19*
10. My friendships don't last long; I change friends a lot.	.04	.21**
11. If I can, I will blame other people for things I have done.	.21**	*.32***
12. I act immature when I face difficult problems or when I am under stress.	.12	*.31***
13. I try to see what and how much I can get away with. I push limits and try to stretch the rules.	*.45***	.24**
14. I try hard to please other people.	-.01	.25**
15. I show concern about what's right and what's wrong. (for example, I try to be fair)	-.12	-.10
16. I am proud of the things I've done and made.	.10	-.14
17. I act very masculine.	.29**	.11
18. I let other people know when I am upset or angry. I don't hold back my feelings.	*.36***	-.06
19. I am open and straightforward.	.28**	-.18*

20. I try to take advantage of other people.	*.46***	*.40***
21. I try to be the center of attention (for example, by showing off, or by offering to do things).	*.48***	.27**
22. I try to get others to do what I want by playing up to them. I act charming in order to get my way.	*.52***	.25**
23. I am nervous and fearful.	-.11	*.43***
24. I worry about things for a long time.	-.19*	*.30***
25. I think things through.	-.07	-.03
26. I am physically active. I enjoy running, playing, and exercise.	*.30***	-.12
27. I look different from other people (for example, I am much taller or shorter, under - or overweight, or I have a visible disability).	.01	*.33***
28. I am energetic and full of life.	*.30***	-.15
29. I am protective of others. I protect people who are close to me.	.07	-.01
30. Most people seem to like me.	.15	-.02
31. I am able to see how others feel; I can put myself in their place.	.21**	-.07
32. I give, lend, and share things.	.07	-.17*
33. I cry easily.	-.06	.18*
34. I am restless and fidgety; I have a hard time sitting still.	.04	.24**
35. I hold things in. I have a hard time expressing myself.	-.14	.29**
36. I find ways to make things happen and get things done.	.14	.01
37. I like to compete; I'm always testing and comparing myself to other people.	.18*	.26**
38. I have an unusual way of thinking about things – for better or for worse, I put things together in my head in a different ways than other people do.	*.32***	*.38***

39. I freeze up when things are stressful.	-.10	*.33***
40. I am curious and exploring; I like to learn and experience new things.	.24**	-.08
41. I am determined in what I do; I do not give up easily.	.06	-.20**
42. I am an interesting person; people notice me and remember me.	*.38***	-.01
43. I can bounce back or recover after a stressful or bad experience.	.03	-.16*
44. I give in or back down when I have a conflict or a disagreement with others.	-.07	*.36***
45. When I am under stress, I give up and back off.	-.02	*.35***
46. I tend to go to pieces under stress; I get rattled when things are tough.	-.05	*.37***
47. I have high standards for myself. I need to do very well in the things I do.	.01	.13
48. I need to have people tell me that I'm doing well or ok. I am not very sure of myself.	-.06	*.51***
49. I have some specific habits (for example, I tap my fingers on the table, bite my fingernails, stutter, twirl my hair).	-.14	.15
50. I tend to get sick when things go wrong or when there is a lot of stress (for example, I get headaches, stomach aches, throw up).	.04	.29**
51. I am well-coordinated. (for example, I do well in sports).	.26**	-.00
52. I am careful not to get hurt (physically).	-.07	.16*
53. I have a hard time making up my mind; I change my mind a lot.	-.04	.24**
54. My moods are unpredictable - they change often and quickly.	.07	*.36***
55. I worry about not getting my share of things. I am afraid that I won't get enough.	.11	*.39***
56. I admit that I am jealous and envious; I want what other people have.	.17*	*.49***
57. I exaggerate about things that happen to me; I often blow things out of proportion.	.16*	*.36***

58. I openly show the way I feel, whether it's good or bad. I show my emotions openly.	.27**	-.04
59. I am neat and orderly in the way I dress and act.	.15	-.10
60. I get nervous if I'm not sure what's going to happen or when it's not clear what I'm supposed to do.	-.13	*.41***
61. I do judge other people; I have very strong opinions about the things other people do.	.26**	*.46***
62. I am obedient and do what I am told.	-.09	.00
63. I am fast-paced; I move and react to things quickly.	.28**	.12
64. I am calm and relaxed, easy-going.	-.04	-.20*
65. When I want something, I want it right away. I have a hard time waiting for things I want and like.	.21**	.28**
66. I pay attention well and can concentrate on things.	-.05	-.11
67. I plan things ahead; I think before I do something. I "look before I leap."	-.09	.04
68. I am a very smart person (even though my grades in school might not show this).	.09	.20*
69. I have a way with words; I can express myself well with words.	.27**	.04
70. I daydreams; I often get lost in thought or a fantasy world.	-.04	.21**
71. I often ask grown-ups for help and advice.	-.04	.11
72. I often feel guilty; I am quick to blame myself.	-.02	*.36***
73. I have a sense of humor - I like to laugh at funny things.	-.07	-.11
74. I usually get wrapped up in what I'm doing.	-.11	.12
75. I am cheerful.	.14	-.17*
76. I can be trusted; I'm reliable, and dependable.	-.05	-.19*
77. I feel unworthy; I have a low opinion of myself.	-.15	*.37***
78. My feelings get hurt easily if I am made fun of or criticized.	-.06	*.44***

79. I am suspicious – I don't really trust other people.	.05	*.41***
80. I tease and pick on other people (including my own brothers and sisters).	.22**	.16*
81. I can talk about unpleasant things that have happened to me. (for example, I can talk about things when they go wrong, or when I'm upset about something)	.12	.01
82. I speak up and stick up for myself; I go after what I want.	*.33***	-.08
83. I try to be independent and do things without the help of other people. I try not to rely on other people.	-.01	.07
84. I am a talkative person; I talk a lot.	*.32***	-.04
85. I can be aggressive. (for example, I sometimes picks fights or start arguments)	*.43***	.25**
86. I like to be by myself; I enjoy doing things alone.	-.09	.24**
87. I often copy and act like the people I admire and look up to.	.05	.28**
88. I am self-confident and sure of myself; I make up my own mind on my own.	*.30***	-.12
89. I am able to do many things well.	.17*	-.07
90. I am stubborn.	.08	.22**
91. My emotions don't always fit the situation (for example, I over-react, don't seem to care, or sometimes my reactions just don't make sense).	.03	*.32***
92. I am attractive, good-looking.	*.38***	.03
93. I am somewhat bossy and like to dominate other people.	*.34***	*.35***
94. I whine or pout often.	.08	*.31***
95. I let little problems get to me and I am easily upset. It doesn't take much to get me irritated or mad.	.04	*.38***
96. I am creative in the way I look at things; the way I think, work, and/or play is very creative.	.16*	.12
97. I like to dream up fantasies; I have a good imagination.	.02	*.33***

98. I am shy; I have a hard time getting to know people.	-.23**	*.32***
99. I think about my actions and behavior; I use my head before doing or saying something.	-.09	.11
100. Other people often pick on me; I am often blamed for things I didn't do.	.15	*.33***

**p<.01; *p<.05. Italicized items indicate correlations at .30 or greater that were used for initial scale construction. GRAND = grandiose narcissism factor; VUL = vulnerable narcissism factor.

Table 3. Correlations of narcissism subscales with initial Q-set scale items in Sample 1

Narcissism Subscale	GN	VN
NPI LA	.59**	-.06
NGS total	.52**	.05
PNI EXP	.57**	.14*
NPI GE	.54**	.02
NPI EE	.40**	.24**
PNI SSSE	.23**	.19*
PNI CSE	.08	.66**
HSNS total	.12	.60**
PNI DEV	.25**	.49**
PNI HS	-.04	.39**
PNI ER	.39**	.47**
PNI GF	.16*	.34**

Note. Underlined values indicate subscales that were used to create the original narcissism composites.
GN = grandiose narcissism; VN = vulnerable narcissism.

Table 4. Breakdown of item statistical aspects for original set of Sample 1 items – Grandiose Scale

Item	Corrected item-total correlation	Cronbach's alpha if item deleted
13. I try to see what and how much I can get away with. I push limits and try to stretch the rules.	.56	.815
18. I let other people know when I am upset or angry. I don't hold back my feelings.	.45	.822
20. I try to take advantage of other people.	.49	.820
21. I try to be the center of attention (for example, by showing off, or by offering to do things).	.53	.817
22. I try to get others to do what I want by playing up to them. I act charming in order to get my way.	.59	.812
26. I am physically active. I enjoy running, playing, and exercise.	**.30**	**.832**
28. I am energetic and full of life.	.49	.823
38. I have an unusual way of thinking about things – for better or for worse, I put things together in my head in a different ways than other people do.	**.28**	**.833**
42. I am an interesting person; people notice me and remember me.	.46	.822
82. I speak up and stick up for myself; I go after what I want.	.47	.821
84. I am a talkative person; I talk a lot.	.46	.822
85. I can be aggressive (for example, I sometimes picks fights or start arguments).	.51	.818
88. I am self-confident and sure of myself; I make up my own mind on my own.	.36	.827
92. I am attractive, good-looking.	.43	.823

93. I am somewhat bossy and like to dominate other people.	.49	.819

Note. Values in bold indicate candidates for removal.

Table 5. Breakdown of item statistical aspects for original set of Sample 1 items – Vulnerable Scale

Item	Corrected item-total correlation	Cronbach's alpha if item deleted
11. If I can, I will blame other people for things I have done.	.50	.916
12. I act immature when I face difficult problems or when I am under stress.	.48	.916
20. I try to take advantage of other people.	**.47**	**.917**
23. I am nervous and fearful.	.63	.914
24. I worry about things for a long time.	.56	.915
27. I look different from other people (for example, I am much taller or shorter, under- or overweight, or I have a visible disability).	.33	.919
38. I have an unusual way of thinking about things – for better or for worse, I put things together in my head in a different ways than other people do.	**.27**	**.920**
39. I freeze up when things are stressful.	.59	.915
44. I give in or backs down when I have a conflict or a disagreement with others.	.58	.915
45. When I am under stress, I give up and back off.	.56	.915
46. I tend to go to pieces under stress; I get rattled when things are tough.	.68	.913
48. I need to have people tell me that I'm doing well or ok. I am not very sure of myself.	.59	.915
54. My moods are unpredictable - they change often and quickly.	.56	.915
55. I worry about not getting my share of things. I am afraid that I won't get enough.	.55	.915

56. I admit that I am jealous and envious; I want what other people have.	.58	.915
57. I exaggerate about things that happen to me; I often blows things out of proportion.	.52	.916
60. I get nervous if I'm not sure what's going to happen or when it's not clear what I'm supposed to do.	.55	.915
61. I do judge other people; I have very strong opinions about the things other people do.	.44	.917
72. I often feel guilty; I am quick to blame myself.	.50	.916
77. I feel unworthy; I have a low opinion of myself.	.57	.915
70. My feelings get hurt easily if I am made fun of or criticized.	.62	.914
79. I am suspicious – I don't really trust other people.	.46	.917
91. My emotions don't always fit the situation. (for example, I over-react, don't seem to care, or sometimes my reactions just don't make sense)	.50	.916
93. I am somewhat bossy and like to dominate other people.	**.32**	**.919**
94. I whine or pout often.	.55	.916
95. I let little problems get to me and I am easily upset. It doesn't take much to get me irritated or mad.	.59	.915
97. I like to dream up fantasies; I have a good imagination.	**.28**	**.920**
98. I am shy; I have a hard time getting to know people.	.43	.917
100. Other people often pick on me; I am often blamed for things I didn't do.	.52	.916

Note: Values in bold indicate candidates for removal.

Table 6. Sample 1 Revised Item List

Grandiose Items

I try to see what and how much I can get away with. I push limits and try to stretch the rules. (13)

I let other people know when I am upset or angry. I don't hold back my feelings. (18)

I try to take advantage of other people. (20)

I try to be the center of attention (for example, by showing off, or by offering to do things). (21)

I try to get others to do what I want by playing up to them. I act charming in order to get my way. (22)

I am energetic and full of life. (28)

I am an interesting person; people notice me and remember me. (42)

I speak up and stick up for myself; I go after what I want. (82)

I am a talkative person; I talk a lot. (84)

I can be aggressive (for example, I sometimes pick fights or start arguments). (85)

I am self-confident and sure of myself; I make up my own mind on my own. (88)

I am attractive, good-looking. (92)

I am somewhat bossy and like to dominate other people. (93)

Vulnerable Items

If I can, I will blame other people for things I have done. (11)

I act immature when I face difficult problems or when I am under stress. (12)

I am nervous and fearful. (23)

I worry about things for a long time. (24)

I look different from other people (for example, I am much taller or shorter, under- or overweight, or I have a visible disability).

(27)

I freeze up when things are stressful. (39)

I give in or back down when I have a conflict or a disagreement with others. (44)

When I am under stress, I give up and back off. (45)

I tend to go to pieces under stress; I get rattled when things are tough. (46)

I have high standards for myself. I need to do very well in the things I do. (47)

I need to have people tell me that I'm doing well or ok. I am not very sure of myself. (48)

My moods are unpredictable - they change often and quickly. (54)

I worry about not getting my share of things. I am afraid that I won't get enough. (55)

I admit that I am jealous and envious; I want what other people have. (56)

I exaggerate about things that happen to me; I often blow things out of proportion. (57)

I get nervous if I'm not sure what's going to happen or when it's not clear what I'm supposed to do. (60)

I do judge other people; I have very strong opinions about the things other people do. (61)

I often feel guilty; I am quick to blame myself. (72)

I feel unworthy; I have a low opinion of myself. (77)

My feelings get hurt easily if I am made fun of or criticized. (78)

I am suspicious – I don't really trust other people. (79)

My emotions don't always fit the situation (for example, I over-react, don't seem to care, or sometimes my reactions just don't make sense). (91)

I whine or pout often. (94)

I let little problems get to me and I am easily upset. It doesn't take much to get me irritated or mad. (95)

I am shy; I have a hard time getting to know people. (98)
Other people often pick on me; I am often blamed for things I didn't do. (100)

Note. Numbers in parentheses indicate original Q-set item number.

Table 7. Correlations of narcissism subscales with revised Q-set scale items in Sample 1

Narcissism Subscale	GN	VN
NPI LA	.58**	-.12
NGS total	.50**	-.00
PNI EXP	.56**	.09
NPI GE	.53**	-.03
NPI EE	.41**	.21**
PNI SSSE	.21**	.16*
PNI CSE	.08	.65**
HSNS total	.12	.60**
PNI DEV	.24**	.46**
PNI HS	-.07	.38**
PNI ER	.39**	.44**
PNI GF	.13	.30**

Note. Underlined values indicate subscales that were used to create the original narcissism composites.
GN = grandiose narcissism; VN = vulnerable narcissism. NPI LA= Narcissistic Personality Inventory Leadership/Authority subscale; NGS = Narcissistic Grandiosity Scale; PNI EXP = Pathological Narcissism Inventory Exploitative subscale; NPI GE= Narcissistic Personality Inventory Grandiose Exhibitionism subscale; NPI EE= Narcissistic Personality Inventory Entitlement/Exploitation subscale; PNI SSSE = Pathological Narcissism Inventory Self-Sacrificing Self-Enhancement subscale; PNI CSE = Pathological Narcissism Inventory Contingent Self-Esteem subscale; HSNS = Hypersensitive Narcissism Scale; PNI DEV = Pathological Narcissism Inventory Devaluing subscale; PNI ER = Pathological Narcissism Inventory Entitlement Rage subscale; PNI HS = Pathological Narcissism Inventory Hiding the Self subscale; PNI GF = Pathological Narcissism Inventory Grandiose Fantasy subscale.

Table 8. Correlations of narcissism subscales with revised Q-set scale items in Sample 2

Narcissism Subscale	GN	VN
NPI LA	.66**	-.36**
NGS total	.52**	-.21**
PNI EXP	.58**	-.11
NPI GE	.63**	-.20**
NPI EE	.39**	.07
PNI SSSE	.10	.13
PNI CSE	-.08	.58**
HSNS total	.03	.56**
PNI DEV	.17**	.41**
PNI ER	.35**	.33**
PNI HS	-.08	.23**
PNI GF	.19**	.18**

Note. Underlined values indicate subscales that were used to create the original narcissism composites. GN = grandiose narcissism; VN = vulnerable narcissism. NPI LA= Narcissistic Personality Inventory Leadership/Authority subscale; NGS = Narcissistic Grandiosity Scale; PNI EXP = Pathological Narcissism Inventory Exploitative subscale; NPI GE= Narcissistic Personality Inventory Grandiose Exhibitionism subscale; NPI EE= Narcissistic Personality Inventory Entitlement/Exploitation subscale; PNI SSSE = Pathological Narcissism Inventory Self-Sacrificing Self-Enhancement subscale; PNI CSE = Pathological Narcissism Inventory Contingent Self-Esteem subscale; HSNS = Hypersensitive Narcissism Scale; PNI DEV = Pathological Narcissism Inventory Devaluing subscale; PNI ER = Pathological Narcissism Inventory Entitlement Rage subscale; PNI HS = Pathological Narcissism Inventory Hiding the Self subscale; PNI GF = Pathological Narcissism Inventory Grandiose Fantasy subscale.

Table 9. Breakdown of item statistical aspects for PYS items – Grandiose Scale

Item	Corrected item-total correlation	Cronbach's alpha if item deleted
13. I try to see what and how much I can get away with. I push limits and try to stretch the rules.	.39	.616
18. I let other people know when I am upset or angry. I don't hold back my feelings.	.23	.644
20. I try to take advantage of other people.	.43	.612
21. I try to be the center of attention (for example, by showing off, or by offering to do things).	.49	.594
22. I try to get others to do what I want by playing up to them. I act charming in order to get my way.	.46	.604
28. I am energetic and full of life.	**.04**	**.670**
42. I am an interesting person; people notice me and remember me.	**.04**	**.666**
82. I speak up and stick up for myself; I go after what I want.	.27	.638
84. I am a talkative person; I talk a lot.	.22	.650
85. I can be aggressive (for example, I sometimes picks fights or start arguments).	.50	.596
88. I am self-confident and sure of myself; I make up my own mind on my own.	**.05**	**.668**
92. I am attractive, good-looking.	**-.01**	**.671**
93. I am somewhat bossy and like to dominate other people.	.46	.604

Note. Values in bold indicate candidates for removal.

Table 10. Breakdown of item statistical aspects for PYS items – Vulnerable Scale

Item	Corrected item-total correlation	Cronbach's alpha if item deleted
11. If I can, I will blame other people for things I have done.	.31	.756
12. I act immature when I face difficult problems or when I am under stress.	.41	.750
23. I am nervous and fearful.	.32	.756
24. I worry about things for a long time.	.22	.761
27. I look different from other people (for example, I am much taller or shorter, under- or overweight, or I have a visible disability).	**.07**	**.767**
39. I freeze up when things are stressful.	.35	.754
44. I give in or backs down when I have a conflict or a disagreement with others.	**.06**	**.769**
45. When I am under stress, I give up and back off.	.31	.756
46. I tend to go to pieces under stress; I get rattled when things are tough.	.51	.745
48. I need to have people tell me that I'm doing well or ok. I am not very sure of myself.	.31	.756
54. My moods are unpredictable - they change often and quickly.	.48	.744
55. I worry about not getting my share of things. I am afraid that I won't get enough.	.31	.756
56. I admit that I am jealous and envious; I want what other people have.	.30	.757
57. I exaggerate about things that happen to me; I often blows things out of proportion.	.23	.761
60. I get nervous if I'm not sure what's going to happen or when it's not clear	.26	.759

what I'm supposed to do.		
61. I do judge other people; I have very strong opinions about the things other people do.	**.09**	**.769**
72. I often feel guilty; I am quick to blame myself.	**.11**	**.767**
77. I feel unworthy; I have a low opinion of myself.	.48	.746
70. My feelings get hurt easily if I am made fun of or criticized.	.34	.754
79. I am suspicious – I don't really trust other people.	.19	.763
91. My emotions don't always fit the situation. (for example, I over-react, don't seem to care, or sometimes my reactions just don't make sense)	.44	.748
94. I whine or pout often.	.31	.756
95. I let little problems get to me and I am easily upset. It doesn't take much to get me irritated or mad.	.53	.742
98. I am shy; I have a hard time getting to know people.	**.14**	**.767**
100. Other people often pick on me; I am often blamed for things I didn't do.	.25	.760

Note. Values in bold indicate candidates for removal.

Table 11. PYS Final Item List

Grandiose Items

I try to see what and how much I can get away with. I push limits and try to stretch the rules. (13)

I let other people know when I am upset or angry. I don't hold back my feelings. (18)

I try to take advantage of other people. (20)

I try to be the center of attention (for example, by showing off, or by offering to do things). (21)

I try to get others to do what I want by playing up to them. I act charming in order to get my way. (22)

I speak up and stick up for myself; I go after what I want. (82)

I am a talkative person; I talk a lot. (84)

I can be aggressive (for example, I sometimes pick fights or start arguments). (85)

I am somewhat bossy and like to dominate other people. (93)

Vulnerable Items

If I can, I will blame other people for things I have done. (11)

I act immature when I face difficult problems or when I am under stress. (12)

I am nervous and fearful. (23)

I worry about things for a long time. (24)

I freeze up when things are stressful. (39)

When I am under stress, I give up and back off. (45)

I tend to go to pieces under stress; I get rattled when things are tough. (46)

I need to have people tell me that I'm doing well or ok. I am not very sure of myself. (48)

My moods are unpredictable - they change often and quickly. (54)

I worry about not getting my share of things. I am afraid that I won't get enough. (55)
I admit that I am jealous and envious; I want what other people have. (56)
I exaggerate about things that happen to me; I often blow things out of proportion. (57)
I get nervous if I'm not sure what's going to happen or when it's not clear what I'm supposed to do. (60)
I feel unworthy; I have a low opinion of myself. (77)
My feelings get hurt easily if I am made fun of or criticized. (78)
I am suspicious – I don't really trust other people. (79)
My emotions don't always fit the situation (for example, I over-react, don't seem to care, or sometimes my reactions just don't make sense). (91)
I whine or pout often. (94)
I let little problems get to me and I am easily upset. It doesn't take much to get me irritated or mad. (95)
Other people often pick on me; I am often blamed for things I didn't do. (100)

Note. Numbers in parentheses indicate original Q-set item number.

Table 12. Concurrent Correlations

	GN	VN
Delinquency		
Self	.24**	.21**
Peers	.11*	.09
Home Environment		
Physical punishment	.22**[a]	.08[b]
Inconsistent discipline	.09	.10*
Lax supervision	.16**	.14**
Low positive parenting	.12*	.22**
SES	-.04	-.15**
Cognitive Ability		
FSIQ	-.11*[a]	-.25**[b]
Verbal IQ	-.13**	-.23**
Performance IQ	-.06[a]	-.20**[b]
Impulsivity		
Cognitive impulsivity	.11*	.20**
Behavioral impulsivity	.52**[a]	.38**[b]

*p<.05; **p<.01. Ns range from 398 to 469. Correlations with differing coefficients are significantly different from each other.

Table 13. Prospective Correlations

	GN	VN
Home Life		
Number of marriages	.01	.07
Number of cohabitations	.03	.04
Number of children	.10	.04
Age when had first child	-.23*[a]	.00[b]
Employment		
Overall unemployment	.19**	.16*
Full time work	-.01	-.04
Part time work	-.12*	-.11
Externalizing Behaviors		
Number of arrests	.20**[a]	.05[b]
Variety of crimes for which arrested	.21**[a]	.09[b]
Number of convictions	.15**	.08
Variety of crimes for which convicted	.21**[a]	.08[b]
Proportion of arrests in calendar	.27**[a]	.02[b]
Proportion of jail in calendar	.30**[a]	.09[b]
Psychopathy		
PCL-R total	.28**	.17**
PCL-R interpersonal facet	.20**	.08
PCL-R affective facet	.13*	.05
PCL-R impulsive/lifestyle facet	.24**	.19**
PCL-R antisocial behaviors facet	.32**	.21**
ASPD symptoms	.24**	.22**
Substance Use		
Cigarettes	.14*	.11
Variety of Drugs	.03	.03
Internalizing Symptoms		
Depression	-.02	.06
Anxiety	-.05	.07
Somatic	.08	.13*

*p<.05; **p<.01. Ns range from 265 to 477. Correlations with differing coefficients are significantly different from each other. PCL-R = Psychopathy Checklist – Revised.