What Does the Narcissistic Personality Inventory Really Measure?

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Abstract

The Narcissistic Personality Inventory (NPI) is a widely used measure of narcissism. However, debates persist about its exact factor structure with researchers proposing solutions ranging from two to seven factors. The present research aimed to clarify the factor structure of the NPI and further illuminate its nomological network. Four studies provided support for a three-factor model consisting of the dimensions of Leadership/Authority, Grandiose Exhibitionism, and Entitlement/Exploitativeness. The Leadership/Authority dimension was generally linked to adaptive outcomes whereas the other two dimensions, particularly Entitlement/Exploitativeness, were generally linked to maladaptive outcomes. These results suggest that researchers interested in the psychological and behavioral outcomes associated with the NPI should examine correlates at the facet level. In light of the findings, we propose a hierarchical model for the structure of the NPI and provide researchers with a scoring scheme for this commonly used instrument.

Keywords

Rooted in mythology and psychoanalytic thought, the construct of narcissism has attracted a considerable amount of attention in psychology over the past several decades (e.g., Cain, Pincus, & Ansell, 2008; Miller & Campbell, 2008; Pincus & Lukowitsky, 2010). The vast majority of research in social/personality psychology uses various forms of the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) to assess this construct (Cain et al., 2008). However, there are increasing concerns about the conceptual underpinnings and psychometric properties of this measure (e.g., Brown, Budzek, & Tamborski, 2009; Cain et al., 2008; Corry, Merritt, Mrug, & Pamp, 2008; Pincus & Lukowitsky, 2010; Trzesniewski, Donnellan, & Robins, 2008). Indeed, Cain et al. (2008) noted that the NPI contains a "confusing mix of adaptive and maladaptive content" (p. 643). These misgivings parallel earlier discussions about the factor structure of the NPI and the possibility that the various dimensions embedded within the instrument may have differential relations with criterion variables (e.g., Bradlee & Emmons, 1992; Emmons, 1984, 1987; Raskin & Terry, 1988; Ruiz, Smith, & Rhodewalt, 2001; Watson & Morris, 1991).

As it stands, research in social/personality psychology has generated a complicated picture of the correlates of narcissism. The construct seems to be associated with psychological health and resilience on the one hand (e.g., Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004; Wallace, Ready, & Weitenhagen, 2009) and aggression and impaired interpersonal relationships on the other hand (e.g.,

Campbell, Foster, & Finkel, 2002; Locke, 2009; Raskin, Novacek, & Hogan, 1991). Critically, much of this work uses NPI total scores that simply aggregate responses to all items on the measure (see Miller & Campbell, 2008, p. 456). This approach is problematic given that such a summary score might conflate various dimensions of personality. Accordingly, a better understanding of the structure of the NPI can help researchers identify whether there are different constructs embedded within the instrument that might be generating these seemingly paradoxical results.

A deeper understanding of the NPI's dimensional structure will also provide researchers with clear "targets" for future scale development work. Moreover, on a purely practical level, it will provide a scoring scheme that can be used in future studies. Indeed, we suspect that researchers will be reluctant to abandon the NPI given its widespread use in social/personality psychology. In light of these considerations, the goal of the present set of studies is to clarify the factor structure of the NPI and to evaluate how the

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dimensions embedded within it are related to existing constructs that have been linked with narcissism.

A Brief History of the Constructs Associated With Narcissism

One of the earliest mentions of narcissism in psychological contexts comes from the British sexologist Havelock Ellis (1898) who wrote about a "Narcissus-like" tendency (p. 280) to engage in autoerotic activity. However, it was psychoanalytic theorists such as Kohut (1971) and Kernberg (1975) who made narcissism a central component of their theorizing regarding normal and abnormal personality development (see also Freud, 1914/1986). Although these theorists offered somewhat divergent perspectives on the etiology of narcissism, Kernberg (1998) argued that both psychoanalytic accounts shared the belief that narcissists possess abnormal self-structures and exhibit pathological self-esteem regulation strategies (see also Rhodewalt & Peterson, 2009). Kernberg (1998) contended that the chief manifestations of narcissism include a sense of superiority, grandiosity, and self-absorption, along with exhibitionism, envy, exploitativeness, and instability in mood. Likewise, Kohut (1966) believed that narcissists possess a self-concept characterized by grandiosity and overambition as well as exhibitionist drives. Millon (1996), drawing on a social learning perspective, described the manifestations of narcissism in a similar fashion. He argued that narcissists are self-absorbed and possess beliefs of superiority and entitlement. Thus, these various accounts of narcissism coalesce around themes of self-absorption, exhibitionism, arrogance, and feelings of entitlement.

An important theme in recent discussions concerns the distinction between normal and pathological forms of narcissism. These are thought to be two distinct constructs (Pincus & Lukowitsky, 2010). Normal narcissism reflects the strategies used to promote a positive self-image and facilitate agency by otherwise psychologically well-adjusted individuals (Pincus & Lukowitsky, 2010). For instance, psychologically healthy individuals may assert dominance in social hierarchies, hold positive illusions about the self, show adaptive self-enhancement, and strive for success in achievement-related contexts. These attributes are not conventionally understood to reflect problematic aspects of personality. In contrast, pathological narcissism is characterized by maladaptive self-regulation processes that cause significant distress and impairment (Pincus & Lukowitsky, 2010). Pincus and Lukowitsky (2010) further identified two primary ways in which pathological narcissism is expressed: grandiosity and vulnerability. Grandiosity is reflected in arrogant attitudes, inflated self-esteem, and interpersonal behaviors characterized by exploitativeness, entitlement, and exhibitionism. Vulnerability, on the other hand, reflects expressions of psychological dysfunction characterized by fragile self-esteem, emotional instability, and internalizing pathology.

As can be seen, narcissism has been conceptualized in several distinct ways in the existing literature. This diversity can create confusion as to which attributes should be emphasized on inventories designed to assess narcissism. Pincus and Lukowitsky (2010) have suggested that the NPI serves as a measure of normal narcissism rather than pathological narcissism (but see Miller, Gaughan, Pryor, Kamen, & Campbell, 2009). One basis for this judgment is the relative independence of scores on the NPI and their recently developed Pathological Narcissism Inventory ($r = .13$; Pincus, Ansell, Pimentel, Cain, Wright, & Levy, 2009). This contention is also consistent with observations that the NPI is negatively related to internalizing problems and strongly related to the normal personality trait domain of Extraversion (Emmons, 1984; Pincus & Lukowitsky, 2010; Rhodewalt & Morf, 1995; Trzesniewski et al., 2008; Watson & Biderman, 1993). Therefore, an important concern for researchers using the NPI is that it might not be maximally informative about the maladaptive aspects of personality associated with narcissism. Nonetheless, as will be argued later, we believe that the NPI may capture some maladaptive elements of personality traditionally associated with narcissism. The major problem with the NPI might be the use of the total score, which may conflate various adaptive and maladaptive personality dimensions into a composite.

A Brief History of the NPI and its Dimensional Structures

The original version of the NPI (Raskin & Hall, 1979) was developed from the description of Narcissistic Personality Disorder (NPD) anticipated to be included in the *Diagnostic and Statistical Manual of Mental Disorders*, Third Edition (*DSM-III*; American Psychiatric Association, 1980). As noted by Pincus and Lukowitsky (2010), these criteria largely emphasize the grandiose expressions of pathological narcissism rather than the vulnerable expressions. Raskin and Hall (1979) developed 223 rationally keyed items to capture the attributes associated with NPD. They used a forced-choice response format such that participants had to choose between a narcissistic alternative and a non-narcissistic alternative for each item (e.g., "I really like to be the center of attention" vs. "It makes me uncomfortable to be the center of attention"; Raskin & Hall, 1979, p. 590). Raskin and Hall (1979, 1981) later refined the item pool to the 40-item forced-choice measure that is widely used today (Raskin & Terry, 1988).

Several research groups have explored the underlying structure of the NPI item pool and found mixed results in terms of the identification of a replicable and robust dimensional structure (see Table 1 in Corry et al., 2008). Two early

Table 1. Pattern Coefficients for the Three-Factor Exploratory Factor Analysis Solution (Study 1)

Item	Narcissistic Response	I	II	III
10	I see myself as a good leader	**−.84**	−.01	.33
33	I would prefer to be a leader	**.76**	.03	.01
36	I am a born leader	**.72**	.02	.06
32	People always seem to recognize my authority	**−.68**	.02	−.02
11	I am assertive	**.64**	.00	−.07
1	I have a natural talent for influencing people	**.63**	−.04	−.03
12	I like having authority over people	**.62**	.01	.19
27	I have a strong will to power	**.52**	−.00	.28
34	I am going to be a great person	**.46**	−.09	−.23
5	If I ruled the world, it would be a much better place	**−.42**	.04	−.03
40	I am an extraordinary person	**−.42**	.35	.30
19	I like to look at my body	.02	**.75**	.20
7	I like to be the center of attention	−.20	**.71**	−.00
15	I like to display my body	.08	**.71**	.01
30	I really like to be the center of attention	.23	**−.69**	.07
29	I like to look at myself in the mirror	−.10	**−.67**	−.02
20	I am apt to show off if I get the chance	−.04	**.54**	−.17
26	I like to be complimented	−.03	**.53**	.19
4	I know that I am good because everybody keeps telling me so	−.13	**.46**	−.07
38	I get upset when people don't notice how I look when I go out in public	−.02	**−.44**	**.40**
28	I like to start new fads and fashions	.00	**.42**	−.09
25	I will never be satisfied until I get all that I deserve	.11	−.02	**.63**
24	I expect a great deal from other people	.02	.01	**.56**
14	I insist upon getting the respect that is due to me	.03	−.03	**.47**
13	I find it easy to manipulate people	**.42**	.00	**.46**
9	I think I am a special person	−.38	.36	.26
6	I can usually talk my way out of anything	.38	−.04	.36
8	I will be a success	.37	−.08	−.06
39	I am more capable than other people	.37	.00	.32
35	I can make anybody believe anything I want them to	−.36	.06	−.12
16	I can read people like a book	.34	.03	.09
31	I can live my life in any way I want to	.34	−.07	−.04
3	I would do almost anything on a dare	.24	−.18	.16
37	I wish somebody would someday write my biography	.15	−.28	.03
2	Modesty doesn't become me	.12	−.22	.36
18	I want to amount to something in the eyes of the world	−.20	.20	−.01
22	I rarely depend on anyone else to get things done	−.25	−.10	.21
17	I like to take responsibility for making decisions	−.26	.03	.21
23	Everybody likes to hear my stories	−.32	.19	−.00
21	I always know what I am doing	.39	.09	.06

Note. Coefficients equal to or greater than |.40| are in boldface. Latent factor correlations: *r* between I and II = −.45, *r* between I and III = .19, and *r* between II and III = −.23.

analyses yielded two different solutions. Using principal components analysis (PCA) and exploratory factor analysis (EFA), Emmons (1984, 1987) proposed a four-dimension solution: (a) Exploitativeness/Entitlement, (b) Leadership/Authority, (c) Superiority/Arrogance, and (d) Self-Absorption/ Self-Admiration. Raskin and Terry (1988), on the other hand, identified a seven-component solution using PCA: (a) Authority, (b) Self-Sufficiency, (c) Superiority, (d) Exhibitionism, (e) Exploitativeness, (f) Vanity, and (g) Entitlement. More recently, Kubarych, Deary, and Austin (2004) identified

two-dimensional (i.e., Power and Exhibitionism) and three-dimensional (i.e., Power, Exhibitionism, and Specialness) solutions for the NPI using a combination of PCA and confirmatory factor analytic (CFA) approaches on the same data set. However, as Corry et al. (2008) pointed out, the Kubarych et al. analysis may not have adequately addressed the statistical complexities involved in factor analyzing dichotomous responses. Given this limitation, Corry et al. (2008) conducted an EFA of the NPI item pool using methods that were appropriate for the dichotomous nature of the NPI items (i.e.,

conducting an EFA based on the tetrachoric correlation matrix). In the end, they identified two robust factors—Leadership/Authority and Exhibitionism/Entitlement.

Criterion-Related Validity of the NPI Dimensions

The likelihood that there are multiple dimensions embedded within the NPI item pool makes it somewhat difficult to interpret total scores based on this instrument (e.g., Trzesniewski et al., 2008). The NPI total score seems to capture some amalgamation of self-perceived confidence, leadership ability, and social potency, as well as potentially socially toxic elements of personality such as a sense of entitlement and a willingness to exploit others. Accordingly, the different dimensions of personality located within the NPI may have differential relations with the criterion variables that are a central focus of much of the research on narcissism such as aggression, hostility, self-enhancement, and self-esteem (e.g., Barry, Frick, & Killian, 2003; Brown et al., 2009; Emmons, 1987; John & Robins, 1994; Rhodewalt & Morf, 1998; Ruiz et al., 2001; Trzesniewski et al., 2008).

Supportive evidence that the NPI measures multiple dimensions of personality with a differentiated set of external correlates is consistently found in studies examining two of the four dimensions identified by Emmons (1984, 1987), Exploitiveness/Entitlement and Leadership/Authority. Individuals with higher scores on Exploitiveness/Entitlement are more likely to be self-conscious (Watson & Biderman, 1993), report larger actual-ideal discrepancies (Rhodewalt & Morf, 1995), possess lower self-esteem (Brown et al., 2009), and exhibit lower levels of empathy and social desirability (Watson, Grisham, Trotter, & Biderman, 1984; Watson, Little, Sawrie, & Biderman, 1992; Watson & Morris, 1991). Higher levels of Exploitiveness/Entitlement have also been found to be connected to increased mood variability and emotional intensity (Emmons, 1987), and neuroticism (Emmons, 1984), as well as higher scores on the Narcissistic Personality Disorder Scale (Emmons, 1987; Watson et al., 1984). Such findings suggest a dimension of personality embedded within the NPI item pool that is characterized by emotional reactivity and brittleness, and accompanied by a lack of concern for others. These attributes generally correspond to what Barry et al. (2003) identified as *maladaptive narcissism* in their modifications of the NPI for use with children and adolescents. Taken as a whole, such findings suggest that the NPI does capture some maladaptive aspects of personality.

In contrast, the Leadership/Authority dimension arguably represents the more adaptive aspects of personality captured by the NPI summary scores. Individuals who score higher on this dimension report a greater degree of self-awareness (Watson & Biderman, 1993), a lower actual–ideal self-discrepancy (Emmons, 1984; Raskin & Terry, 1988;

Rhodewalt & Morf, 1995), and higher self-esteem (Brown et al., 2009; Emmons, 1984; Rhodewalt & Morf, 1995; Watson & Biderman, 1993; Watson et al., 1992). Furthermore, Leadership/Authority is associated with indices of psychological adjustment such as lower social anxiety (Emmons, 1984; Watson & Biderman, 1993), neuroticism (Emmons, 1984; Rhodewalt & Morf, 1995), personal distress (Watson et al., 1992; Watson & Morris, 1991), depression (Watson & Biderman, 1993), and anxiety (Watson & Biderman, 1993). In short, there appears to be a dimension of personality embedded within the NPI that captures psychological resilience and social potency. These elements of personality form the core of what Barry et al. (2003) call *adaptive narcissism* and what Watson and Morris (1991) term *adaptive self-functioning*. These elements also likely represent what Pincus and Lukowitsky (2010) label *normal narcissism* and form the basis for claims regarding links between narcissism and psychological health (e.g., Sedikides et al., 2004).

The Present Studies

In light of the previous issues regarding the factor structure and construct validity of the NPI dimensions, the goals of the present research were to better understand the structure of the NPI and to further elaborate the nomological network of the dimensions of personality embedded within this measure. Additional factor analytic work is necessary given the ambiguities in the literature regarding the NPI. In Study 1, we conducted our own EFA of the NPI using a very large data set. To address some potential limitations of previous research, we used EFA instead of PCA, performed analyses on the tetrachoric correlation matrix, and used the scree plot and interpretability of the factors as a guide in our selection of a factor solution. Thus, we follow contemporary recommendations for conducting factor analytic work. To be sure, it is now widely recognized that the K1 heuristic (i.e., extracting all factors with an eigenvalue greater than 1.0) is rarely an optimal strategy for determining the number of dimensions given its general tendency to lead to an overextraction of factors (see Fabrigar, Wegener, MacCallum, & Strahan, 1999).

The primary difference between our approach to factor analysis and the one adopted by Corry et al. (2008) concerns the importance of the internal consistency of the scales. Corry et al. (2008) placed a premium on identifying dimensions that would yield scales with relatively high levels of internal consistency. Although internal consistency is certainly important, we believe that this emphasis may have led to an underextraction of key factors. It might be that the NPI includes a relatively small number of items that nonetheless measure theoretically important dimensions of personality associated with maladaptive aspects of

narcissism. Thus, there are compelling reasons to conduct additional factor analytic work on the NPI with an eye toward recovering the dimensions of narcissism most emphasized in the current literature. After identifying the most robust and theoretically compelling factor solution in this large data set, we used CFA in Studies 2 and 3 to evaluate how well this solution replicated across two independent samples. As Briggs and Cheek (1986) point out, an important criterion for the acceptance of any factor solution is the ability to duplicate the structure across different samples.

Our second objective was to refine the nomological network of the NPI dimensions uncovered in Study 1, and confirmed in Studies 2 and 3. Study 2 evaluated their associations with constructs frequently linked to narcissism (e.g., psychopathy, self-esteem, and self-control). Study 3 evaluated convergent associations between the NPI dimensions and psychological entitlement (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004), as well as pathological narcissism measured by the newly developed Pathological Narcissism Inventory (PNI; Pincus et al., 2009). Finally, Study 4 evaluated the associations between the NPI dimensions and self-reports and informant reports of the Big Five traits, as well as their associations with several variables related to self-reported college adjustment. Thus, we pursue a more comprehensive assessment of the criterion-related validity of the NPI dimensions than was conducted by Corry et al. (2008).

Study 1

In Study 1, we conducted an EFA of the NPI-40, using a sample of 19,001 college students previously described in Trzesniewski et al. (2008). The primary goal of these analyses was to identify one or more replicable factor solutions. Two different considerations were used to decide on a factor solution in our exploratory analyses. First, we examined the scree plot to obtain a rough idea of the number of large dimensions embedded within the NPI. We used this approach rather than extracting all eigenvalues greater than 1.0 given the previously described limitations associated with this rule of thumb (see Fabrigar et al., 1999). Second, we examined factor loadings to identify the solutions that were most consistent with previous research and interpretable in light of past theoretical work. Our factor analytic decisions were generally consistent with the considerations used by Corry et al. (2008) with the exception that we did not place as high of a premium on the internal consistency of the scales that emerged from the analyses. This was motivated by our expectation that some important dimensions embedded within the NPI may only be measured by a relatively small number of items (see Raskin & Terry, 1988), and this can have a detrimental impact on alpha coefficients as this statistic depends on the number of items in a measure. In addition to exploratory analyses, we conducted CFAs of the previously reported NPI solutions in Study 1 to

provide a benchmark for evaluating the fit of our structural models in Studies 2 and 3.

Method

Participants, Measure, and Procedure. Participants were 19,001 college students (64.0% women) from a large university in northern California who completed the 40-item NPI (Raskin & Terry, 1988) as part of a prescreening questionnaire in exchange for course credit between 2002 and 2007. The sample consisted primarily of European American (38.0%) and Asian American participants (39.3%), most of whom were 18 (29.8%), 19 (26.3%), 20 (17.2%), or 21 (12.8%) years of age. All questionnaires were completed online through a secure departmental website.

Results and Discussion

Exploratory Analyses. We used Mplus 6.0 to perform a series of EFAs on the NPI-40 because it offers algorithms that are appropriate for factor analyzing dichotomous variables. We rotated the factors using the oblique geomin procedure, which is often recommended by methodologists (Browne, 2001). Nine initial eigenvalues were above 1.0 (first 10 eigenvalues: 9.443, 2.823, 2.577, 1.732, 1.703, 1.311, 1.242, 1.154, 1.122, and 0.996). However, a close examination of the scree plot revealed a noticeable bend between the third and the fourth factors, thus suggesting a three-factor solution. Specifically, the difference in eigenvalues between the third and fourth factors was .845, which was considerably larger than the difference between the second and third factors (.246), the fourth and fifth factors (.029), the fifth and sixth factors (.392), the sixth and seventh factors (.069), and the seventh and eighth factors (.088). In short, evidence for extracting two-, four-, five-, six-, and seven-factor solutions was less compelling than the evidence for extracting three factors.

We also examined whether we could recover the two-, three-, four-, and seven-dimension solutions proposed by previous researchers. The Corry et al. (2008) two-factor solution was more or less recovered in these analyses. Out of the nine items that made up their original Leadership/Authority factor, eight of them exhibited loadings greater than .40 on a single factor. Moreover, 9 out of 14 items on their Exhibitionism/Entitlement factor exhibited loadings greater than .40 on a second factor. In contrast, the canonical three-factor Kubarych et al. (2004) solution, the four-factor Emmons (1984) solution, and the seven-factor Raskin and Terry (1988) solution were not as easily identifiable. The seven-factor solution even contained a factor that did not have substantial loadings for any of the NPI items.

In light of the above findings, we were left to decide between a two- and three-factor solution. These two respective

Table 2. CFA Fit Indexes of NPI Solutions (Study 1)

Model	χ^2 (*df*)	CFI	RMSEA	TLI
Corry et al. (two-factor)	17999.22 (229)	.867	.064	.853
Kubarych et al. (two-factor)	34762.32 (628)	.829	.053	.818
Kubarych et al. (three-factor)	31919.33 (626)	.843	.051	.833
Emmons (four-factor)	31250.44 (428)	.830	.062	.815
Raskin and Terry (seven-factor)	29364.28 (719)	.868	.046	.857

Note. CFA = confirmatory factor analysis; NPI = Narcissistic Personality Inventory; CFI = comparative fit index; RMSEA = root mean square error of approximation; TLI = Tucker–Lewis index; WLSMV = weighted least square with mean and variance adjustment. Each analysis used the WLSMV method of estimation. *N* = 18,998 for Corry et al. (2008) solution; *N* = 19,001 for Kubarych et al. (2004) two- and three-factor solutions, Emmons (1984, 1987) four-factor solution, and Raskin and Terry (1988) seven-factor solution. Differences in sample size reflect different patterns of missing data.

solutions appeared to be the cleanest and most easily interpretable in the context of existing research with the NPI. The two-factor solution was similar to the Corry et al. (2008) solution and it seemed to correspond reasonably well with the Barry et al. (2003) distinction between adaptive and maladaptive narcissism (see also Watson & Morris, 1991). Consistent with our oblique rotation methods, the two latent factors were correlated (*r* = .47). However, given recent theoretical considerations that grandiosity and entitlement are important but somewhat distinct elements of maladaptive narcissism (e.g., Brown et al., 2009), we ultimately favored the three-factor solution uncovered in these analyses, as this solution preserved this distinction. Pattern loadings for this three-factor solution are reported in Table 1.

The first factor was similar to the Corry et al. (2008) Leadership/Authority factor as it was indicated by items related to self-perceived leadership ability, social potency, and to a lesser extent, dominance. We therefore used the Corry et al. label for this factor. The second factor was indicated by items reflecting a combination of self-absorption, vanity, superiority, and exhibitionistic tendencies. Accordingly, this factor seemed to illustrate the features of self-love and theatrical self-presentation emphasized in early writings on narcissism. We labeled this factor Grandiose Exhibitionism. The third factor consisted of items capturing entitled beliefs and behaviors related to interpersonal contexts, such as a sense of deserving respect and a willingness to manipulate and take advantage of others. This dimension seemed to correspond to the socially toxic elements of narcissism that are frequently discussed in the literature. To maintain consistency with the terminology used in the literature, we used the label of Entitlement/Exploitativeness.[1] A table with the correlations between the different scales for each of the NPI solutions is available on request.

Confirmatory Analyses. In addition to the extensive set of EFA analyses, we used CFA techniques to formally evaluate the fit of previously identified factor solutions discussed in the literature (e.g., Corry et al., 2008). To account for the dichotomous nature of the NPI indicators, we used WLSMV (weighted least square with mean and variance adjustment)

estimation as implemented in Mplus 6.0. Table 2 shows that none of these solutions produced consistently good-fit statistics using conventional rules of thumb. This is not uncommon for omnibus measures of personality and is likely due to the presence of a large number of correlated item residuals and cross-loadings (see Corry et al., 2008). In light of this and broader concerns about the usefulness of established conventions used to interpret model fit indexes (e.g., Marsh, Hau, & Wen, 2004), Hopwood and Donnellan (2010) have suggested that researchers interpret CFA fit indexes within a local context by using the fit of the models that are commonly proposed for an inventory (or for similar inventories) for interpreting new results. They argued that this will give researchers an idea of the range of model fit statistics that might be expected in subsequent research. These "local" fit statistics might then serve as more appropriate benchmarks for the interpretation of model fit rather than the often-cited conventions (e.g., comparative fit index values of .95 or higher) or the use of the exact fit test. Accordingly, the model fit statistics reported in Table 2 provide a rubric for the interpretation of fit statistics for the NPI, which we will use as a point of comparison for replication of our three-factor structure in Studies 2 and 3.

Study 2

In Study 2, we used CFA to replicate the three-factor solution uncovered in Study 1. We also evaluated the nomological network of these three NPI dimensions by testing their relations to constructs of theoretical relevance to narcissism—self-esteem, self-control, antisocial behavior, basic motivational systems, and the two remaining members of the "Dark Triad" of personality (i.e., psychopathy and Machiavellianism; see Paulhus & Williams, 2002). Scales were constructed by selecting those items for each factor in Table 1 that exhibited pattern loadings for their factor at or above .40. In the cases where an item exhibited loadings greater than .40 on more than one factor, we assigned the item to the factor with the larger of the two loadings. This was relevant for only two items. Items with negative loadings on the

Leadership/Authority factor were reverse scored, and items with positive loadings on the Grandiose Exhibitionism factor were reverse scored. Leadership/Authority was represented by 11 items (Items 1, 5, 10, 11, 12, 27, 32, 33, 34, 36, and 40), Grandiose Exhibitionism by 10 items (Items 4, 7, 15, 19, 20, 26, 28, 29, 30, and 38), and Entitlement/Exploitativeness by 4 items (Items 13, 14, 24, and 25). Given concerns over the internal consistency of the NPI scales and issues with how alpha is linked to the number of items in a scale, we also report the average interitem correlations for the NPI scales to provide a broader context for evaluating the internal consistency of our scales.

Patrick and Bernat (2009) proposed a dual process model of psychopathy wherein the clinical syndrome stems from deficits in two separate underlying neurobiological systems: one that manifests itself as trait fearlessness and another that manifests itself as a tendency toward externalizing problems. These two dimensions have been operationalized using measures of Fearless Dominance and Impulsive Antisociality (e.g., Benning, Patrick, Hicks, Blonigen, & Krueger, 2003; Witt, Donnellan, & Blonigen, 2009; Witt, Donnellan, Blonigen, Krueger, & Conger, 2009). Empirical research suggests that the NPI total score is more strongly related to Fearless Dominance than Impulsive Antisociality (e.g., Witt & Donnellan, 2008; Witt, Donnellan, Blonigen, Krueger, et al., 2009); however, there are some indications that this statistical effect is driven by the putatively adaptive factors of the NPI (see table 4 of Witt & Donnellan, 2008). On the other hand, the more socially toxic elements of the NPI (e.g., Entitlement and Exploitativeness) are more strongly linked with Impulsive Antisociality than Fearless Dominance. Given this past work, we expected the Leadership/Authority factor to be more strongly related to Fearless Dominance and the Grandiose Exhibitionism and Entitlement/Exploitativeness factors to be more strongly related to Impulsive Antisociality. Moreover, we expected that Machiavellianism will be more strongly linked with the maladaptive facets of personality assessed by the NPI given the findings for Impulsive Antisociality.

In addition to the Dark Triad, we investigated connections between facets of the NPI and constructs linked with positive self-evaluations. Researchers frequently report a modest to moderate positive association between self-esteem and NPI total scores (e.g., around .30; Trzesniewski et al., 2008). However, Trzesniewski et al. (2008) reported differential correlates between self-esteem and some of the Raskin and Terry (1988) dimensions such that self-esteem had a very small negative correlation with their Entitlement subscale from the NPI ($r = -.04$) and very small positive correlations with their Exhibitionism ($r = .08$) and Exploitativeness ($r = .09$) subscales. In contrast, self-esteem had larger positive associations with Raskin and Terry's Authority ($r = .33$) and Self-Sufficiency ($r = .32$) scales. Thus, the overall correlation for NPI total scores and self-esteem

obscures some important differences with respect to relations between the NPI scales and feelings of self-worth. Specifically, it appears that the Leadership/Authority factor shows a moderate positive relation with self-esteem whereas Exhibitionism/Entitlement shows little relation with self-esteem.

Last, given the suggestion by Vazire and Funder (2006) that narcissism is linked to poor self-control, we evaluated connections between the NPI factors and constructs related to behavioral control. One potential limitation of the existing work examining links between narcissism and impulsivity is that it has largely used the NPI total score (but see Fulford, Johnson, & Carver, 2008; Rhodewalt & Morf, 1995). Accordingly, we examined relations between facets of the NPI and several measures linked to self-control and basic motivational systems, including the Behavioral Activation System (BAS) and Behavioral Inhibition System (BIS), the construct of self-control discussed by Tangney, Baumeister, and Boone (2004), and an outcome of impulsivity—counterproductive school behaviors. The BIS and BAS analyses are particularly informative as Tracy and Robins (2003, figure 1) proposed a temperament-based account of narcissism in which high avoidance (i.e., high BIS scores) and high approach (i.e., high BAS scores), in conjunction with shame-inducing early childhood experiences, serve to provide the foundation for the development of narcissism.

Method

Participants. Participants were 353 college students (70.8% women) from a large Midwestern university who participated in exchange for course credit or extra credit. The sample consisted primarily of European American participants (81.9%), the majority of whom were 18 (28.6%), 19 (37.1%), 20 (19.3%), or 21 (10.2%) years of age. All questionnaires were completed online through a secure website maintained by the Psychology Department.

Measures

NPI-40 (Raskin & Terry, 1988). We calculated the NPI total score ($M = 0.41$, $SD = 0.17$; $\alpha = .84$, average interitem $r = .12$) and the subscales for the present three-factor solution: Leadership/Authority ($M = 0.48$, $SD = 0.27$; $\alpha = .78$, average interitem $r = .25$), Grandiose Exhibitionism ($M = 0.39$, $SD = 0.25$; $\alpha = .72$, average interitem $r = .21$), and Entitlement/Exploitativeness ($M = 0.26$, $SD = 0.27$; $\alpha = .46$, average interitem $r = .18$).[2] Because we used the mean of participants' responses to represent their scores on each of the subscales, these sample means indicate the average proportion of items on each subscale that participants endorsed. The Leadership/Authority subscale showed moderate associations with Grandiose Exhibitionism ($r = .43$) and Entitlement/Exploitativeness ($r = .31$), and Grandiose

Exhibitionism showed a moderate association with Entitlement/Exploitativeness ($r = .21$).

Psychopathy. The two dimensions of Fearless Dominance and Impulsive Antisociality were measured by the International Personality Item Pool (IPIP)-based scales developed by Witt, Donnellan, and Blonigen (2009; i.e., "Participants responded using a 5-point scale that ranged from 1 [*strongly disagree*] to 5 [*strongly agree*].""). Fearless Dominance captures an interpersonally dominant orientation characterized by thrill seeking and a lack of anxiety (20 items; $M = 3.33$, $SD = 0.47$; $\alpha = .74$) whereas Impulsive Antisociality captures a general susceptibility to deviance (20 items; $M = 2.38$, $SD = 0.55$; $\alpha = .74$). Witt, Donnellan, and Blonigen (2009) reported good convergence between these scales (i.e., $rs > .65$) and the more commonly used scales in the Psychopathic Personality Inventory–Revised (Lilienfeld & Widows, 2005).

Machiavellianism. The 20-item "Kiddie Mach" (Christie & Geis, 1970) was used to assess Machiavellianism. The Kiddie Mach is written in simpler and more direct language and therefore takes less time to complete than the MACH-IV (e.g., the item "Most people cannot be easily fooled" captures the same content of the MACH-IV item of "Barnum was wrong when he said that there's a sucker born every minute"). Participants responded using a 5-point scale that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores reflected higher levels of Machiavellianism ($M = 2.78$, $SD = 0.38$; $\alpha = .74$).

Self-esteem. The 10-item Rosenberg scale (1965) was used to measure self-esteem. Participants responded using a 5-point scale that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores reflected higher levels of self-esteem ($M = 3.74$, $SD = 0.58$, $\alpha = .86$).

Behavioral Inhibition System (BIS)/Behavioral Activation System (BAS). The 24-item Carver and White (1994) measure was used to assess these two systems. Participants responded to each item on a 5-point scale that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Items were scored such that higher scores on the BIS (7 items; $M = 3.70$, $SD = 0.58$; $\alpha = .76$) and BAS (13 items; $M = 3.59$, $SD = 0.44$; $\alpha = .81$) scales suggest higher activity of that respective system. Furthermore, the BAS scale was scored to reflect its subscales of Drive (i.e., a persistent approach toward goals; 4 items; $M = 3.20$, $SD = 0.67$; $\alpha = .74$), Reward Responsiveness (i.e., a tendency to experience positive affect on anticipation or completion of goal attainment; 5 items; $M = 3.98$, $SD = 0.43$; $\alpha = .72$), and Fun Seeking (i.e., the seeking out of and spontaneous engagement in new experiences; 4 items; $M = 3.49$, $SD = 0.61$; $\alpha = .65$).

Self-control. Self-control was measured with the 13-item scale developed by Tangney et al. (2004). This scale assessed participants' general ability to inhibit impulses and work toward long-term goals in a wide variety of domains. Participants responded to each item on a 5-point scale that

ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores corresponded to higher levels of the trait ($M = 3.13$, $SD = 0.57$; $\alpha = .83$).

Counterproductive school behaviors. A modified version of the 11-item Bennett and Robinson (2000) workplace deviance measure was used to assess counterproductive school behaviors. We replaced the word "work" with "school" for the seven Interpersonal Deviance items. We also modified their third item from "Made an ethnic, religious, or racial remark at work" to "Made a derogatory ethnic, religious, or racial remark at school." Participants responded to each item on a 5-point scale that ranged from 1 (*never*) to 5 (*frequently*). Higher scores indicated more frequent reports of misbehavior at school ($M = 2.25$, $SD = 0.54$; $\alpha = .82$).

Results and Discussion

Confirmatory Factor Analysis of the Three-Factor Solution.
To account for the dichotomous nature of the NPI indicators, we used WLSMV estimation within Mplus 6.0 to evaluate the three-factor solution. Standardized estimates of the factor loadings were obtained by fixing the variance of each factor to one; moreover, covariances were freely specified between the three latent factors. Model fit was not acceptable by existing conventions given that the comparative fit index (CFI) and Tucker–Lewis index (TLI) values were less than .90: $\chi^2(272, n = 353) = 626.822$, $p < .001$, CFI = .869, TLI = .855, root mean square error of approximation (RMSEA) = .061. However, the fit indexes were in line with those reported in Table 2. Examination of the modification indexes revealed that certain items with similar item content had correlated residuals (e.g., "I like to display my body" and "I like to look at my body"), a phenomenon reported by others (e.g., Corry et al., 2008; Kubarych et al., 2004).

Consequently, we specified covariances between residuals for Items 7 and 30, 15 and 19, 4 and 26, 19 and 29, 10 and 33, and 34 and 40. This improved model fit indexes into ranges that were more or less acceptable by existing conventions: $\chi^2(266, n = 353) = 460.320$, $p < .001$, CFI = .928, TLI = .919, RMSEA = .045. More important, the fit was favorable compared with the other structural models reported in Table 2. Pattern loadings from this model are reported in Table 3. The item loadings for the Leadership/Authority factor ranged from .30 to .79 (average factor loading ≈ .64), the loadings for Grandiose Exhibitionism ranged from .34 to .84 (average factor loading ≈ .54), and the loadings for Entitlement/Exploitativeness ranged from .38 to .76 (average factor loading ≈ .54). An EFA with geomin rotation revealed that most of the items that were scored on the scales had their largest loadings on their respective factors (i.e., 8 out of 11 Leadership/Authority items, 7 out of 10 Grandiose Exhibitionism items, and 4 out of 4 Entitlement/Exploitativeness items).

Table 3. Confirmatory Factor Analysis Standardized Pattern Loadings for the Three-Factor Model (Studies 2 and 3)

Item	Leadership/Authority		Grandiose Exhibitionism		Entitlement/Exploitativeness	
	Study 2	Study 3	Study 2	Study 3	Study 2	Study 3
1	.72	.51				
5	.51	.58				
10	.69	.65				
11	.73	.43				
12	.77	.71				
27	.69	.65				
32	.79	.71				
33	.74	.74				
34	.30	.32				
36	.64	.76				
40	.43	.49				
4			.54	.45		
7			.71	.62		
15			.45	.61		
19			.34	.56		
20			.66	.70		
26			.54	.34		
28			.39	.61		
29			.46	.38		
30			.84	.64		
38			.43	.46		
13					.76	.58
14					.38	.58
24					.46	.39
25					.57	.62

Note. Table only includes rows for those items that load on the current three-factor solution. Items 10, 32, 5, 40, 28, 4, 26, 20, 15, 7, and 19 were reverse scored for all analyses. Correlations between latent factors for Study 2 were as follows: Leadership/Authority and Grandiose Exhibitionism (r = .63); Leadership/Authority and Entitlement/Exploitativeness (r = .56); and Grandiose Exhibitionism and Entitlement/Exploitativeness (r = .43). Correlations between latent factors for Study 3 were as follows: Leadership/Authority and Grandiose Exhibitionism (r = .54); Leadership/Authority and Entitlement/ Exploitativeness (r = .33); and Grandiose Exhibitionism and Entitlement/Exploitativeness (r = .38).

Correlates of the NPI Total Score and NPI Scales. Table 4 reports the correlations between the NPI scales and the criterion variables. The NPI total score exhibited moderate to strong positive associations with the Fearless Dominance and BAS drive scales. The NPI total score showed slightly weaker positive links with Impulsive Antisociality, Machiavellianism, Self-Esteem, total BAS, BAS Reward Responsiveness, BAS Fun Seeking, and Counterproductive School Behaviors. In addition, the NPI total score was negatively associated with the BIS scale. Self-Control was the only variable with no detectable overall association with the NPI. Using only the NPI total score, we would therefore conclude that individuals with higher levels of "narcissism" have higher levels of self-esteem, are more socially potent, possess temperaments that predispose them to be more sensitive to rewards and less sensitive to signs of punishment, and engage in higher rates of deviant behaviors at school.

Consistent with our concerns about the interpretation of the NPI total score, however, an inspection of the NPI scale correlations demonstrated that the overall pattern of associations was not always consistent across each of the NPI scales. For example, the Leadership/Authority scale was unrelated to Impulsive Antisociality and Machiavellianism. A somewhat different pattern emerged when considering the other dimensions. The Grandiose Exhibitionism scale, for instance, was modestly associated with Impulsive Antisociality, Machiavellianism, and Counterproductive School Behaviors. On the other hand, the Entitlement/Exploitativeness scale was more strongly associated with Impulsive Antisociality and Machiavellianism, which is noteworthy in light of its relatively low internal consistency.

We also conducted a series of multiple regressions to determine the unique relations of the three NPI scales with the criterion variables. Table 5 presents the 11 multiple regression

Table 4. Correlations (*r*) Between the Narcissistic Personality Inventory (NPI) Total Score, the NPI Scales of Leadership/Authority, Grandiose Exhibitionism, and Entitlement/Exploitativeness, and Variables Relevant to Narcissism (Study 2)

	NPI Total Score	NPI Scale Scores		
		Leadership/Authority	Grandiose Exhibitionism	Entitlement/Exploitativeness
Psychopathy: Fearless dominance	**.49**	**.52**	**.38**	−.01
Psychopathy: Impulsive antisociality	**.21**	.03	**.20**	**.37**
Machiavellianism	**.19**	.04	**.15**	**.35**
Self-esteem	**.27**	**.35**	**.15**	−.12
Behavioral inhibition system (BIS)	−.26	−.27	−.05	−.13
Behavioral activation system (BAS)	**.33**	**.29**	**.28**	.09
BAS: Drive	**.40**	**.37**	**.27**	**.17**
BAS: Reward responsiveness	**.11**	**.13**	**.15**	−.08
BAS: Fun seeking	**.23**	.14	**.21**	.08
Self-control	.05	**.16**	−.05	−.11
Counterproductive school behaviors	**.24**	.13	**.20**	**.24**

Note. Entries in boldface are significant at *p* < .05.

analyses. In each analysis, we used the NPI subscales of Leadership/Authority, Grandiose Exhibitionism, and Entitlement/Exploitativeness to predict the criterion variable of interest (e.g., self-control). To reduce redundancy with the previous analyses, we place much of our focus here on those relations that differed from their zero-order counterparts. As Table 5 shows, the Leadership/Authority scale exhibited negative associations with the Impulsive Antisociality and Machiavellianism scales. Moreover, the connections between the Leadership/Authority scale and the Counterproductive School Behaviors and BAS Fun Seeking scales became nonsignificant once the effects of Grandiose Exhibitionism and Entitlement/Exploitativeness were controlled. These findings provide evidence that the unique aspects of the Leadership/Authority scale capture a mostly adaptive dimension of personality.

The Grandiose Exhibitionism and Entitlement/Exploitativeness scales were also shown to provide an informative pattern of relations within a multiple regression context. As Table 5 shows, the Grandiose Exhibitionism scale became uniquely associated with less behavioral regulation and essentially unrelated to self-esteem. In addition, links between the Grandiose Exhibitionism scale and the Fearless Dominance, BAS total score, and BAS drive scales became attenuated. The Entitlement/Exploitativeness scale was found to uniquely predict less interpersonal dominance and a tendency to experience less positive affect after completing goals. Furthermore, Entitlement/Exploitativeness became unrelated to BAS drive and more strongly inversely related to self-esteem.

Summary

Taken together, these results provide evidence that the positive relations between the NPI total score and agency-related constructs (i.e., Fearless Dominance and BAS) are primarily driven by the Leadership/Authority and Grandiose Exhibitionism content of the NPI. The Entitlement/Exploitativeness scale does not appear to explain these relations; in fact, once the other NPI factors are controlled for, the Entitlement/Exploitativeness scale has a negative relation with Fearless Dominance. In addition, the positive relation between the NPI total score and self-esteem, as well as the negative relation between the NPI total score and BIS, appear to be mostly driven by the Leadership/Authority content. Finally, the positive associations between the NPI total score and Impulsive Antisociality, Machiavellianism, and counter-productive school behaviors appear to be driven by the more maladaptive contents of the NPI—Grandiose Exhibitionism and Entitlement/Exploitativeness.

Study 3

In Study 3, we again evaluated the fit of the three-factor solution for the NPI using CFA methods. This replication is important given the model modifications made in Study 2. We also assessed the convergent validity of the three NPI factors using the Psychological Entitlement Scale (Campbell et al., 2004) and the PNI (Pincus et al., 2009). Campbell et al. (2004) developed the Psychological Entitlement Scale to

Table 5. Multiple Regression Analyses Using the NPI Scales of Leadership/Authority, Grandiose Exhibitionism, and Entitlement/Exploitativeness to Predict Variables Relevant to Narcissism (Study 2)

	Leadership/Authority			Grandiose Exhibitionism			Entitlement/Exploitativeness				
	b	SE	β	b	SE	β	b	SE	β	Model F	R^2
Psychopathy: Fearless dominance	**0.87**	.09	.49	**0.40**	.09	.21	**−0.37**	.08	−.21	59.22[a]	**.34**
Psychopathy: Impulsive antisociality	**−0.35**	.11	−.17	**0.41**	.12	.19	**0.79**	.11	.38	24.65[b]	**.18**
Machiavellianism	−0.18	.08	−.13	**0.20**	.08	.13	**0.51**	.08	.36	18.82[c]	**.14**
Self-esteem	**0.91**	.12	.42	0.06	.13	.03	**−0.55**	.11	−.25	26.00[c]	**.18**
Behavioral inhibition system (BIS)	**−0.62**	.13	−.29	0.20	.13	.09	−0.12	.12	−.06	10.24[a]	**.08**
Behavioral activation system (BAS)	**0.34**	.09	.21	**0.34**	.10	.19	−0.04	.09	−.02	14.64[a]	**.11**
BAS: Drive	**0.73**	.14	.29	**0.36**	.15	.13	0.11	.13	.04	20.63[a]	**.15**
BAS: Reward responsiveness	**0.20**	.10	.12	**0.22**	.10	.13	**−0.24**	.09	−.15	5.80[a]	**.05**
BAS: Fun seeking	0.11	.14	.05	**0.46**	.14	.19	0.06	.13	.03	5.92[b]	**.05**
Self-control	**0.54**	.13	.26	**−0.28**	.13	−.12	**−0.35**	.12	−.16	7.88[a]	**.06**
Counterproductive school behaviors	0.00	.12	.00	**0.34**	.12	.16	**0.40**	.11	.20	9.96[c]	**.08**

Note. NPI = Narcissistic Personality Inventory; b = unstandardized regression coefficient; SE = standard error of the unstandardized regression coefficient; β = standardized regression coefficient. Entries in boldface are significant at $p < .05$ (i.e., "Differences in the degrees of freedom error for the models reflect different patterns of missing data.").
a. A model with the following degrees of freedom: (3, 348).
b. A model with the following degrees of freedom: (3, 347).
c. A model with the following degrees of freedom: (3, 349).

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provide researchers with a more face-valid and reliable measure of narcissistic entitlement and we expect this measure to converge with the NPI Entitlement/Exploitativeness scale. The PNI was designed to assess pathological narcissistic traits associated with vulnerability and grandiosity. These analyses will provide important information as to which aspects of the NPI correspond with these newly developed measures. This work will also help establish whether any aspects of the NPI are related to pathological narcissism as captured by the PNI.

Method

Participants. Participants were 332 college students (81.6% women) from a large Midwestern university who participated in exchange for course credit or extra credit. Most students reported being European American/White (84.9%). The majority reported being 18 (33.4%), 19 (33.7%), 20 (15.1%), or 21 (10.5%) years of age. All questionnaires were completed online through a secure website maintained by the Psychology Department.

Measures

NPI-40 (Raskin & Terry, 1988). Along with the NPI total score ($M = 0.39$, $SD = 0.15$; $\alpha = .80$, average interitem $r = .09$), scales were created according to the present three-factor solution: Leadership/Authority ($M = 0.46$, $SD = 0.25$; $\alpha = .75$, average interitem $r = .21$), Grandiose Exhibitionism ($M = 0.35$, $SD = 0.24$; $\alpha = .71$, average interitem $r = .20$), and Entitlement/Exploitativeness ($M = 0.21$, $SD = 0.25$; $\alpha = .44$, average interitem $r = .17$). The Leadership/Authority subscale showed a moderate association with Grandiose Exhibitionism ($r = .34$) and a weaker association with Entitlement/Exploitativeness ($r = .16$). Grandiose Exhibitionism also showed a modest association with Entitlement/Exploitativeness ($r = .17$).

Psychological Entitlement Scale (Campbell et al., 2004). This scale assesses the entitlement facet of narcissism. Participants responded to nine items on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Example items included, "Great things should come to me" and "I deserve more things in my life." Each participant's score was the mean across items, with higher scores signaling greater levels of psychological entitlement ($M = 2.66$, $SD = 0.58$; $\alpha = .85$, average interitem $r = .38$).

Pathological Narcissism Inventory (Pincus et al., 2009). This 52-item measure was designed to assess the more pathological characteristics associated with narcissism ($M = 2.48$, $SD = 0.66$; $\alpha = .93$). This inventory contains seven subscales: Exploitativeness (5 items; $M = 2.35$, $SD = 0.92$; $\alpha = .76$), Self-Sacrificing Self-Enhancement (6 items; $M = 3.05$, $SD = 0.80$; $\alpha = .70$), Grandiose Fantasy (7 items; $M = 2.93$, $SD = 0.97$; $\alpha = .85$), Entitlement Rage (8 items; $M = 2.26$, $SD = 0.90$; $\alpha = .83$), Contingent Self-Esteem (12 items;

$M = 2.26$, $SD = 1.01$; $\alpha = .91$), Hiding the Self (7 items; $M = 2.86$, $SD = 0.94$; $\alpha = .79$), and Devaluing (7 items; $M = 1.88$, $SD = 0.98$; $\alpha = .84$). Wright, Lukowitsky, Pincus, and Conroy (IN PRESS) recently provided evidence for the existence of two higher order factors of Narcissistic Grandiosity (indicated by the Exploitativeness, Self-Sacrificing Self-Enhancement, and Grandiose Fantasy subscales) and Narcissistic Vulnerability (indicated by the Entitlement Rage, Contingent Self-Esteem, Hiding the Self, and Devaluing subscales) that help explain the observed covariation between the PNI subscales. We therefore additionally scored the instrument for these broader dimensions: Narcissistic Grandiosity (18 items; $M = 2.81$, $SD = 0.69$; $\alpha = .85$) and Narcissistic Vulnerability (34 items; $M = 2.30$, $SD = 0.75$; $\alpha = .93$). Participants responded to each question on a 6-point Likert-type scale that ranged from *not at all like me* (coded as a 0) to *very much like me* (coded as a 5). Each subscale was scored such that higher scores corresponded to higher levels of the construct.

Results and Discussion

Confirmatory Factor Analysis of the Three-Factor Solution. We specified the three-factor solution using the same modifications described in Study 2. When judged relative to the fit statistics presented in Table 2, this model showed indications of reasonable fit, $\chi^2(266, n = 332) = 423.993$, $p < .001$, CFI = .922, TLI = .912, RMSEA = .042. Pattern loadings are reported in Table 3. An EFA with geomin rotation again revealed that most of the items scored on the scales had their largest loadings on their respective factors (i.e., 9 out of 11 Leadership/Authority items, 7 out of 10 Grandiose Exhibitionism items, and 3 out of 4 Entitlement/Exploitativeness items).[3] In general, the results from Study 3 mirrored Study 2 suggesting that the three-factor model was replicable.

Correlations Between the NPI Scales and Existing Measures of Narcissism. Table 6 shows correlations between the NPI scales and existing measures of narcissism.[4] The NPI total score showed moderate convergence with the Psychological Entitlement Scale but only a modest association with the PNI total score. This suggests areas of important distinction between some of the elements of "normal" narcissism assessed by the NPI and elements of "pathological" narcissism assessed by the PNI. An examination of the correlations between the NPI scale scores and the subscales of the PNI suggested a complex pattern of associations.

Consistent with previous analyses showing that Leadership/Authority was largely unrelated to maladaptive personality traits, this scale did not have many positive associations with the PNI subscales. In fact, the NPI Leadership/Authority scale was found to be negatively related to PNI Contingent Self-Esteem, indicating that individuals with higher levels of Leadership/Authority show a *reduced* tendency to experience self-esteem as fluctuating and

Table 6. Correlations (*r*) Between the NPI Total Score, the NPI Scales of Leadership/Authority, Grandiose Exhibitionism, and Entitlement/Exploitativeness, the Psychological Entitlement Scale, and Measures of "Pathological" Narcissism (Study 3)

| | NPI Total Score | NPI Scale Scores | | | Psychological Entitlement Scale |
		Leadership/ Authority	Grandiose Exhibitionism	Entitlement/ Exploitativeness	
Psychological Entitlement Scale	**.41**	**.26**	**.32**	**.36**	—
Pathological Narcissism Inventory	**.14**	−.02	**.13**	**.30**	**.28**
Narcissistic vulnerability	.05	−.10	.07	**.32**	**.24**
Entitlement rage	**.31**	.08	**.30**	**.44**	**.46**
Contingent self-esteem	−.04	**−.19**	.06	**.23**	.14
Hiding the self	−.07	−.06	**−.15**	.05	−.02
Devaluing[a]	.02	−.07	−.01	**.31**	.19
Narcissistic grandiosity	**.29**	.15	**.20**	.16	**.26**
Exploitativeness	**.40**	**.27**	.18	**.31**	**.25**
Self-sacrificing self-enhancement[a]	.11	.06	.13	−.02	.12
Grandiose fantasy[a]	.17	.05	.16	.09	**.22**

Note. NPI = Narcissistic Personality Inventory. The Psychological Entitlement Scale used here refers to the measure developed by Campbell et al. (2004). The Pathological Narcissism Inventory used here refers to the measure developed by Pincus et al. (2009). Entries in boldface are significant at *p* < .05.
a. Variables for which the difference in dependent correlations between the Psychological Entitlement Scale and the NPI scale score for Entitlement/Exploitativeness was significant at .05.

dependent on external sources. One notable exception to this pattern included the moderate positive association with PNI Exploitativeness. This likely explains the modest positive association between Leadership/Authority and the composite PNI Narcissistic Grandiosity scale.

In contrast to Leadership/Authority, the Grandiose Exhibitionism and Entitlement/Exploitativeness scales had more consistent associations with the PNI subscales (see Table 6). The NPI Grandiose Exhibitionism scale, for instance, was positively associated with PNI Narcissistic Grandiosity and all the PNI subscales pertaining to narcissistic grandiosity. Moreover, Grandiose Exhibitionism was positively associated with the PNI subscale of Entitlement Rage and negatively associated with the PNI subscale of Hiding the Self. However, with the exception of PNI Entitlement Rage, correlations between the NPI Grandiose Exhibitionism scale and the PNI subscales were generally modest in size. Like Grandiose Exhibitionism, the NPI Entitlement/Exploitativeness scale was positively related to PNI Narcissistic Grandiosity and the PNI subscales of Exploitativeness and Entitlement Rage.[5] Perhaps more interestingly, NPI Entitlement/Exploitativeness was also positively linked with the PNI Contingent Self-Esteem and Devaluing subscales, thus demonstrating a more notable connection between this NPI scale and vulnerable expressions of narcissistic pathology.

Comparing the NPI Entitlement/Exploitativeness Scale and the Psychological Entitlement Scale. The final column of Table 6 presents the correlations between the Psychological Entitlement Scale and the PNI total and subscale scores. There were a few areas of divergence between these correlations and the correlations for the NPI Entitlement/Exploitativeness scale. A test of the difference

between dependent correlations revealed that whereas the Psychological Entitlement Scale demonstrated stronger relations with Grandiose Fantasy and Self-Sacrificing Self-Enhancement, the NPI Entitlement/Exploitativeness subscale showed a stronger relation with the PNI Devaluing subscale. Thus, Campbell et al.'s (2004) scale appears to exhibit stronger associations with some of Pincus et al.'s (2009) scales of narcissistic grandiosity than the NPI scale developed here. Additional hierarchical regression analyses using the Psychological Entitlement Scale and the NPI Entitlement/Exploitativeness scale to predict each of the PNI subscales corroborated this finding.[6] These analyses illustrate that both scales may not assess the exact same construct. Indeed, the NPI Entitlement/Exploitativeness scale appears to be capturing a somewhat more vulnerable aspect of personality than the Campbell et al. scale.

Study 4

Study 4 extends the previous studies by evaluating connections between the NPI and both self- and informant ratings of the Big Five personality traits. Using self-reports of the Big Five traits, Corry et al. (2008) found that Leadership/ Authority was linked with higher levels of Extraversion and Conscientiousness and lower levels of Neuroticism and Agreeableness, whereas Exhibitionism/Entitlement was related to higher levels of Extraversion and lower levels of Agreeableness. We therefore expected to obtain a similar pattern with self-reports and informant reports of the Big Five with the expectation that the effect sizes would be smaller for informant reports. In addition, we evaluated the intrapersonal and interpersonal correlates of the different

scales of the NPI in the context of college adjustment and roommate relationships.

Method

Participants and Procedures. Participants included 200 roommates (34 men; 93 complete pairs of roommates)[7] from a large Midwestern university. A majority of these were first-year students (72.9%) and European American (73.8%). Participants' ages ranged from 18 to 25 years ($M = 18.44$, $SD = 1.00$). A member of the pair was recruited from the psychology subject pool and offered credit for participation. These participants were then asked to bring in their roommates to participate in the study in exchange for coupons for free ice-cream. Participants arrived in the lab with their roommate but were sent to separate rooms where they completed the entire battery of measures. Participants knew their roommates for less than a month (24.8%), 1 to 2 months (35.5 %), 3 to 4 months (3.3%), 5 to 6 months (0.9%), 6 months to 1 year (6.1%), or more than a year (22.4%).

Measures

NPI-40 (Raskin & Terry, 1988). Along with the NPI total score ($M = 0.42$, $SD = 0.16$; $\alpha = .82$, average interitem $r = .10$), subscales were created according to the three-factor solution: Leadership/Authority ($M = 0.54$, $SD = 0.25$; $\alpha = .75$, average interitem $r = .22$), Grandiose Exhibitionism ($M = 0.39$, $SD = 0.23$; $\alpha = .66$, average interitem $r = .16$), and Entitlement/Exploitativeness ($M = 0.21$, $SD = 0.25$; $\alpha = .47$, average interitem $r = .18$). The Leadership/Authority subscale showed modest to moderate associations with Grandiose Exhibitionism ($r = .35$) and Entitlement/Exploitativeness ($r = .25$), and Grandiose Exhibitionism showed a modest association with Entitlement/Exploitativeness ($r = .15$).

Big Five Inventory (BFI). The BFI (John, Naumann, & Soto, 2008) assessed individuals' self-ratings of Extraversion ($M = 3.61$, $SD = 0.69$; $\alpha = .80$), Neuroticism ($M = 3.00$, $SD = 0.65$; $\alpha = .73$), Conscientiousness ($M = 3.56$, $SD = 0.57$; $\alpha = .71$), Agreeableness ($M = 4.00$, $SD = 0.59$; $\alpha = .78$), and Openness ($M = 3.52$, $SD = 0.64$; $\alpha = .80$). It was also modified to assess individuals' perceptions of their roommates' levels of Extraversion ($M = 3.53$, $SD = 0.88$; $\alpha = .86$), Neuroticism ($M = 2.55$, $SD = 0.73$; $\alpha = .83$), Conscientiousness ($M = 3.51$, $SD = 0.75$; $\alpha = .85$), Agreeableness ($M = 3.93$, $SD = 0.79$; $\alpha = .89$), and Openness ($M = 3.28$, $SD = 0.62$; $\alpha = .81$). Participants responded to all 88 personality items on a 5-point Likert-type scale that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Each participant's score for each of the scales was the mean of the responses, with higher scores indicating higher levels of the construct.

College Adjustment Test. This 19-item questionnaire, developed by Pennebaker, Colder, and Sharp (1990), assessed the degree to which individuals had adjusted to the college transition. Participants were given the stem, "Within

the last week, how much have you" and then asked to respond to a series of statements on a 7-point Likert-type scale ranging from 1 (*not at all*) to 7 (*a great deal*). Sample items included, "Liked your classes" and "Missed your friends from high school." An overall college adjustment score was created by taking the mean of all the items (with the appropriate items reverse scored; $M = 4.27$, $SD = 0.71$; $\alpha = .79$) such that higher scores indicated higher levels of overall college adjustment.

Roommate Relationship Satisfaction. This measure, originally developed by Hendrick (1988) for use with romantic relationships, was modified in the present study to assess individuals' overall levels of satisfaction with their roommates. This 7-item measure included items such as, "How well does your roommate meet your needs?" and "How good is your relationship with your roommate compared to most?" Participants responded on a 5-point Likert-type scale that ranged from 1 (*poor/hardly at all*) to 5 (*extremely well/excellent*). Each participant's score was the mean across items, with higher scores indicating greater relationship satisfaction ($M = 4.21$, $SD = 0.86$; $\alpha = .93$).

Negative Roommate Behavioral Interactions. This questionnaire was based on a measure used by Donnellan, Assad, Robins, and Conger (2007) to assess negative interactions with romantic partners. The current version included 15 items that assessed the frequency of negative interactions with one's roommate. Participants were asked, "During the past week when you and your roommate have spent time talking or doing things together, how often did you . . .?" Participants then indicated the frequency with which they engaged in a variety of behavioral interactions with their roommates on a 7-point Likert-type scale that ranged from 1 (*always*) to 7 (*never*). Sample items included, "Get angry at him/her" and "Insult or swear at him/her." Items were scored so that higher scores indicated greater amounts of negative behavioral interactions ($M = 2.33$, $SD = 0.70$; $\alpha = .83$).

Results and Discussion

Relations Between NPI Scales and the Big Five Trait Domains. As Table 7 shows, the NPI total score demonstrated significant associations with self-reports and informant reports of Extraversion and Agreeableness. This pattern fits well with Paulhus's (2001) conceptualization of narcissists as "disagreeable extraverts." This pattern of results is largely consistent with those for the Leadership/Authority and Grandiose Exhibitionism scales of the NPI. In contrast, neither self- nor informant-reported Extraversion related to the NPI Entitlement/Exploitativeness scale, but the correlations between this scale and Agreeableness were particularly strong and negative. Thus, it seems as if a considerable portion of the disagreeableness associated with the NPI is likely driven by this facet. The Entitlement/Exploitativeness scale was also positively correlated with self-reports of Neuroticism, perhaps in part because

Table 7. Correlations (*r*) between the Narcissistic Personality Inventory (NPI) Total Score, the NPI Scales of Leadership/Authority, Grandiose Exhibitionism, and Entitlement/Exploitativeness, and the Big Five traits (Study 4)

	NPI Total Score	NPI Scale Scores		
		Leadership/ Authority	Grandiose Exhibitionism	Entitlement/ Exploitativeness
Extraversion				
Self-report	**.44**	**.42**	**.40**	.02
Informant report	**.20**	**.18**	**.18**	.04
Agreeableness				
Self-report	**−.35**	**−.25**	**−.15**	**−.51**
Informant report	**−.20**	**−.17**	−.09	**−.23**
Conscientiousness				
Self-report	.09	.11	−.01	−.01
Informant report	−.14	−.04	−.12	**−.19**
Neuroticism				
Self-report	−.05	−.06	−.08	**.26**
Informant report	.00	.00	.00	.07
Openness				
Self-report	.11	.09	.01	−.03
Informant report	−.08	−.07	−.09	**−.15**

Note. Entries in boldface are significant at *p* < .05. NPI scores were based on self-report data.

that domain of personality is also linked with anger and hostility. Finally, individuals reporting greater levels of Entitlement/ Exploitativeness were perceived by their roommates to be colder and quarrelsome, more disorganized and careless, less reliable and determined, and less artistically inclined. Although not shown, multiple regressions revealed a generally similar pattern of independent associations.

Actor-Partner Interdependence Model Analyses of College Adjustment and Roommate Relationship Quality. The Actor-Partner Interdependence Model (APIM; Kenny, Kashy, & Cook, 2006) provides a useful methodological tool for assessing intrapersonal and interpersonal effects of narcissism in roommate data. In particular, the APIM permits researchers to derive estimates of the association between one person's predictor variable and her or his *own* outcome variable (i.e., an actor effect), as well as the association between one person's predictor variable and her or his *partner's* outcome variable (i.e., a partner effect). For example, we can test for an actor effect of narcissism on relationship satisfaction, which asks whether individuals' levels of narcissism are associated with their *own* levels of relationship satisfaction. We can also test for a partner effect of narcissism on relationship satisfaction, which asks whether individuals' levels of narcissism are associated with their *roommates'* levels of relationship satisfaction.

Multilevel modeling (MLM) was used to carry out the APIM analyses. Table 8 presents the results for college adjustment and the roommate relationship variables as outcomes. Analyses involving the NPI total score only revealed one significant actor effect for negative behaviors (*b* = 0.67, SE = .32, *p* < .05). Individuals with higher scores on the overall NPI reported engaging in a greater frequency of negative behavioral interactions with their roommate. A more interesting pattern of results was found for the subscales, consistent with the previously identified nomological network for these dimensions.

The APIM analyses revealed that persons with higher levels of Grandiose Exhibitionism reported greater levels of college adjustment (see Table 8). Perhaps of more interest, individuals reporting higher levels of Entitlement/Exploitativeness were found to express lower levels of college adjustment, as well as have roommates who expressed lower levels of college adjustment. This latter finding suggests that Entitlement/Exploitativeness has a socially toxic effect on the adjustment of one's roommate. Individuals' levels of Entitlement/Exploitativeness were also associated with lower levels of relationship satisfaction for both themselves and their roommates. In addition, individuals with higher levels of Entitlement/Exploitativeness reported engaging in a higher frequency of negative behavioral interactions with their roommates. All in all, these findings suggest that the Entitlement/Exploitativeness facet of the NPI is the dimension with more robust interpersonal and intrapersonal correlates. Indeed, the only partner effects that we observed were for the Entitlement/Exploitativeness scale.

General Discussion

Disagreements about the precise factor structure of the NPI have generated confusion as to how the inventory should be scored and interpreted, as well as whether researchers

Table 8. Actor-Partner Interdependence Models With College Adjustment and Roommate Relationship Variables (Study 4)

| | Leadership/Authority | | | | Grandiose/ Exhibitionism | | | | Entitlement/Exploitativeness | | | |
| | Actor | | Partner | | Actor | | Partner | | Actor | | Partner | |
	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
College adjustment	.39	.21	−.14	.21	**.48**	.24	.27	.24	**−.94**	.20	**−.50**	.20
Relationship satisfaction	.19	.25	.03	.25	.05	.30	.44	.30	**−.74**	.25	**−.53**	.25
Negative behaviors	.11	.21	.19	.21	−.05	.25	−.06	.25	**.66**	.21	.28	.21

Note. *b* = unstandardized regression coefficient, *SE* = standard error of the unstandardized regression coefficient. Entries in boldface are significant at *p* < .05.

should rely exclusively on NPI total scores. The current studies ultimately provided support for a robust three-factor solution consisting of Leadership/Authority, Grandiose Exhibitionism, and Entitlement/Exploitativeness. In addition to demonstrating that the three-factor structure holds across multiple data sets, we presented evidence in support of the utility and validity of these three dimensions by showing their differential relations with a wide range of theoretically relevant constructs. We now discuss the general implications of our findings for research and theorizing about the multifaceted construct of narcissism.

Based on the current results, we believe that the conceptual model depicted in Figure 1 provides a reasonable perspective on the structure of the NPI and its correlates. A considerable amount of variance in the NPI captures elements of personality linked with confidence, assertiveness, and beliefs of leadership potential. These elements cohere into a factor that emerges in nearly all published structural analyses of the NPI. An important point is that this dimension does not seem to have consistent associations with socially toxic elements of personality, with the exception of a modest negative correlation with Agreeableness and a moderate positive correlation with the PNI Exploitativeness scale. For example, our Leadership/Authority scale is unrelated to impulsive and antisocial aspects of psychopathy, Machiavellianism, and with most aspects of personality associated with pathological narcissism. Instead, this dimension is positively correlated with self-esteem and a reduced propensity toward internalizing psychopathology. Accordingly, this dimension is likely to be a reason why scores on the NPI have been linked to indices of psychological health and adjustment (e.g., Sedikides et al., 2004).

The fact that the Leadership/Authority factor is generally related to positive outcomes and unrelated to pathological narcissism raises questions as to whether such a dimension should be included in a measure of narcissism. After all, narcissism is one third of the so-called dark triad of personality (Paulhus & Williams, 2002), and it is commonly understood as a personality disorder. One possibility is that Leadership/Authority assesses adaptive aspects of

personality and therefore should be excluded from inventories designed to measure maladaptive personality features. In other words, what is captured in this dimension may largely reflect self-perceptions of assertiveness, social potency, and other adaptive self-enhancement tendencies, all of which bear little resemblance to constructs that are considered pathological by clinical psychologists.

On the other hand, the elements of personality captured by the Leadership/Authority domain are consistent with more recent discussions of narcissism by social/personality psychologists that have emphasized the agentic, approach-oriented component of narcissism and the possibility that narcissistic tendencies may be adaptive in some contexts (Robins, Tracy, & Shaver, 2001; Sedikides & Luke, 2008). Still another possibility is that Leadership/Authority may be better construed as an outcome of narcissistic processes. Indeed, it could be that self-perceptions of leadership ability are better thought of as a consequence of traits, such as grandiosity and exploitativeness, or even the result of adaptive strategies associated with normal narcissism, such as assertiveness and social potency.

In the end, it is up to the field to decide whether Leadership/Authority is a core aspect of narcissism (normal or pathological). Therefore, as is reflected in Figure 1, we present Leadership/Authority as one dimension of personality within the NPI that is generally separable from the other facets of personality embedded within this inventory. Keeping this dimension of the NPI distinct from the other facets will help clarify which aspects of personality are driving the observed associations with different criterion variables. This practice will likely isolate one of the more salient differences between social/personality and clinical conceptualizations of narcissism.

As Figure 1 shows, we also believe that the NPI captures some of the socially noxious and socially toxic elements of personality associated with the *DSM* characterization of narcissism. Importantly, in our model, we make a distinction between Grandiose Exhibitionism and Entitlement/Exploitativeness because of the conceptual and empirical distinctions provided by Brown et al. (2009). Of the two
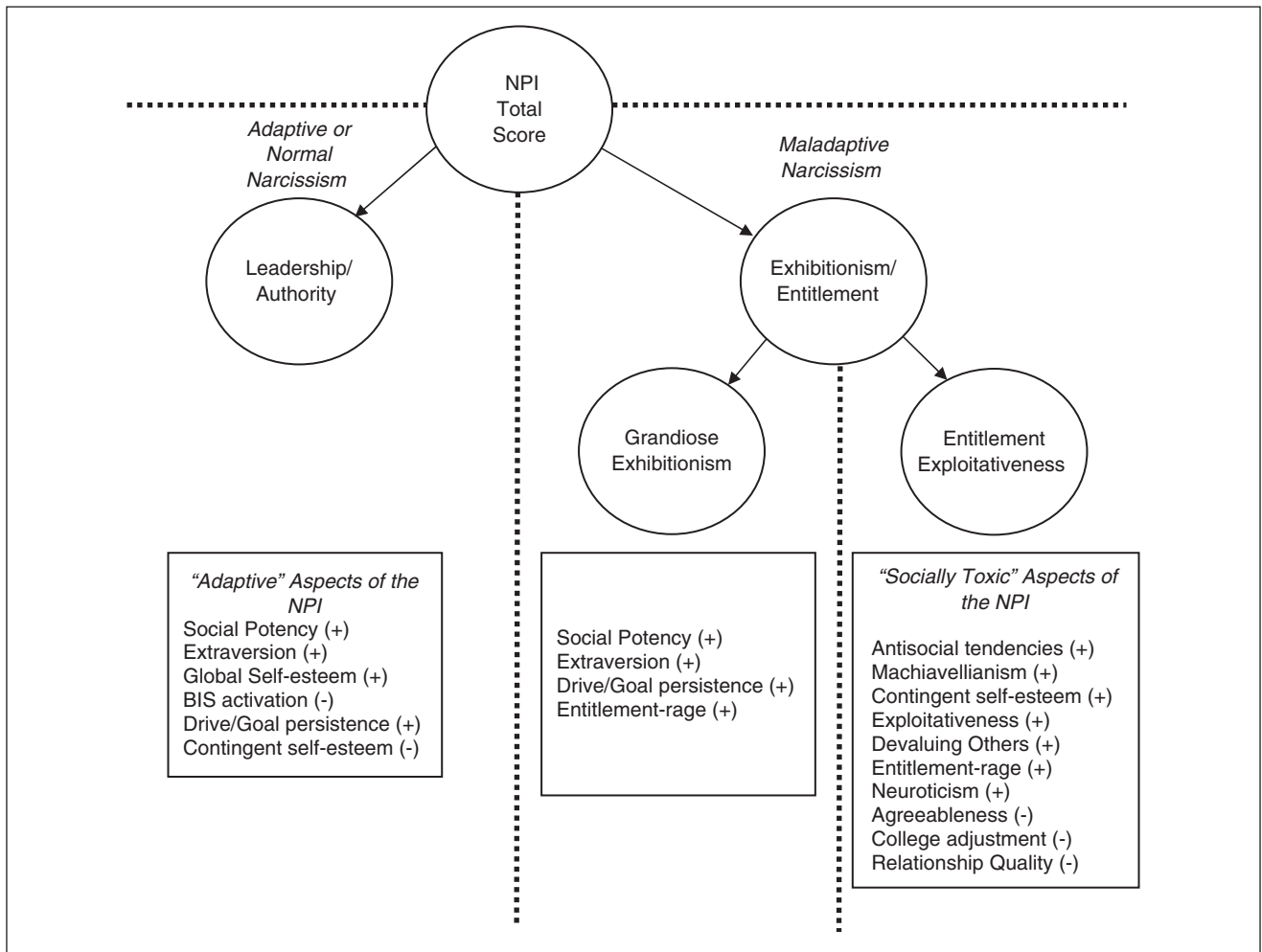
Figure 1. Proposed higher order structure for the narcissistic personality inventory and initial nomological network of corresponding dimensions
Note. NPI = Narcissistic Personality Inventory; BIS = Behavioral Inhibition System.

dimensions, Entitlement/Exploitativeness seems to have more consistent and stronger associations with maladaptive outcomes. Interpersonally, this dimension (but not Grandiose Exhibitionism) was also connected with several pernicious outcomes assessed in our study of roommate relationships. In short, we believe there are compelling reasons to separate these maladaptive dimensions and we suspect that Entitlement/Exploitativeness will account for many of the explicitly negative outcomes linked with the NPI.

We should also acknowledge some concerns with our Entitlement/Exploitativeness scale. The most notable issue is the low alpha coefficient. Part of the explanation for this is that the subscale consists of only four items. The NPI simply does not have many items that assess this dimension (see Raskin & Terry, 1988). Thus, the concern might boil down to the total number of items rather than the content of the scale.

To be sure, the average interitem correlation for the Entitlement/Exploitativeness scale was close to .20 in the four studies reported here. According to Briggs and Cheek (1986), the optimal average interitem correlation coefficient for a scale should be between .20 and .40 (this is the level of association found for scales that are neither too disparate nor too homogeneous, respectively). Thus, based on this consideration, the items in our scale might verge on acceptable levels of intercorrelation. It is also important to be precise about the consequences of low internal consistency. The concern is that this will attenuate relations with criterion variables. Nonetheless, we found theoretically meaningful relations with criterion variables reflecting socially toxic characteristics. This pattern corresponds well with recent evidence by McCrae, Kurtz, Yamagata, and Terracciano (IN PRESS) suggesting that the internal consistency of personality scales is only weakly related to their validity.

Taken together, the current set of studies reinforces the claim that the NPI is a multidimensional instrument. This is consistent with the view expressed by its creators in 1988. However, this multidimensionality is often overlooked by subsequent researchers (including ourselves) who have focused on NPI total scores. Our broad concern is that an exclusive reliance on the NPI total score is likely to lead to an imprecise understanding of narcissism because it conflates adaptive and maladaptive aspects of personality (Barry et al., 2003). As Briggs and Cheek (1986) cautioned nearly 25 years ago, ". . . it is unacceptable to continue using a total score alone when to do so deliberately ignores distinctions that are conceptually meaningful and empirically useful" (p. 129).

The current studies also provide at least one example of how the NPI total score may generate findings that have the potential to be misleading. Consider that some researchers have suggested that approach-related motivations are a central feature of narcissism (e.g., Foster & Trimm IV, 2008). However, our investigation suggests that this may only be the case for the Leadership/Authority and Grandiose Exhibitionism dimensions of narcissism. In fact, the Entitlement/ Exploitativeness dimension was shown to be unrelated to self-reports and informant reports of extraversion, and even negatively related to the reward responsiveness subscale of the BAS. This dimension of personality therefore appears to have little to do with approach-related motivational systems, yet it was the dimension with the most consistent links with maladaptive criterion variables. Thus, there are hints, at least in these data, that approach-related motivations are only linked to certain facets of narcissism and those dimensions have little to do with psychological entitlement and exploitativeness.

Ultimately, we suggest that researchers who use the NPI routinely conduct subscale analyses. Given that all three dimensions are positively interrelated, there may be some situations in which the subscales do not yield a distinct pattern of results and thus total score reporting is more efficient. Nonetheless, we suspect that there will be many cases where subscale analyses yield more precise psychological insights into the correlates and consequences of narcissism. The present findings also show that countervailing relations between the NPI subscales and criterion variables can generate a null effect for the total score, which could mislead researchers into believing that narcissism has no relation with the criterion-related variables.

Researchers may initially consider using these results to justify administering a reduced pool of the forced-choice NPI items to participants given that only 25 items are used in our three-factor solution. This practice might save a few minutes of participant time but we think that this strategy would be less than ideal at this point. Instead, we recommend that researchers continue to administer all 40 items because this approach will afford the most flexibility in terms of choices of existing factor solutions and will keep current research consistent with previous studies. Moreover, given that our factor solution is based on the 40-item forced-choice NPI, we recommend that researchers continue using this format until other alternative response formats for the NPI become more widely used and similarly validated.

Although we believe that the present set of studies represents one of the most comprehensive evaluations of the structure of the NPI, there are limitations to the current work. The most notable limitations are the exclusive reliance on college student samples and the use of predominantly self-report data to establish the network of criterion-related associations surrounding the NPI. Future research should aim to replicate our findings with more diverse populations and behavioral measures as outcomes.

In conclusion, the present findings provide support for the concerns articulated by Brown et al. (2009) over the use of the NPI for the next generation of studies on narcissism. We are sympathetic to their view regarding the possible advantages of replacing the NPI with better and more direct measures of the personality attributes associated with narcissism (e.g., p. 963). It is undeniable that there are limitations with respect to the psychometric properties of the NPI. Nonetheless, we suspect that the field will be reluctant to simply abandon this measure, and the present study is important as it identifies one potentially useful way of parsing the NPI items into meaningful subscales. Our work also highlights some of the constructs embedded within the NPI that should be the targets for future scale development work. The bottom line is that we believe increased attention to the three replicable facets identified in the present research will provide important benefits for future studies regarding the nature and correlates of the NPI.

Notes

1. The Corry et al. (2008) factor structure seemed to be embedded within the three-factor solution. To quantify this, we calculated scores for the Corry et al. factors using the items reported in their article, and created scales for the three-factor solution by selecting those items with the highest pattern loadings for each factor that were greater than .40. Our Leadership/Authority

scale was strongly correlated with the Corry et al. Leadership/Authority scale ($r = .94$). Moreover, the Grandiose Exhibitionism and Entitlement/Exploitativeness scales were both correlated with the Corry et al. Exhibitionism/Entitlement scale ($r = .89$ and $r = .55$, respectively), and were only modestly correlated with each other ($r = .23$). These findings suggest that our solution splits the Corry et al. Exhibitionism/Entitlement factor into two reasonably separate dimensions whereas it retains a factor that is isomorphic with their Leadership/Authority dimension.

2. Given the low reliability of the Entitlement/Exploitativeness scale, we considered relaxing the scale-inclusion criteria to patterns loadings >.30 to increase the number of items; unfortunately, most of the items that fulfilled this criterion had substantial cross-loadings with one of the other factors, and so we decided to retain the initial four-item scale.

3. Across both EFAs in Studies 2 and 3, we found that Item 40 exhibited a substantially higher loading on Grandiose Exhibitionism than Leadership/Authority. To anticipate the degree to which removing Item 40 from Leadership/Authority and placing it in the Grandiose Exhibitionism scale would change the results, we computed new variables for Leadership/Authority and Grandiose Exhibitionism with these modifications and correlated them with the original scales in Study 3 ($rs = .99$ and .98, respectively). The placement of Item 40 will likely have little bearing on the results.

4. Multiple regression analyses were also conducted between the NPI scales and these other measures. Overall, the pattern of associations between the NPI scales and the criterion variables did not diverge substantially from their zero-order relations. There were only three exceptions. First, when controlling for Leadership/Authority and Entitlement/Exploitativeness, Grandiose Exhibitionism was no longer related to PNI Exploitativeness. Second, when controlling for Grandiose Exhibitionism and Entitlement/Exploitativeness, Leadership/Authority was no longer significantly related to PNI Narcissistic Grandiosity. Finally, when controlling for Grandiose Exhibitionism and Entitlement/Exploitativeness, Leadership/Authority became significantly negatively related to PNI Narcissistic Vulnerability.

5. Given the overlap in content, it is potentially notable that the NPI Entitlement/Exploitativeness scale was only moderately (rather than strongly) correlated with the PNI subscale of Exploitativeness. Nevertheless, after correcting for the attenuation due to unreliability, the correlation between the scales becomes .54.

6. Hierarchical regression analyses with the Psychological Entitlement Scale entered in the first step and Entitlement/Exploitativeness entered in the second step showed that Entitlement/Exploitativeness accounted for significant incremental variance in the PNI total score, $\Delta R^2 = .046$, $\Delta F(1, 329) = 17.22$, $p < .001$; the PNI Narcissistic Vulnerability scale, $\Delta R^2 = .064$, $\Delta F(1, 329) = 24.02$, $p < .001$, and the PNI subscales of Contingent Self-Esteem $\Delta R^2 = .036$, $\Delta F(1, 329) = 12.61$, $p < .001$; Exploitativeness, $\Delta R^2 = .057$, $\Delta F(1, 329) = 21.30$, $p < .001$; Devaluing, $\Delta R^2 = .065$, $\Delta F(1, 329) = 23.72$, $p < .001$; and Entitlement Rage, $\Delta R^2 = .084$, $\Delta F(1, 329) = 39.23$,

$p < .001$. Hierarchical regression analyses with Entitlement/Exploitativeness in the first step and the Psychological Entitlement Scale entered in the second step showed that this measure accounted for significant incremental variance in the PNI total score, $\Delta R^2 = .033$, $\Delta F(1, 329) = 12.19$, $p = .001$; the PNI Narcissistic Grandiosity scale, $\Delta R^2 = .048$, $\Delta F(1, 329) = 17.18$, $p < .001$; the PNI Narcissistic Vulnerability scale, $\Delta R^2 = .018$, $\Delta F(1, 329) = 6.74$, $p = .01$, and the PNI subscales of Exploitativeness, $\Delta R^2 = .021$, $\Delta F(1, 329) = 7.71$, $p = .006$; Self-Sacrificing Self-Enhancement, $\Delta R^2 = .02$, $\Delta F(1, 329) = 6.78$, $p = .01$; Grandiose Fantasy, $\Delta R^2 = .042$, $\Delta F(1, 329) = 14.51$, $p < .001$; and Entitlement Rage ($\Delta R^2 = .105$, $\Delta F(1, 329) = 48.99$, $p < .001$.

7. Some roommate pairs had missing data from one member of the pair.

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