

A Test of Two Brief Measures of Grandiose Narcissism: The Narcissistic Personality Inventory–13 and the Narcissistic Personality Inventory–16

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The most widely used measure of trait narcissism is the Narcissistic Personality Inventory (NPI), which can provide both total and subscale scores. However, with a length of 40 items, this measure may not be ideal in settings in which time or participant attention may limit the types of measures that can be administered. In response, Ames, Rose, and Anderson (2006) created the NPI-16, which provides a shorter, unidimensional measure of the construct. In the present research, we examine the reliability and validity of the NPI-16 in conjunction with a new short measure of narcissism, the NPI-13, which provides both a total score and 3 subscale scores (Leadership/Authority; Grandiose Exhibitionism; Entitlement/Exploitativeness). Across 2 studies, we demonstrate that both short measures manifest good convergent and discriminant validity and adequate overall reliability. The NPI-13 may be favored over the NPI-16 because it allows for the extraction of 3 subscales, consistent with the use of its parent measure.

Keywords: narcissism, grandiose, measurement, personality, assessment

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Narcissism is a construct of increasing interest to psychologists from a variety of disciplines including clinical, social-personality, and industrial-organizational psychology. Trait narcissism is thought to exist on a continuum (Foster & Campbell, 2007) and is marked by a grandiose sense of self, feelings of entitlement, and a dominant and antagonistic interpersonal style. Growing evidence suggests that narcissism is a heterogeneous construct composed of grandiose and vulnerable dimensions (Dickinson & Pincus, 2003; Fossati et al., 2005; Miller & Campbell, 2008; Miller, Hoffman, et al., 2011; Russ, Shedler, Bradley, & Westen, 2008; Wink, 1991); however, the vast majority of research on the topic has focused on the former.

By far, the most widely used measure of grandiose narcissism is the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988), often the 40-item forced-choice version (hereafter referred to as the NPI-40), which can be broken down further into subscales (e.g., Ackerman et al., 2011; Emmons, 1984, 1987; Raskin & Terry, 1988). For the sake of increased efficiency, Ames, Rose, and Anderson (2006) created a 16-item short form of the NPI-40. The NPI-16 generates a global narcissism score that has been shown to manifest a pattern of results consistent with those produced by the NPI-40. The *first goal* of this study was to provide a

comprehensive test of the reliability and validity of the NPI-16. Although researchers have traditionally focused primarily on the NPI-40 total scores, there has been a recent push to use subscales as well, as they manifest divergent patterns of relations with important external criteria such as self-esteem and psychological distress. The *second goal* of this study was to create and test another brief measure of narcissism, the NPI-13, that would provide a total score and three subscale scores, in line with recent work on the factor structure of the NPI-40 (Ackerman et al., 2011).

Factor Structure of the NPI-40

Explorations of the underlying factor structure of the NPI-40 have yielded a variety of solutions. Originally, Emmons (1984, 1987) found evidence for four-factors (i.e., leadership/authority, superiority/arrogance, self-absorption/self-admiration, and exploitativeness/entitlement) using both principal components analysis (PCA) and exploratory factor analysis (EFA). Using similar methods, Raskin and Terry (1988) found a seven-factor solution (i.e., exploitativeness, exhibitionism, entitlement, superiority, self-sufficiency, authority, and vanity). Amid concerns regarding the stability of these factor solutions, researchers have revisited this issue and found converging evidence for a more parsimonious solution. Using PCA and confirmatory factor analysis (CFA), Kubarych, Deary, and Austin (2004) found evidence for two- and three-factor solutions pertaining to power, exhibitionism, and (in the case of the three-factor solution) being a special person. Corry, Merritt, Mrug, and Pamp (2008) also found evidence for a two-factor solution; the factors were titled leadership/authority and exhibitionism/entitlement. Combining these methods in, perhaps, the most rigorous analysis, Ackerman and colleagues (2011) found support for a three-factor solution containing similar factors (i.e., leadership/authority, grandiose exhibitionism, entitlement/exploit-

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ativeness). In sum, there is converging evidence that the NPI-40 contains two to three distinguishable factors.

Differences Among the NPI-40 Subscales

Scholars have increasingly called for the use of NPI-40 subscale scores in place of, or in addition to, total scores, given some evidence that they manifest divergent relations with certain important external criteria. For instance, among the three NPI-40 subscales, the entitlement/exploitativeness factor is thought by some to be the most indicative of narcissistic personality pathology as it is related to lower self-esteem and extraversion (Ackerman et al., 2011; Brown, Buzdek, & Tamborski, 2009), as well as higher mood variability (Emmons, 1987) and neuroticism (Ackerman et al., 2011; Emmons, 1984). In addition, this NPI-40 subscale is related to both grandiose and vulnerable narcissism (Ackerman et al., 2011; Miller, Gentile, Wilson, & Campbell, 2013; Miller, Price, Gentile, Lynam, & Campbell, 2012) and narcissistic personality disorder (NPD; Emmons, 1987). In contrast, the leadership/authority and grandiose exhibitionism subscales appear to be more specific markers of grandiose narcissism, as they are associated with higher self-esteem (Ackerman et al., 2011; Brown et al., 2009) and extraversion and lower neuroticism (Ackerman et al., 2011). It is important to note that the three NPI-40 subscales also manifest a number of converging relations with important external criteria. For instance, all three are correlated with alternative measures of exploitativeness, entitlement, antagonism, and aspects of psychopathy (Ackerman et al., 2011). Nonetheless, given that these subscales differ in certain important ways, it would be advantageous for any brief measure of narcissism to maintain a factor structure of this nature. The NPI-13 was created with this goal in mind, so that both total and subscale scores could be used in future research.

The Present Research

In the studies presented here, we created a new short measure of grandiose narcissism, the NPI-13, and tested its validity in conjunction with that of the NPI-16. In Study 1, we used archival data from a variety of samples to examine the relations between the NPI-13, NPI-16, NPI-40, and a number of alternative measures of narcissism. We also examined these three versions of the NPI in relation to a number of constructs considered important to narcissism's nomological network. These included self, parental, and "thin-slice" ratings¹ of five-factor model (FFM) personality traits, as well as "near neighbor" personality disorders (e.g., antisocial, histrionic, psychopathy), pathological personality traits from the new *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; www.dsm5.org) trait model of personality disorder, and affect. We likewise examined the three measures in relation to several outcomes including lifetime histories of externalizing behaviors (e.g., antisocial behavior; substance use), as well as aggression manifested in a laboratory paradigm. Finally, we tested the factor structure of the NPI-13 and NPI-16. Based on these results, we examined the differential pattern of relations between the three factors extracted from the NPI-13 and constructs in the nomological network of narcissism. In Study 2, participants completed separate versions of the NPI-13, NPI-16, and NPI-40 to again examine the relations between the three versions and assess the time savings associated with the brief measures.

Study 1

Method

Participants. *Sample 1* was composed of 361 undergraduates (225 women, 135 men, and one who did not identify as either) from the University of Georgia with a mean age of 19.16 ($SD = 1.42$). Of these, 86.1% were White. Data from this sample were previously published in Miller et al. (2010).²

Sample 2 was composed of 238 undergraduates (143 women, 95 men) from the University of Georgia with a mean age of 19.13 ($SD = 1.26$). Of these, 79.8% were White. Data from this sample were previously published in Miller, Hoffman, et al. (2011).

Sample 3 was composed of 86 undergraduate men from the University of Georgia with a mean age of 19.67 ($SD = 1.26$). Of these 86.2% were White. Data from this sample were previously published in Reidy, Zeichner, Foster, and Martinez (2008).

Sample 4 and *Sample 5* were composed of adults who participated via Amazon's Mechanical Turk (MTurk) website. MTurk allows for the collection of data from individuals using an online approach and results in more diverse samples than American undergraduate samples (see Buhrmester, Kwang, & Gosling, 2011, for a review). *Sample 4* participants were 306 adults (*mean* age = 29.66, $SD = 10.16$), the majority of which came from India (45.1%) and the United States (41.5%), and the rest came from various other countries.³ Of these, 42.4% were women, 44.1% were White, and 61.8% reported that English was their first language. *Sample 5* participants were 277 adults (*mean* age = 31.34, $SD = 10.98$) living in the United States. Of these, 64.6% were women, 73.9% were White, and 97.5% said English was their first language. Data from these samples were previously published in Miller, Gentile, Wilson, and Campbell (2013) and Miller, Price, Gentile, et al. (2012), respectively.

Sample 6 was composed of 48 White clinical outpatients (60.4% women, *mean* age = 31.65, $SD = 10.47$) who were recruited via advertisements placed in an outpatient psychology clinic and local newspapers. Potential participants were screened for eligibility based on three inclusion criteria: aged 18–60, currently seeing a psychologist or psychiatrist, and absence of psychotic symptoms. A comparison of the sample to established norms on the General Severity Index (GSI) of the Symptom Checklist-90-Revised (SCL-90; Derogatis, 1975) indicated that they were comparable in terms of psychological symptoms to a psychiatric outpatient sample. Data from this sample were previously published in Miller, Gaughan, Pryor, Kamen, and Campbell (2009).

¹ A thin-slice is a brief (e.g., 60 s) video-recorded clip of an individual's behavior that is then coded by blind-raters for various personality traits. The clip can involve a person answering questions about themselves, performing an activity, or interacting with others in a group setting. The purpose of thin-slice ratings is to assess how much information regarding an individual's personality can be gleaned from a first impression.

² Data from all samples were screened for excessive missing data or random responding (e.g., high numbers of consecutive answers of the same number such as "1").

³ A minority of participants (i.e., 2.5% or less) stated they were from the following countries: Argentina, Austria, Bangladesh, Brazil, Bulgaria, Canada, China, Cuba, Germany, Greece, Israel, Italy, Mexico, Netherlands, Pakistan, Philippines, Poland, Romania, Serbia, Singapore, Slovakia, Sweden, United Kingdom, and Ukraine.

All participants were originally administered the NPI-40, from which the NPI-16 and NPI-13 were derived. Table 1 lists the criterion measures that were available in each sample.

Scale construction of the NPI-13. The goal in creating the NPI-13 was to develop a brief measure of narcissism while maintaining the three-factor structure explicated by Ackerman et al. (2011). To that end, we first selected the NPI-40 items with the highest factor loadings on the leadership/authority (LA), grandiose exhibitionism (GE), and entitlement/exploitativeness (EE) factors from the Ackerman et al. (2011) analyses. Since there were only four items for the entitlement/exploitativeness factor, all four items were included.

Next, we examined whether these items were also categorized as being among the most prototypical of narcissism via expert ratings, item-response theory (IRT) analyses, and exploratory factor analyses described in Rosenthal and Hooley (2010). We gave preference to items that were identified by all three techniques as being indicative of the prototypical description of narcissism but included items identified by only one or two of these metrics so long as they corresponded to those selected from Ackerman et al. (2011).

In all, we selected a final pool of 13 items (4, 12, 13, 14, 15, 19, 20, 24, 25, 27, 29, 32, 36; $\alpha = .73$). These included four LA ($\alpha = .66$, mean interitem $r = .32$) items, five GE items ($\alpha = .65$, mean interitem $r = .26$), and four EE items ($\alpha = .51$, mean interitem $r = .21$).⁴ Although the GE subscale initially had four items, an additional item was chosen to improve its internal consistency. Given the item constraints on the EE subscale, it was not possible to boost reliability by adding additional items. However, lower reliability in this subscale is not uncommon and does not appear to limit its correlations with important external criteria (Ackerman et al., 2011).

Narcissism measures.

Narcissistic Personality Inventory (NPI-40). The NPI-40 (Raskin & Terry, 1988) is a 40-item self-report measure of trait narcissism. The reliability across samples ($N = 1,316$) was .87.

Narcissistic Personality Inventory-16 (NPI-16). The NPI-16 (Ames et al., 2006) is a 16-item self-report measure of trait narcissism derived from the NPI-40. The reliability across samples ($N = 1,316$) was .75.

Pathological Narcissism Inventory (PNI). The PNI (Pincus et al., 2009) is a 52-item self-report measure of both vulnerable and grandiose narcissism traits. The PNI contains four vulnerable narcissism subscales (i.e., Contingent Self-Esteem, Hiding the Self, Devaluing, and Entitlement Rage) and three grandiose narcissism subscales (i.e., Self-Sacrificing Self-Enhancement, Grandiose Fantasies, and Exploitativeness). Alphas in Sample 2 ranged from .74 to .94, and alphas in Sample 5 ranged from .82 to .95.

Narcissistic Grandiosity Scale (NGS). The NGS (Rosenthal, Hooley, & Steshenko, 2007) is a measure of grandiose narcissism, which requires participants to rate themselves on 16 adjectives such as “superior” and “omnipotent” on a 1 (*not at all*) to 7 (*extremely*) scale. The reliability was the same in both Sample 4 and Sample 5 ($\alpha = .96$). Scores from the NGS are significantly correlated with other measures of grandiose narcissism and traits associated with narcissism such as agreeableness and extraversion (e.g., Miller, Price, & Campbell, 2012; Miller, Price, Gentile, et al., 2012).

Hypersensitive Narcissism Scale (HSNS). The HSNS (Hendin & Cheek, 1997) is a 10-item self-report measure of vulnerable narcissism. Alphas ranged from .66 (Sample 1) to .81 (Sample 5).

Psychological Entitlement Scale (PES). The PES (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004) is a nine-item self-report measure of the extent to which individuals believe that they are more deserving than others. Items are scored on a 1 (*strong disagreement*) to 7 (*strong agreement*) scale. Alphas were .86 (sample 2) and .88 (samples 4 and 5).

Rosenberg Self-Esteem Scale (RSE). The RSE (Rosenberg, 1965) is a 10-item measure of global self-esteem. Alphas ranged from .88 (Sample 4) to .91 (Sample 5).

Personality measures.

Revised NEO Personality Inventory (NEO-PI-R). The NEO-PI-R (Costa & McCrae, 1992) is a 240-item self-report measure of the five-factor model (FFM), which includes the domains of Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Alphas for the domains ranged from .87 to .92, .89 to .91, and .86 to .94 for Samples 1, 2, and 6, respectively.

Parental reports of FFM personality. Parental ratings of personality were collected from participants in Sample 1. A packet containing several questionnaires was sent to the homes of participants' parents. The parent(s) completed an informant version of the NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992), a 60-item measure of the FFM domains. Alphas for these domains ranged from .63 (Openness) to .90 (Conscientiousness).

Thin-slice ratings. Using the protocol described by Oltmanns, Friedman, Fiedler, and Turkheimer (2004), each participant in Sample 2 was individually videotaped for 60 s while answering the question: “What do you enjoy doing?” Each clip was rated by an average of 11 raters who were doctoral students in a clinical psychology program. The graduate students rated the clips on the following constructs (using one item per construct) using a 5-point Likert scale: Neuroticism, Extraversion, Openness to Experience, Agreeableness, Conscientiousness, physical attractiveness, likability, and narcissism. The five personality domain descriptions were consistent with FFM definitions (e.g., Costa & McCrae, 1992). No descriptors were given for physical attractiveness. Likability was gauged with the question “How likable do you find this individual (would you want to get to know him/her better)?” For narcissism, raters were given several descriptors (i.e., self-centered, grandiose, and overly confident) to go with the “narcissistic” label. Intraclass correlations (ICCs) indicated that interrater reliability was high, ranging from .77 (likability) to .92 (physical attractiveness), with a median of .86. Composites were created by taking the mean of all available ratings.

Interpersonal Adjective Scales (IAS). The IAS (Wiggins, 1995) contains 64 adjectives, scored on a 1 to 8 scale, that provide scores on the interpersonal circumplex (IPC). The scale includes eight octant scores and scores on the two primary axes of domi-

⁴ With the exception of Sample 6, which exhibited low alpha coefficients on the LA ($\alpha = .19$) and EE ($\alpha = .33$) subscales, the reliabilities were similar across samples (LA α s ranged .55–.72, GE α s ranged .52–.68, and EE α s ranged .41–.62). Despite the lower internal consistencies in Sample 6 for two of the subscales, these subscales generally manifested similar patterns of correlations with external criteria to those found in the nonclinical samples.

Table 1
External Criterion Measures Available in Each Sample

Measure	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
<i>N</i>	361	238	86	306	277	48
Narcissism/self-esteem						
PNI		X			X	
NGS				X	X	
HSNS	X	X		X	X	
PES		X		X	X	
RSE	X	X		X	X	
Personality						
NEO-PI-R	X	X				X
FFM parental report	X					
FFM thin-slice ratings		X				
IAS					X	
Personality disorders						
SCID-II-PQ	X (NPD)	X		X (NPD)	X (NPD)	
SCID-II-PQ Interview						X
PID5				X		
Psychopathy						
SRP-III	X					
Symptoms/affect						
BSI	X	X				
PANAS-X	X	X				
Behavioral outcomes						
CAB	X					
RCAP			X			

Note. PNI = Pathological Narcissism Inventory; NGS = Narcissistic Grandiosity Scale; HSNS = Hypersensitive Narcissism Scale; PES = Psychological Entitlement Scale; RSE = Rosenberg Self-Esteem Scale; NEO-PI-R = Revised NEO Personality Inventory; FFM = five-factor model; IAS = Interpersonal Adjective Scales; SCID-II-PQ = Structured Clinical Interview for *DSM-IV* Personality Disorders—Personality Questionnaire; PID5 = Personality Inventory for *DSM-5*; SRP-III = Self-Report Psychopathy Scale, Version III; BSI = Brief Symptom Inventory; PANAS-X = Positive and Negative Affect Scale—Expanded Form; CAB = Crime and Analogous Behavior Scale; RCAP = Response Choice Aggression Paradigm; NPD = narcissistic personality disorder; *DSM-IV* = *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.); *DSM-5* = *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.).

nance and nurturance. The alphas for the octants ranged from .79 (Unassuming-Ingenuous) to .91 (Cold-hearted).

Personality disorders.

Structured Clinical Interview for *DSM-IV* Personality Disorders—Personality Questionnaire (SCID-II-PQ). The SCID-II-PQ (First, Gibbon, Spitzer, Williams, & Benjamin, 1997) is a 119-item self-report measure that assesses the diagnostic criteria for the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*; American Psychiatric Association, 1994) personality disorders. In Sample 2, the full scale was used, and it manifested reliabilities ranging from .44 (obsessive-compulsive) to .89 (antisocial). In Samples 1, 4, and 5, only the NPD subscale was used, with alphas ranging from .65 to .82. In Sample 6, a SCID-II-PQ semistructured interview was used to assess NPD ($\alpha = .76$; interrater reliability $ICC = .77$).

Personality Inventory for *DSM-5* (PID5). The PID5 (Krueger, Derringer, Markon, Watson, & Skodol, 2012) is a 220-item self-report measure that was created to assess the 25 personality traits proposed for use as part of a new alternative diagnostic model for personality disorders in the *DSM-5* (to be included in Section 3 in order to stimulate further research on this approach). Items are scored on a 0 (*Very false* or *Often False*) to 3 (*Very True* or *Often True*) scale. Alphas across facets ranged from .68 to .94. The PID5 scales manifest good structural validity (Wright et al., 2012) and strong correlations with *DSM-IV-TR* (American Psychiatric Association, 2000)

personality disorder scores (Hopwood, Thomas, Markon, Wright, & Krueger, 2012).

Psychopathy measures: Self-Report Psychopathy Scale—III (SRP-III). The SRP-III (Paulhus, Neumann, & Hare, in press) is a 64-item self-report measure of psychopathy that has four subscales. Factor 1 psychopathy is measured by the Interpersonal Manipulation (SRP-IPM; $\alpha = .86$) and Callous Affect (SRP-CA; $\alpha = .80$) scales, whereas Factor 2 psychopathy is measured by the Erratic Lifestyle (SRP-ELS; $\alpha = .81$) and Antisocial Behaviors (SRP-ASB; $\alpha = .78$) scales. The SRP-III scales demonstrate substantial correlations with alternative measures of psychopathy (Few, Miller, & Lynam, 2013; Seibert, Miller, Few, Zeichner, & Lynam, 2011) and have a well-validated factor structure (e.g., Neal & Sellbom, 2012).

Symptom and affect measures.

Brief Symptom Inventory (BSI). The BSI (Derogatis & Melisaratos, 1983) is a 53-item measure of psychological symptoms experienced in the past week. It includes specific symptom scales and a global severity index (GSI). We report only on the GSI (Samples 1 and 2: $\alpha_s = .97$).

Positive and Negative Affect Schedule—Expanded Form (PANAS-X). The PANAS-X (Watson & Clark, 1994) is a 60-item self-report measure of affect. Here, we report on the subscales of positive (10 items; Sample 1: $\alpha = .87$; Sample 2:

$\alpha = .84$) and negative affect (10 items; Sample 1: $\alpha = .83$; Sample 2: $\alpha = .85$).

Behavioral outcome measures.

Crime and Analogous Behavior Scale (CAB). The CAB (Miller & Lynam, 2003) is a self-report inventory that assesses externalizing behaviors such as substance use, antisocial behavior, gambling, and intimate partner violence. An alcohol use variable was created by averaging five standardized variables (i.e., use of alcohol, age of first use, current pattern of use, ever binge drinking, number of binge drinking episodes during the past month). A lifetime substance use variety count was created by giving participants a “1” for every substance they endorsed using (five items; e.g., marijuana). A lifetime antisocial behavior count was created by giving participants a “1” for every relevant act they endorsed (nine items; e.g., stealing). A lifetime gambling (GAMB) count was created by giving participants a “1” for every relevant act they endorsed (six items; e.g., played card or other games for money). Last, a lifetime intimate partner violence (IPV) count was created using this same approach (six items; e.g., slapped my partner). The antisocial and IPV variables were log-transformed prior to use.

Response Choice Aggression Paradigm (RCAP). Participants in Sample 3 completed the RCAP (Zeichner, Frey, Parrott, & Butryn, 1999), ostensibly a reaction time competition with another person (see Reidy et al., 2008, for details). Participants were told that they could administer shocks ranging from “1 to 10” to their opponent (no opponent was actually involved; participants received shocks from and gave shocks to a computer). After each trial, participants received feedback on whether they had won or lost and were allowed to administer shocks to the other person, regardless of the outcome. They, in turn, could receive shocks from the “other person” (actually sent at random intervals by a computer). Shocks were administered via two electrodes attached to two fingers of the participant’s nondominant hand.

We combined three aggression scores (i.e., shock intensity, shock duration, and shock frequency) to create an aggression composite ($\alpha = .80$). Shock intensity was the average intensity of shocks for trials in which the participant administered a shock. Shock duration was the average duration of shocks for trials during which the participant administered a shock. Shock frequency was the number of trials during which the participant chose to administer a shock.

Results

Relations among NPI scales. The NPI-13 was highly correlated with both the NPI-16 ($r = .83, p < .001$) and the NPI-40 ($r = .87, p < .001$). Likewise, the NPI-16 was highly correlated with the NPI-40 ($r = .90, p < .001$). The high correlation between the NPI-13 and NPI-16 was partially due to their degree of overlap; seven of the items on the NPI-13 also appear on the NPI-16.

Relations between NPI scales and non-NPI narcissism measures. Across analyses, we tested whether there were significant differences between the NPI-13, NPI-16, and NPI-40 with measures of external criteria relevant to the nomological network of narcissism. In some cases, measures were unique to a single sample (e.g., SRP-III), whereas in other cases, measures were repeated across samples (e.g., NEO-PI-R). In the latter case, we combined the correlations using a weighted average. For all cor-

relations, 95% confidence intervals were computed and used to compare correlations across the three NPI measures.⁵

First, we examined the relations between the three NPI scales and other measures of narcissism and self-esteem (see Table 2). All three scales manifested nearly identical correlations with the PNI, HSNS, PES, and both interview and self-report measures of NPD. In general, the three NPI scales were significantly positively correlated with grandiose scales from the PNI and NGS, psychological entitlement, and both self-report and interview-based symptom of NPD. All three were also positively related to self-esteem scores, although the correlation manifested by the NPI-13 ($r = .15$) was significantly smaller than the corresponding correlation manifested by the NPI-40 ($r = .28$).

Relations between NPI scales and personality measures.

Next, we examined the relations between the three NPI scales and both self- and other-rated FFM traits. The three NPI scales manifested similar correlations across the NEO-PI-R domains (see Table 3).⁶ For instance, all were negatively related to Agreeableness and Neuroticism, and positively related to Extraversion. The only significant difference was between the NPI-13 and the NPI-40 correlation with the domain of Extraversion (NPI-13: $r = .25$, NPI-40: $r = .41$). With regard to parental-reports and thin-slice ratings of FFM domains, there were no significant differences across the three NPI measures (see Table 3). There were also no differences in the relations manifested by the three NPI scores with the thin-slice ratings of likability, attractiveness, and narcissism; in general, the NPI measures were positively related to thin-slice ratings of all three. Overall, the self-, parental-report, and thin-slice ratings produced similar relationships between the FFM domains and narcissism across the three scales. Of note however, the low Agreeableness manifested on the self- and parental-reports was not corroborated by the thin-slice ratings, nor was the high Extraversion manifested by the self-report and thin-slice ratings corroborated by the parental-reports. Last, no significant differences were found between the NPI scales and the IPC octants. In general, all three NPI scores manifested their largest correlations with octants associated with interpersonal dominance and coldness.

Relations between NPI scales and psychological functioning measures.

We next examined the relations between the three NPI scales and measures of personality pathology (PID5, SCID-II-PQ) and psychopathy (SRP-III). No significant differences were found between the three NPI scales for any of the *DSM-5* personality disorder (PD) traits, as measured by the PID5, although the correlations with the NPI-13 were generally higher than those with either the NPI-16 or NPI-40 (see Table 4). In general, all three produced substantial correlations with the Antagonism subscales such as Grandiosity and Attention Seeking, as well as traits from Disinhibition (e.g., Irresponsibility),

⁵ It should be noted that there is very little overlap between the correlations presented here and those presented in the previously published articles from which the data were derived. Of the three versions of the NPI, only the NPI-40 was used in the previous studies, and in most cases, subscale scores were used in lieu of total scores and then combined into grandiose narcissism composites.

⁶ The relations between the three NPI scales and the 30 FFM facets were examined and no significant differences were found. The results of these analyses are provided in the supplemental material.

Table 2
Correlations Between Non-NPI Narcissism Measures and the Three NPI Scales

Measure	N	k	NPI-13			NPI-16			NPI-40		
			R _{xy}	95% CI		R _{xy}	95% CI		R _{xy}	95% CI	
				Lower	Upper		Lower	Upper		Lower	Upper
PNI											
CSE	515	2	.00	-.08	.09	-.02	-.11	.06	-.08	-.17	.01
HS	515	2	-.03	-.12	.05	-.02	-.10	.07	-.06	-.15	.02
D	515	2	.15	.06	.23	.10	.01	.18	.04	-.04	.13
ER	515	2	.32	.24	.39	.29	.21	.37	.25	.17	.33
SSSE	515	2	.07	-.01	.16	.07	-.02	.16	.11	.02	.19
GF	515	2	.25	.17	.33	.24	.16	.32	.26	.18	.34
E	515	2	.39	.31	.46	.45	.38	.52	.51	.45	.58
HSNS	1,181	4	.16	.11	.22	.09	.03	.14	.05	-.01	.11
PES	820	3	.45	.40	.51	.47	.41	.52	.46	.41	.52
NGS	582	2	.62	.56	.66	.58	.53	.64	.65	.60	.69
SCID-II-PQ NPD	1,175	4	.54	.50	.58	.52	.48	.56	.52	.47	.56
SCID-II-PQ NPD Interview	48	1	.61	.39	.76	.56	.33	.73	.54	.30	.71
RSE	1,153	4	.15 _a	.09	.21	.22 _{ab}	.16	.27	.28 _b	.23	.34

Note. Correlations within each row with different subscripts are significantly different. PNI = Pathological Narcissism Inventory; CSE = Contingent Self-Esteem; HS = Hiding the Self; D = Devaluing; ER = Entitlement Rage; SSSE = Self-Sacrificing Self-Enhancement; GF = Grandiose Fantasies; E = Exploitativeness; HSNS = Hypersensitive Narcissism Scale; PES = Psychological Entitlement Scale; NGS = Narcissistic Grandiosity Scale; NPD = narcissistic personality disorder; RSE = Rosenberg Self-Esteem Scale; NPI = Narcissistic Personality Inventory; CI = confidence interval.

Negative Affectivity (e.g., Hostility), and Psychoticism (e.g., Unusual Beliefs/Perceptions).

The three NPI scales also manifested similar correlations with the *DSM-IV-TR* PDs (see Table 5). Specifically, all three evinced moderate positive relations with paranoid, antisocial, and histrionic PDs, and moderate negative relations with avoidant and dependent PDs. With regard to psychopathy, the three NPI scales were similarly and strongly positively correlated with all four of the SRP-III subscales; the strongest correlations were with the two "Factor 1" psychopathy scales (Interpersonal Manipulation; Callous Affect). In terms of overall psychological distress, as measured by the BSI's Global Severity Index, all three scales manifested similarly small negative correlations that did not differ from one another (see Table 5). With regard to positive and negative affect (see Table 5), all three NPI scales were unrelated to negative affect and positively related to positive affect.

Relations between NPI scales and behavioral outcome measures. We next examined the relations between the NPI scales and several outcome measures (see Table 5). With regard to externalizing behaviors, the three NPI scales manifested similar correlations with no significant differences among the correlations. In general, the three NPI scales produced small positive correlations with histories of antisocial behavior, gambling, and alcohol use. All three scales were also equally correlated with aggression manifested in a well-validated behavioral paradigm.

Intraclass correlations between the NPI scales. To examine the similarity of the relations produced by the three NPI scales across all the aforementioned criteria, we calculated second-order intraclass correlations of the bivariate correlations manifested by the three NPI scores across all the external criteria reported in Tables 2 through 5. The pattern of correlations manifested by the NPI scales were nearly identical (NPI-13 vs.

NPI-16: $r_{icc} = .96$; NPI-13 vs. NPI-40: $r_{icc} = .95$; NPI-16 vs. NPI-40: $r_{icc} = .98$).

Factor structure of the NPI-16 and NPI-13.

NPI-16. Because the NPI-16 was not created with a specific a priori factor structure, we split the total sample into two random halves and used EFA (Sample 1) and CFA (Sample 2) to examine its factor structure on the raw data. First, an EFA using principal axis factoring with direct oblimin rotation was performed on the NPI-16 items. Five factors had eigenvalues of 1 or greater; the first seven eigenvalues were 3.52, 1.49, 1.20, 1.12, 1.00, .92, and .89. An examination of the scree plot suggested that a two-factor solution was appropriate. Parallel Analysis (PA) and the Minimum Average Partial (MAP; Velicer, 1976) methods were also utilized to identify the optimal number of factors. The results from the PA suggested that up to six factors could be extracted, although the real eigenvalues for Factors 4–6 were very similar to those generated by the random data (mean difference between real eigenvalues and random data for Factors 4–6: .03). Finally, the results from the MAP test suggested that two factors should be extracted.

On the basis of the EFA results, we next used confirmatory factor analysis to test five competing models underlying the structure of the NPI-13 and NPI-16 (see Table 6).⁷ The fit of all CFA models was evaluated in accordance with four fit indices: (a) the chi-square goodness-of-fit test (χ^2), (b) the comparative fit index (CFI; Bentler, 1990), (c) the root-mean-square error of approximation (RMSEA; Steiger, 1990), and (d) the standardized root-mean-square residual (SRMR; Bentler, 1995). Researchers generally agree that CFI values greater than .90 indicate adequate fit, while values at or above .95 indicate good fit; RMSEA values less

⁷ For the NPI-16, we did not test the six-factor solution as the sixth factor was composed of a single item. Thus, this model could not be tested in CFA and would not be practically useful.

Table 3
Correlations Between the Five-Factor Model and Interpersonal Circumplex Personality Measures and the Three NPI Scales

Measure	N	k	NPI-13			NPI-16			NPI-40		
			R _{xy}	95% CI		R _{xy}	95% CI		R _{xy}	95% CI	
				Lower	Upper		Lower	Upper		Lower	Upper
FFM self-report											
Neuroticism	636	3	-.16	-.24	-.09	-.23	-.30	-.16	-.28	-.35	-.21
Extraversion	636	3	.25 _a	.17	.32	.29 _{ab}	.22	.36	.41 _b	.34	.47
Openness	636	3	.04	-.04	.11	.05	-.02	.13	.09	.01	.17
Agreeableness	636	3	-.53	-.58	-.47	-.51	-.57	-.45	-.50	-.56	-.44
Conscientiousness	636	3	.03	-.05	.11	.07	.00	.15	.11	.03	.19
FFM parental report											
Neuroticism	143	1	-.16	-.32	.00	-.22	-.37	-.06	-.17	-.33	-.01
Extraversion	143	1	.05	-.12	.21	.15	-.01	.31	.12	-.05	.28
Openness	143	1	.20	.04	.35	.06	-.11	.22	.07	-.10	.23
Agreeableness	143	1	-.21	-.36	-.05	-.18	-.33	-.02	-.21	-.36	-.05
Conscientiousness	143	1	-.08	-.24	.09	-.01	-.17	.15	-.06	-.22	.11
FFM thin-slice ratings											
Neuroticism	230	1	-.27	-.39	-.15	-.19	-.31	-.06	-.29	-.40	-.17
Extraversion	230	1	.38	.26	.49	.28	.16	.40	.40	.29	.50
Openness	230	1	.10	-.03	.23	.10	-.03	.23	.12	-.01	.25
Agreeableness	230	1	-.11	-.24	.02	-.09	-.22	.04	-.09	-.22	.04
Conscientiousness	230	1	-.16	-.28	-.03	-.19	-.31	-.06	-.16	-.28	-.03
Attractiveness	230	1	.21	.08	.33	.12	-.01	.25	.23	.10	.35
Likeability	230	1	.17	.04	.29	.11	-.02	.24	.20	.07	.32
Narcissism	230	1	.33	.21	.44	.28	.16	.40	.35	.23	.46
IAS											
Assured-Dominant	277	1	.41	.31	.50	.47	.37	.56	.53	.44	.61
Arrogant-Calculating	277	1	.46	.36	.55	.48	.38	.57	.53	.44	.61
Cold-Hearted	277	1	.48	.38	.57	.43	.33	.52	.42	.32	.51
Aloof-Introverted	276	1	.05	-.07	.17	-.03	-.15	.09	-.10	-.22	.02
Unassured-Submissive	277	1	-.23	-.34	-.12	-.32	-.42	-.21	-.38	-.48	-.27
Unassuming-Ingenuous	277	1	-.25	-.36	-.14	-.28	-.39	-.17	-.34	-.44	-.23
Warm-Agreeable	277	1	-.37	-.47	-.26	-.34	-.44	-.23	-.30	-.40	-.19
Gregarious-Extraverted	277	1	.12	.00	.23	.17	.05	.28	.28	.17	.39

Note. Correlations within each row with different subscripts are significantly different. NPI = Narcissistic Personality Inventory; CI = confidence interval; FFM = five-factor model; IAS = Interpersonal Adjective Scales.

than .08 and SRMR values less than .10 indicate acceptable fit, whereas RMSEA values below .06 and SRMR values below .08 indicate good fit (e.g., Hu & Bentler, 1999; Lance & Vandenberg, 2002). Finally, we compared parameter-nested competing models using $\Delta\chi^2$. Each of the five competing structures provided a reasonable approximation of the NPI-16 data, but only the five-factor model met the criteria for an acceptable fit in terms of RMSEA, SRMR, and CFI. Clearly, the successively increasing complexity of the models contributed to the findings. That is, the five-factor model is practically problematic because it is not parsimonious, and multiple factors include three or fewer items, which is below recommended standards for CFA. Ultimately, none of the models provided a particularly close fit to the data.

NPI-13. We next tested the structure of the NPI-13 using confirmatory factor analysis (EFA was not used as was done with the NPI-16 because the NPI-13 was designed based on an a priori three-factor structure). CFA was used to compare the a priori three-factor model to one- and two-factor models. The two-factor model combined the LA and GE subscales, as previous research has suggested these are more uniformly grandiose than the EE subscale (Ackerman et al., 2011; Brown et al., 2009). Although the one- and two-factor models provided a reasonable approximation to the data, the three-factor model provided a closer fit (see Table

6). In addition, restricting LA to load on a common factor with GE resulted in a significant decrement in fit. Accordingly, we adopted the three-factor model for subsequent analyses. The standardized factor loadings for this solution are presented in Table 7.

Relations between NPI-13 subscales and non-NPI narcissism measures. The three NPI-13 subscales manifested small to moderate intercorrelations (LA vs. GE: $r = .35$; LA vs. EE: $r = .34$; GE vs. EE: $r = .20$) and, as expected, manifested evidence of both convergence and divergence with the external criteria, including the alternative measures of narcissism (see Table 8).⁸ In general, only the NPI-13 EE subscale manifested significant correlations

⁸ The NPI-40 subscales were similarly intercorrelated (LA vs. GE: $r = .49$; LA vs. EE: $r = .31$; GE vs. EE: $r = .21$). Comparing the relations manifested by the NPI-13 and NPI-40 LA and GE subscales with the external criteria revealed significant differences on only two variables: self-esteem (NPI-13 LA $r = .17$ vs. NPI-40 LA $r = .33$) and self-reported extraversion (NPI-13 GE $r = .31$ vs. NPI-40 GE $r = .45$). Comparisons were not made between the NPI-13 and NPI-40 EE subscales, as they contain the same items. The NPI-13 and NPI-40 subscales were highly correlated (LA $r = .86$ and GE $r = .88$), and the profiles of correlations manifested by each with the external criteria were almost identical (NPI-13 LA vs. NPI-40 LA: $r_{icc} = .94$; NPI-13 GE vs. NPI-40 GE: $r_{icc} = .97$). The full results of these analyses are provided in the supplemental material.

Table 4
Correlations Between the PID5 Traits and the Three NPI Scales

Measure	NPI-13			NPI-16			NPI-40		
	R _{xy}	95% CI		R _{xy}	95% CI		R _{xy}	95% CI	
		Lower	Upper		Lower	Upper		Lower	Upper
Negative affectivity									
Emotional lability	.27	.16	.37	.16	.05	.27	.17	.06	.28
Anxiousness	.06	-.05	.17	-.09	-.20	.02	-.10	-.21	.01
Separation insecurity	.33	.23	.43	.23	.12	.33	.25	.14	.35
Perseveration	.24	.13	.34	.12	.01	.23	.10	-.01	.21
Submissiveness	.11	.00	.22	.02	-.09	.13	.03	-.08	.14
Hostility	.40	.30	.49	.31	.20	.41	.29	.18	.39
Restricted affect	.19	.08	.30	.17	.06	.28	.15	.04	.26
Depressivity	.18	.07	.29	.07	-.04	.18	.04	-.07	.15
Suspiciousness	.30	.19	.40	.19	.08	.30	.21	.10	.31
Detachment									
Withdrawal	.09	-.02	.20	.01	-.10	.12	-.01	-.12	.10
Anhedonia	.07	-.04	.18	-.04	-.15	.07	-.08	-.19	.03
Intimacy avoidance	.19	.08	.30	.13	.02	.24	.11	.00	.22
Antagonism									
Manipulativeness	.50	.41	.58	.44	.34	.53	.49	.40	.57
Deceitfulness	.46	.37	.54	.37	.27	.46	.39	.29	.48
Grandiosity	.57	.49	.64	.51	.42	.59	.57	.49	.64
Attention seeking	.59	.51	.66	.54	.46	.61	.57	.49	.64
Callousness	.45	.36	.54	.35	.25	.44	.35	.25	.44
Disinhibition									
Irresponsibility	.40	.30	.49	.31	.20	.41	.28	.17	.38
Impulsivity	.36	.26	.45	.26	.15	.36	.26	.15	.36
Rigid perfectionism	.29	.18	.39	.19	.08	.30	.20	.09	.31
Distractibility	.22	.11	.32	.10	-.01	.21	.06	-.05	.17
Risk taking	.25	.14	.35	.26	.15	.36	.36	.26	.45
Psychoticism									
Unusual beliefs/perceptions	.40	.30	.49	.36	.26	.45	.37	.27	.46
Eccentricity	.18	.07	.29	.11	.00	.22	.08	-.03	.19
Cognitive/perceptual dysregulation	.41	.31	.50	.31	.20	.41	.31	.20	.41

Note. $N = 306$. $k = 1$. Correlations within each row with different subscripts are significantly different. PID5 = Personality Inventory for DSM-5; NPI = Narcissistic Personality Inventory; CI = confidence interval; DSM-5 = *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.).

with measures/subscales of vulnerable narcissism (PNI: Contingent Self-Esteem, Hiding the Self, Devaluing, and Entitlement Rage; HSNS), whereas all three subscales manifested significant positive correlations with measures/subscales of grandiose narcissism (PNI: Grandiose Fantasies, Exploitativeness; Narcissistic Grandiosity Scale), psychological entitlement, and NPD. The NPI-13 subscales also manifested divergent relations with self-esteem, with NPI-13 LA and GE manifesting positive correlations and NPI-13 EE manifesting a negative correlation.

Relations between NPI-13 subscales and personality measures. In terms of their relations to personality traits, the NPI-13 LA and GE subscales manifested a pattern of correlations with FFM ratings (self-, parental-report, thin slices) that is characteristic of grandiose narcissism (i.e., negative correlations with Agreeableness and Neuroticism, positive correlation with Extraversion), whereas the EE subscale manifested a pattern of correlations that falls between that of vulnerable and grandiose narcissism, as its primary FFM correlate is Agreeableness (see Table 9).⁹ We also calculated similarity scores between the three NPI-13 subscales with the meta-analytically derived correlational profile of NPD (Samuel & Widiger, 2008) using intraclass correlations. All three manifested significant intraclass correlations with the meta-analytic profile of NPD from the perspective of the FFM (LA

vs. NPD: $r_{icc} = .75$; GE vs. NPD: $r_{icc} = .68$; EE vs. NPD: $r_{icc} = .59$).

In terms of the interpersonal circumplex, derived from the IAS, the three subscales differed such that LA was most strongly related to interpersonal dominance and EE was most strongly related to interpersonal coldness; GE manifested correlations that typically fell between those manifested by LA and EE.

Relations between NPI-13 subscales and psychological functioning measures. With regard to the DSM-5 personality disorder traits, the NPI-13 subscales manifested similar correlations with facets measuring Antagonism and with unusual beliefs or perceptions from the Psychoticism domain (see Table 10). The subscales differed with regard to their correlations with many of the facets from the Negative Affectivity (e.g., hostility, anxiousness, depressivity), Detachment (e.g., anhedonia), and Disinhibition (e.g., irresponsibility, distractibility) domains such that the NPI-13 EE subscale manifested stronger positive correlations.

⁹ The relations between the three NPI subscales and the self-report FFM facets were examined, and significant differences were found in the majority of facets (Neuroticism: 5, Extraversion: 6, Openness: 2, Agreeableness: 6, and Conscientiousness: 4). The results of these analyses are provided in the supplemental material.

Table 5
Correlations Between Psychopathology, Psychopathy, and Behavioral Outcome Measures and the Three NPI Scales

Measure	N	k	NPI-13			NPI-16			NPI-40		
			R _{xy}	95% CI		R _{xy}	95% CI		R _{xy}	95% CI	
				Lower	Upper		Lower	Upper		Lower	Upper
SCID-II-PQ											
Paranoid	238	1	.24	.12	.36	.24	.12	.36	.15	.02	.27
Schizoid	238	1	.06	-.07	.19	.00	-.13	.13	-.05	-.18	.08
Schizotypal	238	1	-.01	-.14	.12	-.02	-.15	.11	-.07	-.20	.06
Antisocial	238	1	.26	.14	.37	.29	.17	.40	.24	.12	.36
Borderline	238	1	.02	-.11	.15	.09	-.04	.21	.00	-.13	.13
Histrionic	238	1	.45	.34	.55	.48	.38	.57	.52	.42	.61
Avoidant	238	1	-.31	-.42	-.19	-.29	-.40	-.17	-.42	-.52	-.31
Dependent	238	1	-.20	-.32	-.07	-.15	-.27	-.02	-.21	-.33	-.09
Obsessive-compulsive	238	1	.01	-.12	.14	.03	-.10	.16	.00	-.13	.13
SRP-III											
SRP-IPM	361	1	.53	.45	.60	.50	.42	.57	.50	.42	.57
SRP-CA	361	1	.42	.33	.50	.39	.30	.47	.39	.30	.47
SRP-ELS	361	1	.33	.23	.42	.28	.18	.37	.34	.25	.43
SRP-ASB	361	1	.27	.17	.36	.26	.16	.35	.23	.13	.33
BSI											
GSI	598	2	-.04	-.12	.04	-.05	-.13	.03	-.11	-.19	-.03
PANAS-X											
Negative affect	596	2	.04	-.04	.12	.00	-.08	.08	-.04	-.12	.04
Positive affect	596	2	.20	.12	.27	.24	.16	.31	.29	.22	.37
CAB											
Alcohol use	361	1	.16	.06	.26	.12	.02	.22	.18	.08	.28
Substance use	361	1	.06	-.04	.16	.04	-.06	.14	.04	-.06	.14
Antisocial behavior	361	1	.23	.13	.33	.21	.11	.31	.21	.11	.31
Gambling	361	1	.23	.13	.33	.23	.13	.33	.23	.13	.33
Intimate partner violence	361	1	.11	.01	.21	.08	-.02	.18	.07	-.03	.17
RCAP											
Composite	86	1	.45	.26	.60	.47	.29	.62	.40	.21	.56

Note. Correlations within each row with different subscripts are significantly different. NPI = Narcissistic Personality Inventory; CI = confidence interval; SCID-II-PQ = Structured Clinical Interview for *DSM-IV* Personality Disorders—Personality Questionnaire; SRP-III = Self-Report Psychopathy Scale, Version III; IPM = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviors; BSI = Brief Symptom Inventory; PANAS-X = Positive and Negative Affect Scale—Expanded Form; CAB = Crime and Analogous Behavior Scale; RCAP = Response Choice Aggression Paradigm; *DSM-IV* = *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.); GSI = General Severity Index.

With regard to *DSM-IV-TR* PDs, all three NPI-13 subscales manifested positive correlations with antisocial and histrionic PDs (see Table 11). The LA and GE subscales were also negatively related to avoidant and dependent PDs, whereas the EE subscale was unrelated to both. Last, both the LA and EE subscales were positively correlated with paranoid PD. In terms of psychopathy, the correlations between the NPI-13 subscales and the SRP-III subscales were positive and generally similar, with the GE subscale generally producing the smallest correlations.

In terms of general psychological distress, only the NPI-13 EE subscale was positively related to the GSI, although the correlation was small. Similarly, the EE subscale manifested a small positive correlation with negative affect and was unrelated to positive affect, whereas the LA and GE subscales showed the inverse pattern.

Relations between the NPI-13 subscales and outcome measures. The three NPI-13 subscales manifested similar positive correlations with alcohol use and gambling, as well as aggression measured in the laboratory paradigm; there were no differences in these correlations across the three NPI-13 subscales.

Intraclass correlations between the NPI-13 subscales. The similarities of the profiles of correlations manifested by the three

NPI-13 subscales with the external criteria reported in Tables 8 through 11 were examined using intraclass correlations: LA versus GE: $r_{icc} = .86$; LA versus EE: $r_{icc} = .66$; GE versus EE: $r_{icc} = .50$.¹⁰ LA and GE manifested similar patterns of correlations with an array of constructs, whereas EE manifested more moderate similarity (although still substantial) with LA and GE.

Study 2

In discussing the creation of short forms, Smith, McCarthy, and Anderson (2000) argue that, in order to test whether one's "short form has adequate overlapping variance with the full form" (p. 105), the measures must be given separately (vs. deriving the long and short form scores from the same test administration, as was done in Study 1). In Study 2, we address this issue by administering all three separate versions of the NPI in order to test the degree to which they overlap. In addition, this approach allowed us

¹⁰ The similarities of the profiles of correlations manifested by the three NPI-40 subscales with the external criteria were similar to those of the NPI-13 (LA vs. GE: $r_{icc} = .85$; LA vs. EE: $r_{icc} = .42$; GE vs. EE: $r_{icc} = .52$), with the exception that the LA versus EE correlation was smaller.

Table 6
Model Fit Statistics for CFA Models of the NPI-16 and the NPI-13

Model	Model fit statistics				
	<i>df</i>	χ^2	RMSEA	SRMSR	CFI
NPI-16					
1. 1 Factor	104	554.61	.085	.064	.830
2. 2 Factor	103	495.20	.077	.070	.852
3. 3 Factor	102	472.29	.079	.073	.860
4. 4 Factor	98	386.49	.068	.064	.891
5. 5 Factor	94	302.54	.058	.058	.921
NPI-13					
1. 1 Factor	65	821.06	.103	.075	.805
2. 2 Factor	64	702.90	.095	.069	.836
3. 3 Factor	62	333.41	.059	.056	.931
Model 3 vs. Model 2	$\Delta 2$	$\Delta 369.49^*$			

Note. For NPI-16, $N = 657$; for NPI-13, $N = 1,316$. CFA = confirmatory factor analysis; NPI = Narcissistic Personality Inventory; *df* = degrees of freedom; RMSEA = root-mean-square error of approximation; SRMSR = standardized root-mean-square residual; CFI = comparative fit index.

* $p < .001$.

to examine the time savings associated with the two short forms when compared to the full 40-item measure.

Method

Participants. The sample was composed of 150 adults (*mean age* = 33.30, *SD* = 12.21) living in the United States. Of these 48.7% were women, 72.0% were White, and 96.7% reported that English was their first language. The data were collected via MTurk, and participants were paid \$1.00 in exchange for their participation. Institutional review board approval was obtained for this study.

Measures.

NPI. Participants were administered the NPI-13, NPI-16, and NPI-40 in randomized order with short filler measures placed in between so that no two versions of the NPI were presented back-to-back. The three versions had alpha coefficients of .82 (NPI-13),

.84 (NPI-16), and .93 (NPI-40). With the exception of the EE subscale, the subscales on both the NPI-13 (LA: $\alpha = .73$, GE: $\alpha = .75$, EE: $\alpha = .52$) and NPI-40 (LA: $\alpha = .87$, GE: $\alpha = .82$, EE: $\alpha = .46$) manifested adequate reliability.

Response time. Using Qualtrics metadata, participants were timed (in seconds) to assess how long it took them to complete each version of the NPI in order to test whether there were time savings associated with the brief measures.

Results

Relations among NPI scales and subscales. The NPI-13 was highly correlated with both the NPI-16 ($r = .84, p < .001$) and NPI-40 ($r = .88, p < .001$), as was the NPI-16 with the NPI-40 ($r = .93, p < .001$). The relations between the subscales of the NPI-13 and NPI-40 are shown in Table 12. The subscales of the NPI-13 were highly correlated with the corresponding subscales of

Table 7
Standardized Factor Loadings for the Three-Factor NPI-13 Model

Item	Narcissistic response	LA	GE	EE
12	I like having authority over other people.	.60		
27	I have a strong will to power.	.60		
32	People always seem to recognize my authority.	.61		
36	I am a born leader.	.49		
4	I know that I am a good person because everybody keeps telling me so.		.35	
15	I like to show off my body.		.60	
19	I like to look at my body.		.69	
20	I will usually show off if I get the chance.		.36	
29	I like to look at myself in the mirror.		.63	
13	I find it easy to manipulate people.			.55
14	I insist upon getting the respect that is due me.			.35
24	I expect a great deal from other people.			.41
25	I will never be satisfied until I get all that I deserve.			.50

Note. $N = 1,316$. All factor loadings are significant at $p < .01$. NPI = Narcissistic Personality Inventory; LA = Leadership/Authority; GE = Grandiose Exhibitionism; EE = Entitlement/Exploitativeness. Adapted from "A Principal-Components Analysis of the Narcissistic Personality Inventory and Further Evidence of Its Construct Validity," by R. Raskin & H. Terry, 1988, *Journal of Personality and Social Psychology*, p. 894. Copyright by the American Psychological Association.

Table 8

Correlations Between the Non-NPI Narcissism Measures and the NPI-13 Subscales

Measure	<i>k</i>	LA			GE			EE		
		<i>R</i> _{xy}	95% CI		<i>R</i> _{xy}	95% CI		<i>R</i> _{xy}	95% CI	
			Lower	Upper		Lower	Upper		Lower	Upper
PNI										
CSE	2	-.04 _a	-.13	.04	-.10 _a	-.18	-.01	.17 _b	.09	.26
HS	2	.03 _a	-.05	.12	-.15 _b	-.24	-.07	.07 _a	-.02	.15
D	2	.11 _a	.03	.20	-.04 _a	-.13	.05	.30 _b	.22	.37
ER	2	.25 _{ab}	.16	.33	.10 _a	.01	.19	.39 _b	.32	.46
SSSE	2	.09	.01	.18	.07	-.02	.15	-.02	-.11	.07
GF	2	.27 _a	.19	.35	.09 _b	.00	.17	.21 _{ab}	.12	.29
E	2	.37 _a	.30	.44	.20 _b	.11	.28	.31 _{ab}	.23	.38
HSNS	4	.06 _a	.01	.12	.05 _a	.00	.11	.28 _b	.23	.34
PES	3	.36	.30	.42	.31	.24	.37	.35	.29	.41
NGS	2	.53 _a	.47	.59	.45 _{ab}	.38	.51	.38 _b	.31	.45
SCID-II-PQ NPD	4	.41	.36	.46	.35	.30	.40	.45	.40	.49
SCID-II-PQ NPD Interview	1	.63	.42	.78	.23	-.06	.48	.36	.08	.58
RSE	4	.17 _a	.11	.22	.21 _a	.15	.26	-.10 _b	-.16	-.04

Note. PNI *N*s = 514–515, HSNS *N*s = 1180–1181, PES *N*s = 819–820, NGS *N*s = 581–582, SCID-II-PQ NPD *N*s = 1174–1175, SCID-II-PQ NPD Interview *N* = 48, RSE *N*s = 1152–1153. Correlations within each row with different subscripts are significantly different. PNI = Pathological Narcissism Inventory; CSE = Contingent Self-Esteem; HS = Hiding the Self; D = Devaluing; ER = Entitlement Rage; SSSE = Self-Sacrificing Self-Enhancement; GF = Grandiose Fantasies; E = Exploitativeness; HSNS = Hypersensitive Narcissism Scale; PES = Psychological Entitlement Scale; NGS = Narcissistic Grandiosity Scale; NPD = narcissistic personality disorder; RSE = Rosenberg Self-Esteem Scale; LA = Leadership/Authority; GE = Grandiose Exhibitionism; EE = Entitlement/Exploitativeness; NPI = Narcissistic Personality Inventory; CI = confidence interval.

the NPI-40 (NPI-13 LA vs. NPI-40 LA: $r = .82, p < .001$; NPI-13 GE vs. NPI-40 GE: $r = .84, p < .001$; NPI-13 EE vs. NPI-40 EE: $r = .86, p < .001$). Likewise, within and between each version the subscales were highly correlated, although the lowest correlations were found with the EE subscale.

Time savings. We next examined whether there was a time savings associated with the brief measures of the NPI. A within-subjects analysis of variance with a Greenhouse-Geisser correction indicated that the response time significantly differed across versions of the NPI, $F(1.26, 187.85) = 53.90, p < .001$. Paired comparisons using a Bonferroni correction indicated that while both the NPI-13 ($M = 64.47, SD = 63.90$) and NPI-16 ($M = 78.65, SD = 91.40$) took significantly less time to complete (both $p < .001$) than the NPI-40 ($M = 209.41, SD = 212.85$; d [NPI-13 vs. NPI-40] = -0.92 ; d [NPI-16 vs. NPI-40] = -0.80), there was no time savings associated with the NPI-13 over the NPI-16 ($d = -0.18$).

General Discussion

Brief personality measures can be invaluable because of their efficiency. The creation of reliable and valid brief forms can even drive new advances in research as scholars from other content areas and disciplines may decide to include brief measures in their own research endeavors if the costs of inclusion are minimal. There are a number of difficulties and dangers, however, in creating these measures, several of which were documented by Smith and colleagues (2000). One of the general “sins” that Smith and colleagues (2000) describe in the development of brief forms is “to assume that because the new measure is shorter, less validity evidence is required” (p. 103). These authors go on to state, “a short-form developer must meet the same standards of validity as are required for any test” (p. 103).

In Study 1, we sought to avoid this “sin” by conducting a comprehensive test of the validity of the two brief forms of the NPI—the NPI-16 (Ames et al., 2006) and the newly created NPI-13—by comparing their patterns of correlations with a vast array of important criteria from narcissism’s nomological network with those manifested by the NPI-40. The results suggested that both the NPI-13 and NPI-16 total scores result in patterns of convergent and discriminant validity that are nearly identical to those manifested by the NPI-40. For instance, both brief forms manifested strong correlations with symptoms of NPD derived from interviews and self-reports, alternative measures of narcissism and narcissism-related traits such as entitlement and grandiosity, and “near neighbor” disorders such as psychopathy and histrionic personality disorder. Both brief forms were also associated with the general personality traits rated as prototypical of NPD and grandiose narcissism by researchers and clinicians including extraversion and disagreeableness (Lynam & Widiger, 2001; Samuel & Widiger, 2004; Thomas, Wright, Lukowitsky, Donnellan, & Hopwood, 2012). Similarly, both brief forms were also strongly positively correlated with the two pathological traits—grandiosity and attention seeking—that are central to the alternative diagnostic approach for NPD that will be included in *DSM-5* (Miller, Gentile, & Campbell, 2012). From an interpersonal circumplex perspective, both NPI brief forms were related to dominance and coldness, as was expected. Finally, both brief forms were positively associated with externalizing behaviors including aggressive behavior manifested in an experimental paradigm involving electric shocks. In short, both the NPI-13 and NPI-16 appear to do an excellent job of replicating the results found with the longer NPI-40.

In Study 2, we individually administered each of the three versions of the NPI to a new sample of participants in order to

Table 9

Correlations Between the Five-Factor Model and Interpersonal Circumplex Personality Measures and the NPI-13 Subscales

Measure	LA			GE			EE		
	R _{xy}	95% CI		R _{xy}	95% CI		R _{xy}	95% CI	
		Lower	Upper		Lower	Upper		Lower	Upper
FFM self-report									
Neuroticism	-.21 _a	-.28	-.13	-.17 _a	-.25	-.09	.07 _b	.00	.15
Extraversion	.25 _a	.17	.32	.31 _a	.24	.38	-.12 _b	-.19	-.04
Openness	-.01 _{ab}	-.09	.07	.13 _a	.05	.21	-.08 _b	-.15	.00
Agreeableness	-.46 _a	-.52	-.40	-.23 _b	-.31	-.16	-.49 _a	-.55	-.43
Conscientiousness	.11 _a	.04	.19	.02 _{ab}	-.05	.10	-.09 _b	-.17	-.02
FFM parental report									
Neuroticism	-.13	-.29	.03	-.12	-.28	.05	-.07	-.23	.10
Extraversion	.07	-.10	.23	.13	-.03	.29	-.17	-.33	-.01
Openness	.07	-.10	.23	.19	.03	.34	.17	.01	.33
Agreeableness	-.14	-.30	.02	-.17	-.33	-.01	-.13	-.29	.03
Conscientiousness	.02	-.14	.18	-.15	-.31	.01	.02	-.14	.18
FFM thin-slice ratings									
Neuroticism	-.25	-.37	-.12	-.26	-.38	-.13	-.06	-.19	.07
Extraversion	.31	.19	.42	.36	.24	.47	.12	-.01	.25
Openness	.05	-.08	.18	.08	-.05	.21	.10	-.03	.23
Agreeableness	-.14	-.26	-.01	-.01	-.14	.12	-.11	-.24	.02
Conscientiousness	-.13	-.26	.00	-.14	-.26	-.01	-.07	-.20	.06
Attractiveness	.10	-.03	.23	.23	.10	.35	.12	-.01	.25
Likeability	.11	-.02	.24	.22	.09	.34	.03	-.10	.16
Narcissism	.32	.20	.43	.26	.13	.38	.13	.00	.26
IAS									
Assured-Dominant	.46 _a	.36	.55	.24 _b	.13	.35	.20 _b	.08	.31
Arrogant-Calculating	.40	.30	.49	.31	.20	.41	.32	.21	.42
Cold-Hearted	.33 _{ab}	.22	.43	.25 _a	.14	.36	.51 _b	.42	.59
Aloof-Introverted	-.05 _a	-.17	.07	-.10 _a	-.22	.02	.29 _b	.18	.39
Unassured-Submissive	-.30 _a	-.40	-.19	-.22 _a	-.33	-.10	.03 _b	-.09	.15
Unassuming-Ingenuous	-.27	-.38	-.16	-.18	-.29	-.06	-.11	-.22	.01
Warm-Agreeable	-.25 _{ab}	-.36	-.14	-.16 _a	-.27	-.04	-.44 _b	-.53	-.34
Gregarious-Extraverted	.17 _a	.05	.28	.23 _a	.12	.34	-.18 _b	-.29	-.06

Note. FFM self-report *Ns* = 635–636. *k* = 3. FFM parental report *N* = 143, FFM thin-slices *Ns* = 229–230, IAS *Ns* = 276–277. *k* = 1. Correlations within each row with different subscripts are significantly different. NPI = Narcissistic Personality Inventory; CI = confidence interval; FFM = five-factor model; IAS = Interpersonal Adjective Scales; LA = Leadership/Authority; GE = Grandiose Exhibitionism; EE = Entitlement/Exploitativeness.

ensure that the substantial overlapping variance found in Study 1 was not due to the use of NPI scores derived from a single administration. As with Study 1, we again found substantial convergence between participants' scores on the three measures, bolstering our claim that the NPI-13 and NPI-16 are brief, yet accurate, measures of trait narcissism that can be used in place of the NPI-40. Furthermore, comparisons of response time across the three measures support the notion that the NPI-13 and NPI-16 offer a time savings over the NPI-40, although the two brief measures did not differ from one another in the amount of time necessary to complete them. The main benefit of the NPI-13 over the NPI-16 is that it preserves the three-factor structure believed to underlie the NPI-40 (Ackerman et al., 2011) and, thus, allows for the use of subscales in the assessment of narcissism.

NPI-13 Subscales

In Study 1, we generated and validated three subscales for the NPI-13 (i.e., LA, GE, and EE) based on those derived by Ackerman et al. (2011). These subscales were similar to those previously identified as being central to the narcissism construct (Corry et al., 2008; Kubarych et al., 2004). This is particularly important con-

sidering that the measurement of narcissism as a unidimensional construct has been challenged in favor of using subscales (Brown et al., 2009; Miller, Price, & Campbell, 2012). The three subscales manifested some degree of divergence in their relations with the non-NPI narcissism measures and with the variables in the nomological network of narcissism. The LA and GE subscales generated patterns of correlations that were most similar to one another and most closely resembled the personality profile of grandiose narcissism (Miller, Hoffman, et al., 2011). The EE subscale, which was primarily associated with antagonism, is not as uniquely associated with either grandiose or vulnerable narcissism. Instead, EE appears to be a blend of both dimensions. Although the EE subscale is associated with greater vulnerability than the other subscales, its relations with these markers (e.g., positive correlations with neuroticism and psychological distress; negative correlation with self-esteem and extraversion) are substantially smaller than those found with explicit measures of vulnerable narcissism (e.g., Miller et al., 2010; Miller, Hoffman, et al., 2011). Overall, our results are consistent with research showing that of the three subscales, EE is most closely associated with certain maladaptive traits and outcomes such as psychological distress, negative affectivity, impulse-control problems, and submissiveness (Ackerman

Table 10
Correlations Between the PID5 Traits and the NPI-13 Subscales

Measure	LA			GE			EE		
	R _{xy}	95% CI		R _{xy}	95% CI		R _{xy}	95% CI	
		Lower	Upper		Lower	Upper		Lower	Upper
Negative affectivity									
Emotional lability	.15	.04	.26	.17	.06	.28	.28	.17	.38
Anxiousness	-.03 _a	-.14	.08	-.02 _a	-.13	.09	.21 _b	.10	.31
Separation insecurity	.16	.05	.27	.29	.18	.39	.29	.18	.39
Perseveration	.10 _a	-.01	.21	.13 _{ab}	.02	.24	.32 _b	.22	.42
Submissiveness	.11	.00	.22	.03	-.08	.14	.12	.01	.23
Hostility	.22 _a	.11	.32	.23 _a	.12	.33	.47 _b	.38	.55
Restricted affect	.15	.04	.26	.11	.00	.22	.19	.08	.30
Depressivity	.06 _a	-.05	.17	.07 _a	-.04	.18	.32 _b	.22	.42
Suspiciousness	.17	.06	.28	.18	.07	.29	.33	.23	.43
Detachment									
Withdrawal	.09 _{ab}	-.02	.20	-.07 _a	-.18	.04	.24 _b	.13	.34
Anhedonia	-.02 _a	-.13	.09	-.06 _a	-.17	.05	.28 _b	.17	.38
Intimacy avoidance	.07 _a	-.04	.18	.08 _{ab}	-.03	.19	.30 _b	.19	.40
Antagonism									
Manipulativeness	.38	.28	.47	.33	.23	.43	.42	.32	.51
Deceitfulness	.31	.20	.41	.28	.17	.38	.47	.38	.55
Grandiosity	.40	.30	.49	.45	.36	.54	.41	.31	.50
Attention seeking	.42	.32	.51	.48	.39	.56	.39	.29	.48
Callousness	.26 _a	.15	.36	.26 _a	.15	.36	.50 _b	.41	.58
Disinhibition									
Irresponsibility	.18 _a	.07	.29	.26 _a	.15	.36	.48 _b	.39	.56
Impulsivity	.17 _a	.06	.28	.25 _{ab}	.14	.35	.39 _b	.29	.48
Rigid perfectionism	.19	.08	.30	.19	.08	.30	.26	.15	.36
Distractibility	.09 _a	-.02	.20	.08 _a	-.03	.19	.36 _b	.26	.45
Risk taking	.20	.09	.31	.21	.10	.31	.15	.04	.26
Psychoticism									
Unusual beliefs/perceptions	.28	.17	.38	.25	.14	.35	.38	.28	.47
Eccentricity	.09 _{ab}	-.02	.20	.04 _a	-.07	.15	.30 _b	.19	.40
Cognitive/perceptual dysregulation	.25	.14	.35	.26	.15	.36	.41	.31	.50

Note. $N_s = 305-306$. $k = 1$. Correlations within each row with different subscripts are significantly different. PID5 = Personality Inventory for DSM-5; NPI = Narcissistic Personality Inventory; CI = confidence interval; LA = Leadership/Authority; GE = Grandiose Exhibitionism; EE = Entitlement/Exploitativeness; DSM-5 = *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.).

et al., 2011). It is important to note, however, that EE is not more strongly associated with many other critical criteria such as interview or self-reports of DSM-IV-TR NPD symptoms, DSM-5 NPD traits, or interpersonal antagonism from the FFM.

In Study 2, we demonstrated that the corresponding subscales of the NPI-13 and NPI-40 were highly related to one another and that noncorresponding subscales were similarly intercorrelated between and within measures. Thus, the subscales of the NPI-13 appear to closely approximate those of the NPI-40, suggesting that they may be used effectively in place of those of the NPI-40 when time is limited.

Criticism of the NPI-40

In testing and discussing the validity of these two brief forms of the NPI-40, it is important to acknowledge that the NPI-40 has come under substantial scrutiny and criticism over the past several years. These criticisms have involved a variety of issues including the NPI-40's relative focus on the assessment of grandiose rather than vulnerable narcissism, adaptivity versus maladaptivity, the reliability and replicability of its factor structure, and its relations with self-esteem and psychological functioning (e.g., Ackerman et al., 2011; Brown et al., 2009; Cain, Pincus, & Ansell, 2008;

Rosenthal & Hooley, 2010). For instance, some critics argue that the NPI-40 is a measure of "normal" or "adaptive narcissism" but not pathological narcissism (Pincus & Lukowitsky, 2010), despite the fact that it correlates as highly with measures of NPD as do other measures of narcissism such as the PNI (Pincus et al., 2009). Others argue that the NPI-40 includes content that is not central to narcissism such as extraversion (Ackerman, Donnellan, & Robins, 2012), despite ratings by narcissism scholars, clinicians, and non-experts that suggest otherwise (Lynam & Widiger, 2001; Samuel & Widiger, 2004; Thomas et al., 2012).

We have suggested previously that the problems with the NPI-40 have been overstated (Miller & Campbell, 2011; Miller, Maples, & Campbell, 2011; Miller, Price, & Campbell, 2012). For instance, it is difficult to conceive of the NPI-40 as a measure of adaptive narcissism when it manifests substantial correlations with interview and self-reported symptoms of NPD, as well as other personality disorders such as antisocial PD, histrionic PD, and psychopathy; general personality traits such as immodesty, deceitfulness, noncompliance, and dominance; pathological personality traits such as manipulateness, grandiosity, attention seeking, callousness, hostility, and irresponsibility; and externalizing behaviors such as antisocial behavior, gambling, and aggression.

Table 11

Correlations Between Psychopathology, Psychopathy, and Behavioral Outcome Measures and the NPI-13 Subscales

Measure	k	LA			GE			EE		
		R _{xy}	95% CI		R _{xy}	95% CI		R _{xy}	95% CI	
			Lower	Upper		Lower	Upper		Lower	Upper
SCID-II-PQ										
Paranoid	1	.21 _{ab}	.09	.33	.02 _a	-.11	.15	.35 _b	.23	.46
Schizoid	1	.04	-.09	.17	.02	-.11	.15	.07	-.06	.20
Schizotypal	1	-.02	-.15	.11	.00	-.13	.13	-.01	-.14	.12
Antisocial	1	.21	.09	.33	.16	.03	.28	.21	.09	.33
Borderline	1	.00	-.13	.13	-.09	-.21	.04	.17	.04	.29
Histrionic	1	.36	.24	.47	.40	.29	.50	.21	.09	.33
Avoidant	1	-.28 _{ab}	-.39	-.16	-.31 _a	-.42	-.19	-.05 _b	-.18	.08
Dependent	1	-.21	-.33	-.09	-.17	-.29	-.04	-.03	-.16	.10
Obsessive-compulsive	1	.08	-.05	.21	-.09	-.21	.04	.04	-.09	.17
SRP-III										
SRP-IPM	1	.42	.33	.50	.31	.21	.40	.47	.39	.55
SRP-CA	1	.41 _a	.32	.49	.13 _b	.03	.23	.44 _a	.35	.52
SRP-ELS	1	.27	.17	.36	.20	.10	.30	.25	.15	.34
SRP-ASB	1	.17 _a	.07	.27	.09 _a	-.01	.19	.39 _b	.30	.47
BSI										
GSI	2	-.07 _a	-.15	.01	-.11 _a	-.19	-.03	.16 _b	.08	.23
PANAS-X										
Negative affect	2	-.02	-.10	.06	-.01	-.09	.07	.14	.06	.22
Positive affect	2	.20 _a	.12	.28	.20 _a	.12	.28	-.03 _b	-.11	.05
CAB										
Alcohol use	1	.10	.00	.20	.17	.07	.27	.08	-.02	.18
Substance use	1	.00	-.10	.10	.09	-.01	.19	.03	-.07	.13
Antisocial behavior	1	.15	.05	.25	.15	.05	.25	.22	.12	.32
Gambling	1	.24	.14	.33	.13	.03	.23	.13	.03	.23
Intimate partner violence	1	.06	-.04	.16	.13	.03	.23	.04	-.06	.14
RCAP										
Composite	1	.25	.04	.44	.28	.07	.46	.47	.29	.62

Note. SCID-II-PQ *Ns* = 237–238, SRP-III *Ns* = 361, BSI *Ns* = 597–598, PANAS-X *Ns* = 595–596, CAB *Ns* = 361, RCAP *Ns* = 86. Correlations within each row with different subscripts are significantly different. NPI = Narcissistic Personality Inventory; CI = confidence interval; LA = Leadership/Authority; GE = Grandiose Exhibitionism; EE = Entitlement/Exploitativeness; SCID-II-PQ = Structured Clinical Interview for *DSM-IV* Personality Disorders—Personality Questionnaire; SRP-III = Self-Report Psychopathy Scale, Version III; IPM = Interpersonal Manipulation; CA = Callous Affect; ELS = Erratic Lifestyle; ASB = Antisocial Behaviors; BSI = Brief Symptom Inventory; PANAS-X = Positive and Negative Affect Scale—Expanded Form; CAB = Crime and Analogous Behavior Scale; RCAP = Response Choice Aggression Paradigm; *DSM-IV* = *Diagnostic and Statistical Manual of Mental Disorders* (4th ed); GSI = General Severity Index.

Similarly, we disagree with those who would suggest that the NPI-40 subscales of LA and/or GE are irrelevant to the study of narcissism or only assess “adaptive aspects of personality and therefore should be excluded from inventories designed to measure maladaptive personality features” (Ackerman et al., 2011, p. 82). The current data suggest that both the NPI-13 LA and GE sub-

scales are associated with both adaptive (e.g., low neuroticism, low distress; high extraversion, positive affect, and self-esteem) and maladaptive (e.g., symptoms of NPD, interpersonal antagonism from the perspective of the FFM and the *DSM-5* trait model, psychopathy, and externalizing behaviors) features and outcomes. In addition, these two subscales create personality profiles that are

Table 12

Correlations Between the NPI-13 and NPI-40 Subscales

Subscale	NPI-13			NPI-40		
	LA	GE	EE	LA	GE	EE
NPI-13 LA	—					
NPI-13 GE	.48	—				
NPI-13 EE	.48	.37	—			
NPI-40 LA	.82	.51	.46	—		
NPI-40 GE	.60	.84	.42	.61	—	
NPI-40 EE	.53	.44	.86	.52	.47	—

Note. The bold correlations are the correlations between the same subscales across the NPI-13 and NPI-40. All correlations are significant at $p < .001$. NPI = Narcissistic Personality Inventory; LA = Leadership/Authority; GE = Grandiose Exhibitionism; EE = Entitlement/Exploitativeness.

generally consistent with the meta-analytically derived profile found for *DSM-IV-TR* NPD.

Despite our disagreements with some of the aforementioned critiques of the NPI-40, we took previous criticisms of the NPI-40 into account in creating the NPI-13 by choosing items that Rosenthal and Hooley (2010)—critics of the NPI-40—reported were most relevant to NPD as judged by expert ratings, IRT analyses, or the results of exploratory factor analyses. The choice to include items that these researchers deemed most relevant and central to narcissism likely explains why the NPI-13 appears to assess a slightly more pathological and “darker” variant of narcissism, as seen in the smaller positive correlations with self-esteem and extraversion. This change is also likely due to the fact that the EE items comprise 31% of the NPI-13 items versus 10% in the NPI-40; as such, the NPI-13 total score weights traits associated with entitlement and exploitativeness to a much more substantial degree than is the case in the NPI-40. These changes, while relatively small in terms of differences in the external correlates of these measures, may help mitigate concerns that have been voiced regarding the NPI-40.

Limitations and Conclusions

Although the current study provides a great deal of data on the performance of these three versions of the NPI in relation to a wide array of relevant criterion variables and measures, and across a variety of sample populations (i.e., college students, adults via the Internet, and clinical patients), this study is not all-inclusive and presents several limitations. First, additional research is needed to test the reliability and validity of the two NPI brief forms in clinical and community samples, particularly ones that are ethnically diverse, as our own clinical sample was limited to White participants, and in relation to additional criteria assessed using diverse methodologies. Second, while we combined data where possible, a number of analyses were conducted on only one sample and, having a smaller sample size, may thus be less generalizable. Third, all of the data presented here were taken at one time point and, thus, preclude analysis of the stability of the three NPI versions over time. Additional data are needed in the form of longitudinal research to examine the test–retest reliability of the two short-forms in particular. Lastly, previous research has suggested age and gender differences on the NPI-40 (Foster, Campbell, & Twenge, 2003). Although not examined in this article, future research should investigate the impact of these effects across versions of the NPI.

An important limitation in terms of scale usage is the lower internal consistency noted for the NPI-13 EE subscale, which is typically the case with this scale (e.g., Ackerman et al., 2012, 2011). If future researchers wish to study the role of these traits using the NPI-13 (or NPI-40, since this subscale is the same across both measures), they may consider bolstering it with an additional measure of entitlement such as the PES. Like Ackerman et al. (2011), we would note that the NPI-13/NPI-40 EE subscale still manifests evidence of good criterion validity, which is consistent with the recent data that suggest that internal consistency may not be as relevant to scale validity as was once thought (McCrae, Kurtz, Yamagata, & Terracciano, 2011). Addressing a similar point, Thalmayer, Saucier, and Eigenhuis (2011) noted, “the path

towards internal consistency . . . is not necessarily the path towards predictive validity” (p. 1006).

Despite these limitations, both the NPI-13 and NPI-16 appear to be promising brief measures of grandiose narcissism. The empirical evidence presented here suggests that both measures are comparable to the NPI-40 in terms of convergent and discriminant validity, while demonstrating adequate overall reliability. Consistent with suggestions by Smith and colleagues (2000) regarding the development of brief forms, the two NPI brief forms save time without a resultant loss in the validity of the scale scores. Furthermore, in addition to its truncated length, the NPI-13 exhibits a relatively clear factor structure that suggests it can be useful for a more fine-grained assessment of narcissism. In sum, we believe that both the NPI-13 and NPI-16 provide valid assessments of grandiose narcissism but that the NPI-13 might be more advantageous due to the availability of the three subscales in addition to a total score. This feature allows researchers to continue to test the manner in which these narcissism traits converge and diverge from one another with regard to their relations with other central features of narcissism’s nomological network.

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