



## Grandiose and vulnerable narcissism from the perspective of the interpersonal circumplex

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### ABSTRACT

A growing empirical literature documents the existence of two distinct dimensions of narcissism, grandiose and vulnerable. In order to better understand the nature of these dimensions, we examined them in the context of the interpersonal circumplex (IPC). Using a sample collected on-line ( $N = 277$ ), we examined the relations between these two narcissism dimensions – generated as a result of an exploratory factor analysis of 15 narcissism and narcissism-related scales – and two measures of the IPC. GN was most strongly linked with high agency and low communion. Conversely, vulnerable narcissism was most strongly linked with low communion. The data also suggest that the assessment of IPC can substantially influence the pattern of findings for vulnerable narcissism.

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### 1. Introduction

There appear to be two dimensions of narcissism: grandiose and vulnerable (e.g., Miller et al., 2011; Pincus & Lukowitsky, 2010). Vulnerable narcissism (VN) is characterized by introversion, negative emotions, interpersonal coldness, hostility, need for recognition, entitlement, and egocentricity. Grandiose narcissism (GN) is characterized by dominance, self-assurance, immodesty, exhibitionism, and aggression. From a general trait perspective, the two dimensions overlap primarily in their use of antagonistic interpersonal strategies. But even here, the two differ. GN is more strongly associated with traits such as immodesty, deceitfulness, and a refusal to comply with authority figures; whereas VN appears to be more strongly related to a distrustful, hostile interpersonal style likely driven by increased negative emotionality, problematic attachment styles, and childhood abuse/neglect associated with this narcissism dimension (Miller et al., 2010, 2011). The recognition of these differences is critically important because the two narcissism dimensions are associated with different symptoms and behaviors (e.g., internalizing and externalizing symptoms; Miller et al., 2010, 2011), as well as the differential utilization of clinical resources (Pincus et al., 2009).

Until recently, little empirical work has been dedicated to the study of VN, particularly in comparison to studies on GN (see Miller et al., 2011; Pincus & Lukowitsky, 2010). Given that GN and VN are

associated with significant interpersonal impairment, the interpersonal circumplex model of personality (IPC) may be helpful for elucidating the nature of these two narcissism dimensions. First developed in the 1950s, the IPC is a two-dimensional, circular model of individuals' relationships with others (Leary, 1957). Traits are plotted on two orthogonal axes of agency and communion, reflecting status/power, and friendliness/warmth, respectively. The IPC provides a framework for understanding interpersonal constructs (Gurtman, 1992), including certain personality disorders and related traits (Wiggins & Pincus, 1989) such as narcissism and dependency.

The IPC has been a useful tool for the examination of GN-related constructs (such as narcissistic personality disorder [NPD]), in part, because it is a construct with significant interpersonal components and consequences (Miller, Campbell, & Plickonis, 2007; Ogrodniczuk, Piper, Joyce, Steinberg, & Duggal, 2009). For example, Wiggins and Pincus (1989) examined the relations between measures of NPD and the IPC. As expected, NPD scales were characterized by high agency and low communion. Other studies have examined the relations between the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) and the IPC. Gurtman (1992), Bradlee and Emmons (1992), and Ruiz, Smith, and Rhodewalt (2001) found that most of the NPI scales were strongly related to agency but only weakly related to communion.

Despite a long tradition of using the IPC to understand certain personality disorders, it has not been applied to VN. Although measures of GN appear to be well-represented by the IPC framework, it is unclear if the same can be said for VN, as only one study has examined this construct from the perspective of the IPC. Pincus and colleagues (2009) plotted the seven subscales of the

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Pathological Narcissism Inventory (PNI), four of which are thought to assess VN, on the IPC and found that two of the vulnerable subscales projected onto the Vindictive octant (high agency and low communion), one fell in the Avoidant octant (low agency and low communion), and one fell in the Exploitable range (low agency and high communion).

In the present study, we examined GN and VN in relation to two measures of the IPC. We first conducted an exploratory factor analysis of 15 narcissism-related traits expecting that grandiose and vulnerable factors would emerge, and then examined these factors in relation to scales from the Interpersonal Adjectives Scale (IAS; Wiggins, 1995) and the Inventory of Interpersonal Problems–Circumplex (IIP-C; Alden, Wiggins, & Pincus, 1990). These measures differ substantially in that the former is a non-pathological measure of the IPC constructs, whereas the IIP-C identifies more pathological variants associated with interpersonal difficulties. We hypothesized that GN would be most strongly related to high agency and low communion and the corresponding octants (i.e., PA through DE; see Fig. 1). Alternatively, we expected that VN would be most strongly negatively correlated with communion and would manifest a null correlation with agency; at the octant level, we expected VN to manifest correlations with the octants ranging from BC through FG since VN is strongly related to neuroticism, which tends to project on the “cold-submissive quadrant” (Ansell & Pincus, 2004, p. 192).

## 2. Method

### 2.1. Participants and procedure

Participants were recruited via Amazon’s Mechanical Turk (MTurk) website, which facilitates the collection of data from individuals using an online approach (see Buhrmester, Kwang, & Gosling, 2011 for a review). 277 participants provided complete,

useable, and valid data (65% female; 85% Caucasian; mean age = 31.3; SD = 11.0). Individuals were compensated \$2.00 for completion of the study. IRB approval was obtained for all aspects of the study.

### 2.2. Measures

#### 2.2.1. Narcissistic Personality Inventory (NPI)

The NPI (Raskin & Terry, 1988) is a 40-item, forced-choice, self-report measure of trait narcissism. We focus here on the three NPI subscales identified by a series of factor analyses: Leadership/Authority (LA: 11 items;  $\alpha = .82$ ), Grandiose Exhibitionism (GE: 10 items;  $\alpha = .79$ ), Entitlement/Exploitativeness (EE: 4 items;  $\alpha = .62$ ).

#### 2.2.2. Narcissistic Grandiosity Scale (NGS)

The NGS (Rosenthal, Hooley, & Steshenko, in preparation) asks participants to rate themselves on 16 adjectives such as “superior” and “omnipotent” on a 1 (“not at all”) to 7 (“extremely”) scale. The alpha for the NGS was .96.

#### 2.2.3. Hypersensitive Narcissism Scale (HSNS)

The HSNS (Hendin & Cheek, 1997) is a 10-item self-report measure that reflects hypersensitivity, vulnerability, and entitlement. The alpha for the HSNS was .81.

#### 2.2.4. Pathological Narcissism Inventory (PNI)

The PNI (Pincus et al., 2009) is a 52-item self-report measure of traits related to VN and GN. Four subscales are related to VN: Contingent Self-esteem (PNI CSE;  $\alpha = .95$ ), Hiding the self (PNI HS;  $\alpha = .84$ ), Devaluing (PNI Dev;  $\alpha = .89$ ), and Entitlement rage (PNI ER;  $\alpha = .91$ ). Three subscales are related to GN: Self-sacrificing Self-enhancement (PNI SSSE;  $\alpha = .83$ ), Grandiose Fantasies (PNI GF;  $\alpha = .91$ ), and Exploitativeness (PNI E;  $\alpha = .82$ ).

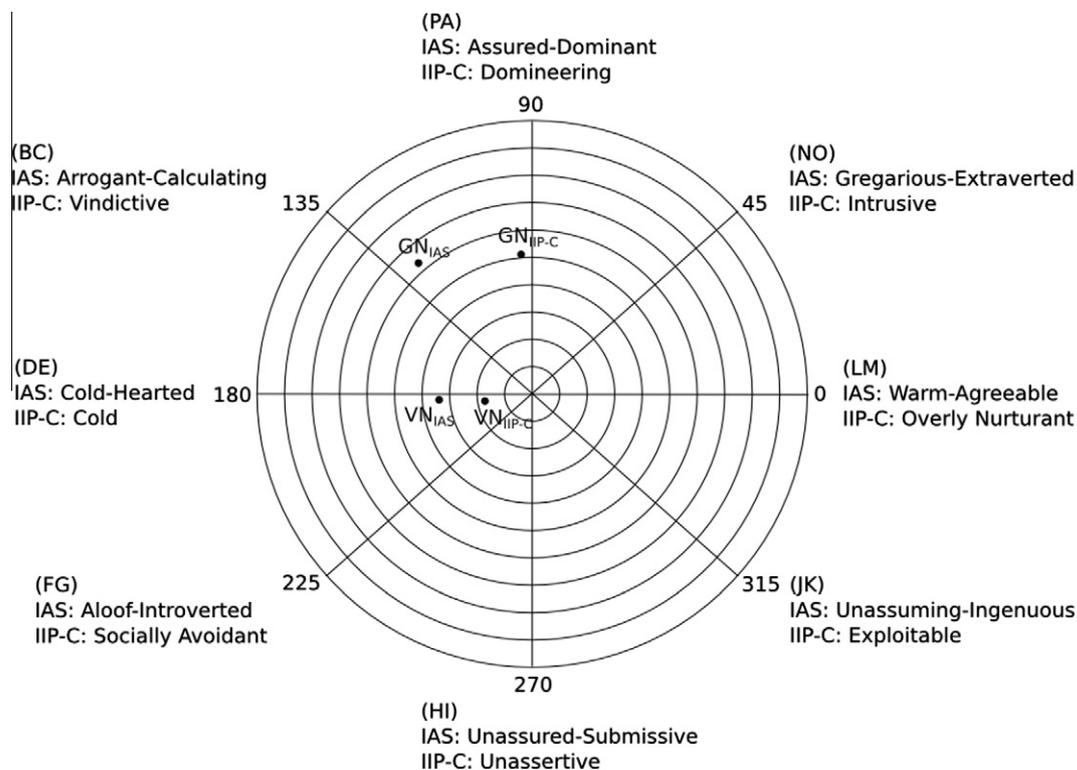


Fig. 1. Grandiose and vulnerable narcissism projected onto the Interpersonal circumplex with the IAS and IIP-C.

### 2.2.5. Structured Clinical Interview for DSM-IV Personality Disorders – Personality Questionnaire (SCID-II P/Q)

The SCID-II P/Q (First, Gibbon, Spitzer, Williams, & Benjamin, 1997) is a 119-item self-report questionnaire designed to assess the DSM-IV PDs. We report on only the results for NPD here ( $\alpha = .82$ ).

### 2.2.6. Psychological Entitlement Scale (PES)

The PES (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004) is a 9-item self-report measure of the extent to which individuals believe that they deserve and are entitled to more than others ( $\alpha = .88$ ).

### 2.2.7. HEXACO-PI-R

The HEXACO-PI-R (Lee & Ashton, 2004) is a 100-item self-report measure of the HEXACO model of personality. In the current study, we used only the four-item Modesty subscale from the Honesty-Humility domain ( $\alpha = .74$ ).

### 2.2.8. Interpersonal Adjective Scales (IAS)

The IAS (Wiggins, 1995) uses responses to 64 adjectives to provide scores relevant to the IPC. The alphas for the octant scores ranged from .79 (Unassuming-Ingenuous) to .91 (Cold-hearted).

### 2.2.9. Inventory of Interpersonal Problems (IIP)

The IIP (Horowitz, Rosenberg, Baer, Ureñ, & Villaseñor, 1988) is a 127-item self-report measure of problems associated with interpersonal behaviors and associated distress. Sixty-four items can be used to score the IPC (IIP-C; Alden et al., 1990). Alphas for the octants ranged from .82 (Intrusive) to .90 (Nonassertive).

## 3. Results

### 3.1. Preliminary analyses

#### 3.1.1. Circumplex analyses

We evaluated the circumplexity of the IAS and IIP-C (the IIP-C scores were ipsatized first) using the randomization test of hypothesized order relations (Hubert & Arabie, 1987). Specifically, we employed the RANDALL program (Tracey, 1997) to compute the number of predictions, out of 288, met in each sample, as well as a correspondence index (CI; Hubert & Arabie, 1987) to aid in interpretation of circular fit. The IAS met 280 of 288 predictions and returned a CI of 0.944. The IIP-C met 278 of 288 predictions and returned a CI of 0.931. Thus, both the IAS and IIP-C manifested strong circumplex structures in the present data set.

#### 3.1.2. Bivariate correlations among self-report narcissism scales

A  $p$ -value of  $\leq .001$  was used for all analyses. The correlations among the narcissism-related scales ranged from  $-.15$  (NPI Leadership/Authority – PNI Hiding the Self) to  $.70$  (PNI Devaluing – PNI Entitlement Rage), with a median correlation of  $.31$  (see Table 1).

#### 3.1.3. Factor structure of the self-report narcissism measures

In order to determine the factor structure of the narcissism scales, we conducted an EFA using principal axis factoring with an oblimin rotation of the 15 scales. The EFA resulted in three eigenvalues with values of 1.0 or greater; the first five eigenvalues were as follows: 5.46, 2.73, 1.20, .85, and .75. We next employed both the Parallel Analysis (PA) method of Horn (1965) and the Minimum Average Partial (MAP) method of Velicer (1976) to identify the optimal number of factors. Parallel analyses suggested that up to three factors could be extracted, whereas MAP analyses suggested that two factors should be extracted. We extracted two

factors as the third factor was represented by two relatively small loadings for PNI Self-sacrificing Self-enhancement (.52) and Grandiose Fantasies (.42).

The two factor solution is presented in Table 2. Factor 1 comprised primary factor loadings from scales typically associated with GN: SCID NPD, NGS, NPI LA, NPI GE, NPI EE, Hexaco (im)Modesty, PES, and PNI Exp. Factor 2 comprised factor loading primarily from scales associated with VN: HSNS, PNI CSE, PNI HS, PNI Dev, PNI ER and PNI GF. PNI SSSE did not manifest a significant loading on either factor. The two extracted narcissism factors were significantly positively correlated (.31). Factor scores were extracted and used in the following analyses.

### 3.2. Grandiose and vulnerable narcissism and the interpersonal circumplex

#### 3.2.1. IAS

GN was significantly positively correlated with agency (.49) and negatively with communion ( $-.40$ ); jointly, these dimensions accounted for 40% of the variance in GN (see Table 3). We also examined the relations between GN and the octants. GN was positively correlated with four contiguous octants: PA (Assured-Dominant: .56), BC (Arrogant-Calculating: .56), DE (Cold-hearted: .51), and NO (Gregarious-Extraverted: .24). GN was also significantly negatively correlated with HI (Unassured-Submissive:  $-.31$ ), JK (Unassuming-Ingenuous:  $-.32$ ), and LM (Warm-Agreeable:  $-.34$ ). Overall, the octants accounted for 50% of the variance in the GN factor.

VN was significantly negatively correlated with communion ( $-.44$ ) and nonsignificantly related to agency ( $-.01$ ); jointly, these dimensions accounted for 25% of the variance in VN. Using the octants, VN was positively correlated with four contiguous octants: BC (Arrogant-Calculating: .24), DE (Cold-hearted: .41), FG (Aloof-Introverted: .32), and HI (Unassured-Submissive: .32). VN was also significantly negatively related to LM (Warm-Agreeableness:  $-.29$ ) and NO (Gregarious-Extraverted:  $-.31$ ). Overall, the IAS octants accounted for 30% of the variance in the VN factor.

#### 3.2.2. IIP-C

Before examining the relations between the IIP-C scores and the narcissism dimensions, IIP-C scores were ipsatized to reduce the effect of a large general factor typically found in the IIP-C. As expected (Bartholomew & Horowitz, 1991), ipsatizing the IIP-C scores improved its “circumplex properties” (p. 233). Before ipsatizing the IIP-C scores, the convergent correlations between the IIP-C and IAS dimensions were  $-.04$  (agency) and  $.47$  (communion); the pre-ipsatizing convergent correlations for the octants ranged from  $.02$  to  $.55$  with a median of  $.32$ . After ipsatizing the IIP-C scores, the convergent correlations for the dimensions were  $.52$  (agency) and  $.42$  (communion); for the octants, these correlations ranged from  $.48$  to  $.70$  with a median of  $.58$ .

GN was significantly positively correlated with agency (.51) but manifested a null correlation with communion ( $-.03$ ); these two dimensions accounted for 26% of the variance in GN. Using the octants, GN was most strongly positively related to four contiguous octants: PA (Domineering: .42), BC (Vindictive: .38), DE (Cold: .23), and NO (Intrusive: .31). Overall, the IIP-C octants accounted for 28% of the variance in the GN factor.

VN manifested limited variability with regard to its relations with the IIP-C dimensions and octants as they manifested no significant correlations with VN. For instance, VN was not significantly correlated with either communion ( $-.18$ ) or agency ( $-.01$ ) and these two dimensions did not account for significant variance in VN (R-squared = .03). With regard to the octants, correlations with VN ranged from  $-.15$  (LM: Overly Nurturant) to  $.15$  (FG: Socially Avoidant). The IIP-C octants accounted for 3% of the variance

**Table 1**  
Relations among narcissism and narcissism-related traits.

	SCID NPD	NGS	NPI			HEX Mod	PES	HSNS	PNI									
			LA	GE	EE				CSE	HS	Dev	ER	Exp	SSSE	GF			
SCID	–																	
NGS	.51*	–																
NPILA	.46*	.66*	–															
NPIGE	.41*	.41*	.50*	–														
NPIEE	.53*	.39*	.38*	.27*	–													
HEXNAR	.52*	.61*	.58*	.48*	.44*	–												
PES	.48*	.64*	.54*	.33*	.40*	.66*	–											
HSNS	.42*	.13	–.01	.04	.38*	.23*	.23*	–										
PNI CSE	.37*	–.01	–.12	.04	.30*	.13	.05	.58*	–									
PNI HS	.14	–.10	–.15	–.12	.07	–.06	–.05	.45*	.40*	–								
PNI Dev	.46*	.21*	.09	.12	.44*	.29*	.25*	.54*	.55*	.35*	–							
PNI ER	.53*	.31*	.24*	.24*	.51*	.38*	.39*	.57*	.56*	.31*	.70*	–						
PNI Exp	.33*	.44*	.43*	.30*	.28*	.27*	.30*	.09	.07	.15	.22*	.29*	–					
PNI SSSE	.13	.16	.09	.13	–.02	.14	.19	.18*	.25*	.20*	.19	.26*	.22*	–				
PNI GF	.42*	.30*	.28*	.16	.30*	.35*	.34*	.39*	.43*	.33*	.43*	.48*	.33*	.35*	–			
avg <i>r</i>	.41	.33	.28	.24	.33	.36	.34	.30	.26	.14	.35	.41	.27	.18	.18	.35		
mdn <i>r</i>	.44	.35	.33	.255	.38	.37	.34	.31	.275	.15	.32	.39	.29	.19	.35			

Note: SCID NPD = Structured Clinical Interview for DSM-IV Personality Disorder: Personality Questionnaire – NPD; NGS = Narcissistic Grandiosity Scale; NPI LA = Narcissistic Personality Inventory – Leadership/Authority; NPI GE = Narcissistic Personality Inventory – Grandiose Exhibitionism; NPI EE = Exploitativeness/Entitlement; HEX Nar = HEXACO Modesty – reverse scored; PES = Psychological Entitlement Scale; HSNS = Hypersensitive Narcissism Scale. PNI CSE = Pathological Narcissism Inventory – Contingent Self-esteem; PNI HS = Pathological Narcissism Inventory – Hiding the Self; PNI Dev = Pathological Narcissism Inventory – Devaluing; PNI ER = Pathological Narcissism Inventory – Entitlement Rage; PNI Exp = Pathological Narcissism Inventory – Exploitativeness; PNI SSSE = Pathological Narcissism Inventory – Self-sacrificing Self-enhancement; PNI GF = Pathological Narcissism Inventory – Grandiose Fantasies.

\*  $p \leq .001$ .

**Table 2**  
Factor loadings from EFA of narcissism and narcissism related traits.

	Factor 1	Factor 2
SCID NPD	<b>.55</b>	.38
NGS	<b>.84</b>	–.07
NPI LA	<b>.86</b>	–.21
NPI GE	<b>.58</b>	–.07
NPI EE	<b>.44</b>	.34
HEX Mod	<b>.75</b>	.07
PES	<b>.72</b>	.06
HSNS	–.01	<b>.75</b>
PNI CSE	–.16	<b>.81</b>
PNI HS	–.24	<b>.59</b>
PNI Dev	.11	<b>.73</b>
PNI ER	.27	<b>.71</b>
PNI Exp	<b>.45</b>	.10
PNI SSSE	.11	.26
PNI GF	.27	<b>.51</b>

Note: Factor loadings  $\leq .40$  are bolded. SCID NPD = Structured Clinical Interview for DSM-IV Personality Disorder: Personality Questionnaire – NPD; NGS = Narcissistic Grandiosity Scale; NPI LA = Narcissistic Personality Inventory – Leadership/Authority; NPI GE = Narcissistic Personality Inventory – Grandiose Exhibitionism; NPI EE = Exploitativeness/Entitlement; HEX Nar = HEXACO Modesty – reverse scored; PES = Psychological Entitlement Scale; HSNS = Hypersensitive Narcissism Scale. PNI CSE = Pathological Narcissism Inventory – Contingent Self-esteem; PNI HS = Pathological Narcissism Inventory – Hiding the Self; PNI Dev = Pathological Narcissism Inventory – Devaluing; PNI ER = Pathological Narcissism Inventory – Entitlement Rage; PNI Exp = Pathological Narcissism Inventory – Exploitativeness; PNI SSSE = Pathological Narcissism Inventory – Self-sacrificing Self-enhancement; PNI GF = Pathological Narcissism Inventory – Grandiose Fantasies.

in the VN factor. The correlations between the IIP-C dimensions and VN were quite different if examined prior to ipsatizing the IIP-C scores. For example, VN was significantly related to agency (.56) and communion (–.36) prior to ipsatizing these scores. The decrease in all correlations between VN and the IIP-C dimensions following ipsatizing the scores suggests that the IIP-C's prominent general factor of interpersonal distress or “complaints” was responsible for these correlations.

Finally, we projected GN and VN onto both the IAS and IIP-C circumplexes (see Fig. 1). Using both the IAS (angle: 129.33; vector length: .63) and IIP-C (angle: 93.37; vector length: .51), GN

projected between PA (Assured-Dominant; Domineering) and BC (Arrogant-Calculating; Vindictive). Conversely, VN projected directly on the coldness portion of the low communion axis (IAS: angle: 181.30; vector length: .44; IIP-C: angle: 183.18; vector length: .18).

#### 4. Discussion

There is a growing interest in the study of grandiose and vulnerable narcissism (Miller et al., 2011; Pincus & Lukowitsky, 2010). This literature documents substantial differences between these two narcissism dimensions with regard to basic personality traits, environmental etiological factors, attachment styles, psychopathology, and treatment-related behaviors (e.g., Miller et al., 2010; Pincus et al., 2009). Given that narcissism is associated with substantial interpersonal costs (e.g., Ogrodniczuk et al., 2009), the IPC may be a particularly useful paradigm for explicating the manner in which these two constructs differ.

The current results suggest that measures of VN and GN manifest differently on measures of the IPC. GN demonstrated moderate to strong positive correlations with IPC agency across both measures; only with the IAS was GN also significantly negatively related to communion. Alternatively, VN manifested its strongest correlations (negative) with IPC communion and generated null correlations with agency. The results, particularly for VN, varied depending on which measure of the IPC was used. Using the IAS, VN manifested stronger correlations than found with the IIP-C octants. This is likely due to the nature of the IIP-C measure and the need to ipsatize its scores before using it, so as to remove the effect of a large general factor representing a general “complaint” (Bartholomew & Horowitz, 1991) or “interpersonal distress” factor (Gurtman & Balakrishnan, 1998). The removal of this general factor also resulted in circumplex scores that were more closely aligned with the IAS. The need to remove this factor becomes clearer upon examination of the manner in which the IIP-C assesses the circumplex constructs. The IIP-C requires that participants rate each item in reference to the one of the following two stems or instructional sets: “It is hard for me...” (e.g., “to stay out of other people’s

**Table 3**  
Grandiose and vulnerable narcissism and the interpersonal circumplex: IAS.

IAS	IIP-C	Grandiose narcissism		Vulnerable narcissism	
		IAS <i>r</i>	IIP-C <i>r</i>	IAS <i>r</i>	IIP-C <i>r</i>
<i>Dimensions</i>					
Agency		.49 <sup>a</sup>	.51 <sup>a</sup>	-.01 <sup>b</sup>	-.01 <sup>b</sup>
Communion		-.40 <sup>†</sup>	-.03	-.44 <sup>†</sup>	-.18
R <sup>2</sup>		.40 <sup>†</sup>	.26 <sup>a</sup>	.25 <sup>†</sup>	.03 <sup>b</sup>
<i>Octants</i>					
PA: Assured-Dominant	PA: Domineering	.56 <sup>a</sup>	.42 <sup>a</sup>	-.04 <sup>b</sup>	-.02 <sup>b</sup>
BC: Arrogant-Calculating	BC: Vindictive	.56 <sup>a</sup>	.38 <sup>a</sup>	.24 <sup>b</sup>	.13 <sup>b</sup>
DE: Cold-Hearted	DE: Cold	.51 <sup>†</sup>	.23 <sup>†</sup>	.41 <sup>†</sup>	.08
FG: Aloof-Introverted	FG: Socially Avoidant	-.01 <sup>a</sup>	-.34 <sup>a</sup>	.48 <sup>b</sup>	.15 <sup>b</sup>
HI: Unassured-Submissive	HI: Unassertive	-.31 <sup>a</sup>	-.40 <sup>a</sup>	.32 <sup>b</sup>	.03 <sup>b</sup>
JK: Unassuming-Ingenuous	JK: Exploitable	-.32 <sup>a</sup>	-.32 <sup>a</sup>	.07 <sup>b</sup>	-.11 <sup>b</sup>
LM: Warm-Agreeable	LM: Overly Nurturant	-.34 <sup>†</sup>	-.17	-.29 <sup>†</sup>	-.15
NO: Gregarious-Extraverted	NO: Intrusive	.24 <sup>a</sup>	.31 <sup>a</sup>	-.31 <sup>b</sup>	-.12 <sup>b</sup>
R <sup>2</sup>		.50 <sup>a</sup>	.28 <sup>a</sup>	.30 <sup>b</sup>	.03 <sup>b</sup>

Note: Different superscripts indicate differences between grandiose and vulnerable narcissism using the same measure (e.g., correlation between GN and IAS PA [.56] is significantly greater than correlation between vulnerable narcissism and IAS PA [-.04]). IAS = Interpersonal Adjectives Scale; IIP-C = Inventory of Interpersonal Problems-Circumplex. Agency and Communion are the two-higher order IPC factors that can be computed on the basis of the eight IPC octants.

<sup>†</sup>  $p \leq .001$ .

business”) or the instruction of “The following are things that you do too much. . .” (e.g., “I am too sensitive to criticism.”). The IIP-C is much more attuned to the assessment of interpersonal difficulties given that its items explicitly assess dyscontrol, which likely explains why all parts of the IIP-C circumplex are positively associated with trait neuroticism (Nysaeter, Langvik, Berthelsen, & Nordvik, 2009) and why removing this factor improves its circumplex properties (Bartholomew & Horowitz, 1991).

The results also suggest that GN may be a more well-defined interpersonal construct than VN. On average, the agency and communion dimensions accounted for a larger percentage of variance in GN (*mean R-squared* = .33) than VN (*mean R-squared* = .14). Similarly, the mean vector length was larger for GN (.57) than VN (.31), which suggests that VN is a less interpersonally-focused construct. This again is consistent with the notion that VN is a construct that is at its core primarily about negative emotionality.

The differences between GN and VN can also be understood in the context of Foa and Foa's (1974) model of social behavior in which various “goods” are exchanged between individuals such as love and status (see Trobst, 2000, for a helpful review). In this case, GN is associated with granting the self love and status and either (a) granting neither love, nor status to the other person (BC octant) or (b) granting love but not status to the other person (PA octant). Conversely, VN would be marked by social interactions in which the self is granted status but not love while other the person is granted neither status nor love. These results have implications for the likely social interactions individuals high on either GN or VN have with strangers, peers, romantic partners, and treatment providers (e.g., Paulhus, 1998).

The current results are also consistent with evidence that GN is a more specific form of personality pathology than VN, which may represent more of a general negative emotionality factor that exists across PDs (e.g., Bender, Morey, & Skodol, 2011). For instance, Miller and colleagues have demonstrated that GN is more limited than VN in its pattern of correlations with DSM-IV personality disorders (Miller et al., 2011). In the current study, GN is most clearly related to a specific form of interpersonal behavior that can be best described by the hostile-dominance quadrant of the IPC. VN, on the other hand, is primarily related to interpersonal coldness that can at times be manifested in either a submissive or dominant manner. Ultimately, the IPC appears to be a better tool for understanding the interpersonal behavior associated with GN than VN as, from a Five-Factor Model perspective, the IPC includes the

personality content most relevant to GN (i.e., extraversion; antagonism) but the IPC does not include content related to neuroticism, which is a central component of VN that likely drives much of the interpersonal behavior among individuals elevated on this dimension.

A number of other circumplex measures exist that could prove useful in the elucidation of the ways in which GN and VN converge and diverge. For instance, Locke (2000) developed a circumplex measure of interpersonal values; given the current findings, one might suspect that individuals high on GN would value “appearing forceful, having the upper hand, and avenging any attacks or insults”, whereas individuals high on VN might value “appearing cold and detached, being guarded, and concealing their thoughts and feelings” (p. 254). Similarly, Dryer and Horowitz (1997) developed a circumplex measure of goals. Consistent with expectations surrounding GN, childhood narcissism is positively related to endorsement of agentic goals but negatively related to communal goals (Thomaes, Stegge, Bushman, Olthof, & Denissen, 2008).

## 5. Limitations and conclusions

A primary limitation of the current study is that the narcissism and IPC scores were derived from self-reports and thus may be limited by the extent to which individuals can accurately describe their typical interpersonal style. Future studies should examine this issue using informant-reports of both the narcissism dimensions and the interpersonal behaviors associated with the circumplex. It would also be helpful if future research examined grandiose and VN in relation to alternative IPC-based scales that focus on interpersonal goals and values.

In conclusion, the current findings suggest that the interpersonal circumplex is a useful tool for examining similarities and differences between vulnerable and grandiose narcissism, which may be helpful in trying to predict the social behavior of individuals high on one of these dimensions, particularly in important social contexts such as therapeutic settings.

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