Understanding Grandiose and Vulnerable Narcissism in Adult Outpatients: A Head-to-Head Comparison between *DSM-5* Section II Personality Disorders and *DSM-5* Alternative Model of Personality Disorders

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Abstract

Narcissism represents a multidimensional personality construct which frequently occurs in psychotherapy client populations. To compare the effectiveness of the *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition (*DSM-5*) Section II personality disorder (PD) model, and of *DSM-5* Alternative Model of Personality Disorder (AMPD) model in characterizing vulnerable (VN) and grandiose (GN) narcissism, a sample of clinical psychotherapy participants (*N* = 369) was administered the Schedule for Nonadaptive and Adaptive Personality-2 (SNAP-2), the Levels of Personality Functioning Scale-Self Report (LPFS-SR), the Personality Inventory for *DSM-5* (PID-5), as well as the Five Factor Narcissism Inventory-Short Form (FFNI-SF) and the Pathological Narcissism Inventory (PNI). In multiple regression models, the four LPFS-SR scales and the five PID-5 domain scales explained 34.6% and 23.7% more variance than the self-reports of the 10 *DSM-5* Section II PD symptom counts in the FFNI-SF and PNI GN scores, respectively. Similarly, *DSM-5* AMPD measures outperformed self-reported symptom counts of the 10 *DSM-5* Section II PDs, accounting for 28.8% and 22.6% more variance in the FFNI-SF and PNI VN scale scores, respectively. *DSM-5* AMPD measures provided additional information in explaining the FFNI-SF and PNI GN and VN variance when they were added in Step 2 of hierarchical regression models that included the 10 *DSM-5* Section II PDs in Step 1. Rather, no consistent evidence of the incremental usefulness of adding the 10 *DSM-5* Section II symptom counts to regression models that already included *DSM-5* AMPD measures as predictors of FFNI-SF and PNI grandiose and vulnerable manifestations of narcissism. As a whole, our findings suggest that the *DSM-5* AMPD Criterion A and Criterion B provide an adequate representation of grandiose and vulnerable dimensions of narcissism in adult psychotherapy outpatients, at least when FFNI-SF and PNI are relied upon.

Keywords: Grandiose Narcissism; Vulnerable Narcissism; *DSM-5* Section II Personality Disorder model; *DSM-5* Alternative Model of Personality Disorder; psychotherapy outpatients

Notwithstanding the controversies concerning the *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition (*DSM-5*; American Psychiatric Association [APA], 2013) Section II narcissistic personality disorder diagnosis (e.g., Cain, Pincus, & Ansell, 2008; Miller, Gentile, Wilson, & Campbell, 2013; Pincus & Lukowitsky, 2010), narcissism represents a dimensional personality construct important in psychotherapy client populations (e.g., Doidge et al., 2002; Yakeley, 2018; Westen & Arkowitz-Weste, 1998). Clinical research consistently suggests that the categorical model of narcissistic personality disorder is suboptimal in capturing the full range of *DSM-IV* Axis II/*DSM-5* Section II narcissistic phenomena in clinical populations (e.g., Ogrodniczuk, 2013; Ronningstam, 2020; Schalkwijk, Luyten, Ingenhoven, & Dekker, 2021; Wright et al., 2013). Indeed, a substantial body of research data has documented that narcissism should be conceived as a multidimensional construct (Miller, Back, Lynam, & Wright, 2021; Miller, Lynam, Hyatt & Campbell, 2017; Pincus & Lukowitsky, 2010). In turn, these findings have led to the development of different models of narcissism involving at the very least two dissociable dimensions of narcissism: grandiose narcissism (aka narcissistic grandiosity) and vulnerable narcissism (Miller et al., 2017; aka narcissistic vulnerability; Pincus, 2013). Recently, Miller et al., (2021) proposed to conceptualize narcissism as a hierarchical multi-layer construct (Cain, Pincus, & Ansell, 2008), which may be articulated in grandiose vs. vulnerable narcissism, agentic extraversion, antagonism, and narcissistic neuroticism, or even at the foundational traits level, depending on clinical and research needs and targets.

In clinical psychological practice, grandiose and vulnerable narcissism still represent widely relied upon conceptual frameworks for understanding and treating narcissistic pathology (e.g., Cain et al., 2008; Kaufman, Weiss, Miller, & Campbell, 2020; Wright et al., 2013). Specifically, narcissistic grandiosity involves arrogance, entitlement, higher self-esteem, aggression, risk taking, antagonistic interpersonal approach, self-serving beliefs, grandiose fantasies, and self-enhancement strategies (Pincus et al., 2009; Miller et al., 2021). In contrast, narcissistic vulnerability underlies egocentrism, low and variable contingent self-esteem, distrust of other people, susceptibility to self-and emotional dysregulation (e.g., shame, anger, envy), and social isolation (e.g., Pincus et al., 2009; Miller et al.,

2021). This multidimensional conceptualization of narcissism provides insights into the relationships of grandiose and vulnerable narcissism with an array of dysfunctional personality dimensions including psychopathy, and Machiavellianism for narcissistic grandiosity (e.g., Glenn & Sellbom, 2015; Vize, Miller, & Lynam, 2019), and borderline personality disorder and secondary psychopathy for narcissistic vulnerability (e.g., Miller et al., 2010). These associations are thought to be the expression of an underlying core of antagonistic traits (i.e., low agreeableness), and variations in levels of negative affectivity (e.g., Glenn & Sellbom, 2015; Weiss, Campbell, Lynam, & Miller, 2019).

Several measures of vulnerable and grandiose dimensions of narcissism have been proposed (e.g., Back et al., 2013; Raskin & Hall, 1979). The Five Factor Narcissism Inventory (FFNI; Glover et al., 2012), and the Pathological Narcissism Inventory (PNI; Pincus et al., 2009) are among the most used self-report instruments used to evaluate narcissistic grandiosity and vulnerability, both in clinical (e.g., Pincus, 2013) and research contexts (e.g., Miller et al., 2017). Both FFNI and PNI represent psychometrically sound measures of narcissistic dimensions, although they are likely to map onto different conceptualizations of grandiose and vulnerable narcissism (e.g., Miller, Lynam, & Campbell, 2016). Indeed, PNI and FFNI pose different emphases on the grandiose versus vulnerable features of narcissism (e.g., Miller et al., 2017; Wright, 2016); the PNI is grounded clinical description and clinical research on narcissism (e.g., Pincus, 2013), which considers narcissism as an interplay of varying levels of grandiosity and vulnerability; rather the FFNI is based on Five Factor Model, considering grandiosity as a central feature of narcissism (e.g., Miller, Lynam, Campbell, 2016). Moreover, Miller et al. (2017) conceptualize narcissism as a normative personality trait, focusing on both adaptive and maladaptive aspects, whereas Pincus (2013) focuses on pathological features of narcissism.

Interestingly, the *DSM-5* (APA, 2013) retained the categorical conception of narcissistic personality disorder in Section II, whereas it provides a hybrid conceptualization of narcissistic personality disorder in the Section III Alternative Model of Personality Disorder (AMPD). According to the AMPD, the diagnosis of narcissistic personality disorder requires the presence of impairments in personality functioning of at least moderate severity (i.e., Criterion A) and a constellation of

pathological personality traits descriptive of the disorder (Criterion B). Specifically, Criterion A involves impairments in self (i.e., identity and self-direction) and interpersonal (i.e., empathy and intimacy) functioning, whereas Criterion B involves elevated scores on two traits from the domain of antagonism, namely, grandiosity and attention seeking.

Different studies have examined the convergence between the two conceptualization of narcissistic personality disorder (e.g., Anderson & Sellbom, 2018; Few et al., 2013; Hopwood, Thomas, Markon, Wright, & Krueger, 2012; Miller, Crowe, & Sharpe, 2022; Yam & Simms, 2014), and findings suggest that the overlap between the two conceptualization of narcissistic personality disorder is still controversial (e.g., Miller et al., 2022; Weekers, Hutsebaut, Zimmermann, & Kamphuis, 2022). It should also be observed that even the *DSM-5* AMPD hybrid model of narcissistic personality disorder heavily capitalized on grandiose traits (e.g., Miller et al., 2013); however, the dimensional approach to personality dysfunction assessment, which lies at the core of both *DSM-5* AMPD Criterion A and Criterion B (e.g., Krueger & Markon, 2014; Morey, McCredie, Bender, & Skodol, 2022), may efficiently capture both vulnerable and grandiose narcissism, over and above *DSM-5* Section III proposal for narcissistic personality disorder (e.g., Watters, Bagby, & Sellbom, 2019).

To the best of our knowledge, no previous studies have examined the effectiveness of the *DSM-5* Section II PD model, and of *DSM-5* AMPD model in characterizing vulnerable and grandiose narcissism, respectively. Indeed, recapturing *DSM-5* Section II personality disorders, including narcissistic personality disorder, was not the main aim of the *DSM-5* Work Group (e.g., Morey, Benson, & Skodol, 2016). Thus, providing data as to the usefulness of the *DSM-5* Section II and *DSM-5* Section III personality disorder models in capturing vulnerable and grandiose aspects of narcissism may provide clinicians and researchers a useful guide about the best way to assess narcissistic features both in clinical and research contexts. Moreover, it could be useful in evaluating the progresses towards the goals of the reformulation of personality pathology represented by the

AMPD, which aims at linking personality disorders to the various motivational, cognitive and social mechanisms that may underlie these disorders (e.g., Morey et al., 2016).

Against this background, the present study aimed at comparing the *DSM-5* Section II personality disorder symptom counts and *DSM-5* AMPD Criterion A and Criterion B scores in providing significant and relevant information for describing both narcissistic grandiosity and narcissistic vulnerability. Specifically, we relied on a sample of clinical psychotherapy participants who were administered the FFNI-Short Form (FFNI-SF; Sherman et al., 2015) and the PNI to assess grandiose and vulnerable dimensions of narcissism, as well as a sound self-report measures of *DSM-5* Section II personality disorder criteria (i.e., the Schedule for Nonadaptive and Adaptive Personality-2 diagnostic scales; Clark, 2014), and *DSM-5* AMPD Criterion A (i.e., the Levels of Personality Functioning Scale-Self Report; Morey, 2017), and Criterion B (i.e., the Personality Inventory for *DSM-5*; Krueger, Derringer, Markon, Watson & Skodol, 2012). To provide a comparison between the two diagnostic approaches, we also examined whether *DSM-5* Section II personality disorder scores provide incremental information above and beyond and the *DSM-5* AMPD Criterion A and Criterion B measure scores in describing grandiose and vulnerable narcissism, and vice versa (i.e., if *DSM-5* Section III AMPD measure scores provide incremental information above and beyond *DSM-5* Section II scores). To provide a fair comparison between *DSM-5* Section II and DSM-5 AMPD predictors of grandiose and vulnerable narcissism, we considered in the corresponding regression models only the four *DSM-5* AMPD Criterion A domains and the five Criterion B dysfunctional personality domains. To the best of our knowledge, the present study represents the first direct comparison between the two diagnostic systems with respect to grandiose and vulnerable narcissism, at least as they are operationalized in the FFNI-SF and PNI. Accordingly, we did not make any a-priori hypothesis regarding the incremental information provided by each personality disorder model; however, based on available evidence (e.g., Anderson & Sellbom, 2018; Few et al., 2013; Hopwood et al., 2012; Miller et al., 2022; Yam & Simms, 2014), we hypothesized that both diagnostic systems would explain a significant amount of variance in narcissistic grandiosity and narcissistic vulnerability.

Methods

Participants

An original sample of 412 Italian adult participants, who were consecutively admitted to the Clinical Psychology Unit of a large Hospital in Northern Italy, agreed to participate in the present study. However, 43 (10.4%) participants were excluded from the final sample because they scored equal to or higher than 17 on the Personality Inventory for *DSM-5* (PID-5; Krueger et al., 2012; Markon, Fossati, Somma, & Krueger, 2024) response inconsistency scale (e.g., Somma, Borroni, Kelley, Edens & Fossati, 2018). Thus, the final sample was composed of 369 psychotherapy participants; 227 (61.5%) participants were female and 142 (38.5%) were male; participants' mean age was 32.13 years, *SD* = 11.98 years. Two hundred ninety-one (78.9%) participants were unmarried, 58 (15.7%) participants were married, 18 (4.9%) participants were divorced, and 2 (0.5%) participants were widow. Seventy-six (20.6%) participants were unemployed; all other participants (79.4%) were working at the time the study was carried out. Fifty-nine (16.0%) participants had a junior high school degree, 202 (54.7%) had a high school degree, 107 (29.0%) had a University degree, and one (0.3%) participant had a post graduate University degree. According to the SNAP-2, 271 (73.4%) participants met criteria for at least one *DSM-5* Section II PDs; on average our adult clinical participants met criteria for 1.52 (*SD* = 1.50) *DSM-5* Section II PD diagnosis. Among participants who received at least one SNAP-2 PD diagnosis, the average number of *DSM-5* Section II PD diagnosis was 2.07, *SD* = 1.39.

One hundred and fifty-seven (42.5%) participants received at least one *DSM-5* non-PD psychiatric disorder diagnosis. In this sample, depressive disorders (*n* = 60, 16.3%), anxiety disorders (*n* = 59, 16.0%), and trauma- and stressor-related disorders (*n* = 27, 7.3%), and were the most frequently diagnosed *DSM-5* non-PD psychiatric disorders. Because non-PD psychiatric disorder diagnoses did not represent the focus of the present study, and were not assessed using standardized interviews, they were used only for descriptive purposes.

Procedures

All participants volunteered to take part in the study after being presented with a detailed description and all were treated in accordance with the Ethical Principles of Psychologists and Code of Conduct. Institutional Review Board approval was obtained. Participants were asked to sign a written informed consent form to take part in the study. This study was not preregistered. All participants were voluntarily admitted to the Unit in order to receive psychological treatment for interpersonal difficulties and/or problems with behavior and emotional regulation. To be included in the sample, the following inclusionary criteria were considered: (a) speak Italian as their first language; (b) age higher than 18 years; (c) IQ higher than 80; (d) education level higher than elementary school; (e) no diagnosis of neurocognitive disorders according to *DSM-5* diagnostic criteria; and (f) no diagnosis of schizophrenia spectrum and other psychotic disorders according to *DSM-5* diagnostic criteria.

Participants received the measures in their official Italian translations (e.g., Fossati, Krueger, Markon, Borroni, & Maffei, 2013; Somma, Clark, & Fossati, 2021). All measures were administered as part of routine clinical assessment; none of the participants received any direct or indirect incentive for participating. Participants with non-PD psychiatric disorder diagnoses were administered the measures by expert trained raters after acute symptom remission according to the judgment of the clinicians who were following them in treatment to avoid confounding effects of psychiatric disorders on these measures (Zimmerman, 1994).

Measures

Five Factor Narcissism Inventory-Short Form (FFNI-SF; Sherman et al., 2015). The FFNI-SF is a 60-item, self-report measure of 15 traits related to grandiose and vulnerable narcissism; Grandiose Narcissism Scale is the sum of Acclaim-Seeking, Arrogance, Authoritativeness, Entitlement, Exhibitionism, Exploitativeness, and Grandiose Fantasies scales, whereas Vulnerable Narcissism Scale is the sum of Distrust, Indifference, Lack of Empathy, Manipulativeness, Need for Admiration, Reactive Anger, Shame, and Thrill-Seeking scales. Consistent with the 148-item FFNI (Glover et al., 2012), each FFNI-SF item is measured on a five-point ordinal scale from *1= Disagree strongly* to *5 =*

Agree strongly. The measure showed adequate psychometric properties (Sherman et al., 2015), also in its Italian translation (Fossati, Somma, Borroni, & Miller, 2018).

Pathological Narcissism Inventory (PNI; Pincus, 2013; Pincus et al., 2009). The PNI is a 52-item multidimensional self-report measure of pathological narcissism that assesses overt and covert characteristics of grandiose and vulnerable narcissism. The PNI yields seven first-order scales that may be averaged to obtain a Narcissistic Grandiosity Scale (mean of Exploitativeness, Self-Sacrificing Self-Enhancement, and Grandiose Fantasy scales), and a Narcissistic Vulnerability Scale (i.e., mean of Contingent Self-Esteem, Hiding the Self, Devaluing, and Entitlement Rage) (Wright et al., 2010). PNI item responses range from *0* (*not at all like me*) to *5* (*very much like me*). The reliability and validity of the Italian translation of the PNI have been documented (e.g., Fossati et al., 2014; Fossati et al., 2015).

Schedule for Nonadaptive and Adaptive Personality-2 (Clark, 2014). The SNAP-2 is a 390-item, true-false self-report questionnaire that provides three types of scales, namely, temperament/personality trait scales, diagnostic scales, and validity scales. The SNAP-2 diagnostic scales provide scores for each of the *DSM-IV*/*DSM-5* Section II PD diagnoses; for the purposes of the present study, we relied on the SNAP- 2 diagnostic scale criterion scoring. Specifically, criterion scoring is calculated by determining first whether a subject endorsed the requisite SNAP-2 items to meet each criterion for each PD diagnosis and then, within each PD diagnosis, summing the total number of criteria met, thus yielding a score from 0 to 7-9, depending on the number of criteria for a given diagnosis (Clark et al., 2014). The SNAP-2 has shown adequate psychometric properties in community-dwelling adults, university students, and mixed psychiatric patients (Clark et al., 2014); the psychometric properties of the Italian translation of the SNAP-2 have been previous assessed (Somma, Clark, & Fossati, 2021).

Levels of Personality Functioning Scale-Self Report (LPFSR-SR; Morey, 2018). The LPFS-SR is an 80-item self-report questionnaire, with each item answered on a 4-point scale ranging from *Totally False*, *not at all True* to *Very True*. Each item is weighted according to its putative severity within the

LPFS conceptualization. Because the *DSM-5* LPFS Level 0 indicators imply "little or no impairment" whereas all other indicators imply some impairment, the items on the LPFS-SR were weighted as follows: Level 0 items are weighted –.5, Level 1 items ("some impairment") are weighted +.5, Level 2 items ("moderate impairment") are weighted +1.5, Level 3 items ("severe impairment") are weighted +2.5, and Level 4 items ("extreme impairment") are weighted +3.5. This weighting provides a direct match to the *DSM-5* characterization of different indicators reflecting different levels of severity, and effectively deals with the fact that some *DSM-5* LPFS descriptors are positively related to health, whereas most are negatively related to health. Previous studies documented the psychometric properties of the LPFS-SR in community samples (Hopwood, Good & Morey 2018; Morey, 2018), also among Italian participants (e.g., Somma et al., 2021).

Personality Inventory for *DSM-5* (PID-5; Krueger et al., 2012; Markon et al., 2024). The PID-5 is a 220-item questionnaire with a 4-point response scale (0 = *very false or often false* to 3 = *very true or often true*), which was explicitly designed to measure the proposed *DSM-5* dysfunctional traits. Each PID-5 item is scored on only one PID-5 trait scale. PID-5 items are summed to compose PID-5 trait scale scores; then, PID-5 trait scales are summed to generate PID-5 domain scale scores. The PID-5 has 25 primary scales that load onto 5 higher order dimensions (Krueger et al., 2012), and this structure is replicable (e.g., Somma, Krueger, Markon, & Fossati, 2019). The reliability and construct validity of the Italian translation of the PID-5 have been tested published (Fossati et al., 2013).

Data analysis

Cronbach's α coefficient was used to assess the internal consistency reliability of the measures. The Pearson *r* coefficient was used to estimate the associations between continuous variables. Multiple regression analyses were used to evaluate if SNAP-2 *DSM-5* Section II PD symptom counts, and the LPFS-SR scales and the PID-5 domain scales scale, scores significantly predicted the FFNI-SF and PNI scale scores, respectively. Variance inflation factor (VIF) indices were used to assess the presence of collinerity/multicollinearity among independent variables. VIF values

greater than 10 are usually considered suggestive of collinearity (Hair, Black, Babin, & Anderson, 2010).

Hierarchical multiple regression models were used to compare the SNAP-2 *DSM-5* Section II PD symptom counts and the LPFS-SR scales and the PID-5 domain scales in their ability to provide additional, relevant information in predicting the FFNI-SF and PNI scores, respectively. Consistent information criteria (e.g., Dziak et al., 2020) were used for model selection in hierarchical multiple regression models. Specifically, the consistent Akaike Information Criterion (CAIC; Bozdogan, 1987) and Schwarz's Bayesian Information Criterion (BIC; Schwarz, 1978) were used as information measures; the smallest CAIC and BIC values were retained as most informative models.

Results

The descriptive statistics, Cronbach's alpha coefficient values and Pearson *r* coefficient values for the FFNI-SF Grandiose and Vulnerable Narcissism Scales and the PNI Narcissistic Grandiosity and Narcissistic Vulnerability Scales are listed in Table 1. The nominal significance values (i.e., $p < .05$) for Pearson *r* coefficients was corrected according to the Bonferroni procedure and set at $p < .0083$. The descriptive statistics and Cronbach's alpha coefficient values for the SNAP-2 *DSM-5* Section II PD symptom counts, LPFS-SR scales, and PID-5 domain scales are summarized in Table 2. As it can be observed in Table 1 and Table 2 all measures were provided with adequate internal consistency reliability.

On average, in our sample the 10 SNAP-2 *DSM-5* Section II PD symptom counts were positively and moderately inter-correlated, median *r* value = .33, *SD* = .18, min *r* value = -.16 (Schizoid PD and Histrionic PD), max *r* value = .69 (Borderline PD and Schizotypal PD). Among the 10 SNAP-2 *DSM-5* Section II PD symptom counts, 80.0% (*n* = 36) of the Pearson *r* coefficient values were significant even when the nominal significance values (i.e., $p < .05$) for Pearson r coefficients was corrected according to the Bonferroni procedure and set at $p < .0011$ (see Table S1 in the Supplementary Material). Among our participants, the four LPFS-SR scale scores were substantially, positively, and significantly inter-correlated, with Pearson *r* values ranging from .65 (Empathy and

Self-Direction) to .82 (Identity and Self-Direction), median *r* value = .70, all *p*s <.001. In our study, the five PID-5 domain scales were positively and significantly inter-correlated, with Pearson *r* values ranging from .36 (Negative Affectivity and Antagonism) to .61 (Detachment and Psychoticism), median *r* value = .50, all *p*s <.001.

As a whole, the four LPFS-SR scales were significantly associated with all PID-5 domain scales, with Pearson *r* values ranging from .36 (LPFS-SR Self-Direction and PID-5 Antagonism scales) to .67 (LPFS-SR Intimacy and PID-5 Detachment scales), median r value = .54, *SD* = .09, all *p*s <.001 (see also Table S2 in the Supplementary Materials). Similar considerations held for the relationships between the four LPFS-SR scales and the 10 SNAP-2 *DSM*-5 Section II symptom counts, with Pearson *r* values ranging from .23 (LPFS-SR Self-Direction and SNAP-2 Obsessive-Compulsive PD symptom count) to .65 (LPFS-SR Empathy and SNAP-2 schizotypal PD symptom count), median *r* value = .45, *SD* = .12, all *p*s <.001 (see also Table S2 in the Supplementary Materials). The bivariate associations (i.e., Pearson *r* coefficient values) between the PID-5 domain scales and the SNAP-2 *DSM-5* Section II PD symptom counts are listed in Table S3 in the Supplementary Materials.

The multiple regression results of the SNAP-2 *DSM-5* Section II PD symptom counts as predictors of the FFNI-SF Grandiose Narcissism Scale and PNI Narcissistic Grandiosity Scale, respectively, are summarized in Table 3. As it can be observed in Table 3, SNAP-2 symptom counts scores explained a substantial amount of variance in grandiose narcissism scores, with SNAP-2 Narcissistic PD symptom count being the most relevant predictor of both FFNI-SF GN scale and PNI NG scale scores. In our study, SNAP-2 Antisocial PD and Schizoid PD were positively and significantly associated with the FFNI-SF GN scale scores, whereas Avoidant and Dependent PD were negatively and significantly related to FFNI-SF GN scale scores. Rather, in our multiple regression analyses the PNI NG scale scores yielded minor, positive and significant relationships with SNAP-2 Histrionic PD, Antisocial PD, Dependent PD, and Obsessive-Compulsive PD symptom counts.

The findings of multiple regression analyses of the LPFS-SR scales and PID-5 domain scales as predictors of the FFNI-SF Grandiose Narcissism Scale and PNI Narcissistic Grandiosity Scale,

respectively, are listed in Table 4. The four LPFS-SR *DSM-5* AMPD Criterion A scales and the five PID-5 scales assessing the corresponding *DSM-5* AMPD Criterion B dysfunctional personality domains accounted for 70.0% and 47.0% of the variance in the FFNI-SF GN and PNI NG scales, respectively.

Table 5 summarizes the results of multiple regression models of the SNAP-2 *DSM-5* Section II PD symptom counts as predictors of the FFNI-SF Vulnerable Narcissism Scale and PNI Narcissistic Vulnerability Scale, respectively. As displayed in Table 5, the SNAP-2 symptom counts of the 10 *DSM-5* Section II PDs explained a substantial (i.e., more than 50.0%) amount of variance in both self-report measures of the vulnerable manifestations of narcissism, at least in our sample of adult psychotherapy outpatients. The multiple regression analysis results of the LPFS-SR scales and PID-5 domain scales as predictors of the FFNI-SF Vulnerable Narcissism Scale and PNI Narcissistic Vulnerability Scale, respectively, are listed in Table 6; the LPFS-SR scales and PID-5 dysfunctional personality domains explained 67.0% and 65.0% of the variance in the FFNI-SF VN and PNI NV scale scores, respectively.

Finally, Table 7 summarizes the AIC, BIC, and CAIC values for hierarchical multiple regression models directly comparing the SNAP-2 *DSM-5* Section II PD symptom counts with the LPFS-SR scales and the PID-5 domain scales in their ability to provide additional, relevant information in predicting the FFNI-SF and PNI measures of grandiose narcissism/narcissistic grandiosity and vulnerable narcissism/narcissistic vulnerability, respectively. According to BIC and AIC values, the LPFS-SR scale scores and the five PID-5 domain scale scores always provided a non-trivial amount of information when they were added to regression models that included the SNAP-2 symptom counts of the 10 *DSM-5* Section II PDs as predictors of the FFNI and PNI NG/GN and NV/VN scales. At the opposite, we did not observe any consistent evidence of the incremental usefulness of adding the self-reported symptom counts 10 *DSM-5* Section II PDs to regression models that already included self-reported measures of *DSM-5* AMPD Criterion A areas and Criterion B dysfunctional personality domains as predictors of FFNI-SF and PNI scale scores.

Discussion

To the best of our knowledge, the present study represents the first attempt at directly comparing self-reports of *DSM-5* Section II PD symptom counts and self-reports of *DSM-5* AMPD Criterion A dimensions and Criterion B domains as to their respective abilities to explain psychometrically sound self-report questionnaire of GN and NV, respectively. Importantly, our study was conducted in a large sample of consecutively admitted adult clinical participants who were voluntarily asking for psychotherapy treatment, which could represent a useful addition to the available literature on narcissistic features. Indeed, as a whole, our findings suggested that both GN and VN dimensions may be adequately captured by *DSM-5* Section II PD symptom counts, and *DSM-5* AMPD Criterion A dimensions and Criterion B domains, respectively. However, our *DSM-5* AMPD measures seemed to outperform the self-reports of *DSM-5* Section II PD symptom counts in all multiple regression models, both in terms of the amount of variance accounted for in the FFNI-SF and PNI scales, as well as in terms of the best balance between model information and model parsimony.

Confirming and extending previous reports (e.g., Fossati et al., 2014; Fossati et al., 2015; Fossati et al., 2018), in our study the FFNI-SF and PNI provided scores of grandiose and vulnerable dimensions of narcissism that were provided with adequate internal consistency reliability and convergent validity. However, in our clinical adult sample the amount of overlap between the scales measuring grandiose and vulnerable components of narcissism was sharply different for the FFNI-SF and the PNI, with the latter showing a substantial and significant inter-relationship between the NG and NV scale scores. Consistent with the controversies on the multidimensionality and conceptualization of narcissistic personalities (e.g., Miller, Back, Lynam, & Wright, 2021; Pincus & Lukowitsky, 2010; Miller, Lynam, Hyatt, & Campbell, 2017), our data seemed to suggest that the FFNI-SF and PNI are likely to rely upon substantially correlated, albeit different, constructs of grandiose and vulnerable narcissism. Thus, adopting a multiple-measure perspective is likely to represent a sensible approach to the assessment of grandiose and vulnerable dimensions of narcissism, allowing for integrating different measures based on different, albeit overlapping constructs.

Consistent with previous findings (e.g., Samuel & Widiger, 2008; Wright et al., 2013; Wright, 2016), in our multiple regression analyses SNAP-2 symptom counts of the 10 *DSM-5* Section II PDs explained a substantial amount of variance in self-report measures of the grandiose dimension of narcissism, particularly in the case of the FFNI-SF GN scale. As it was expected, SNAP-2 Narcissistic PD symptom count was the most relevant predictor of both FFNI-SF GN scale and PNI NG scale scores. Interestingly, in our regression models several other SNAP-2 symptom counts of the *DSM-5* Section II PDs were significantly associated with the FFNI-SF GN scale scores and PNI NG scale scores, respectively. However, these patterns of significant associations with the SNAP-2 PD symptom counts in multiple regressions differed markedly across the two measures of the grandiose dimension of narcissism. It should be observed that in our multiple regression analyses, VIF values were not suggestive of multicollinearity problems; thus, the differences in the system of significant SNAP-2 PD predictors that were observed for the FFNI-SF GN scale and PNI NG scale could be hardly explained as statistical artifact. Although other explanations may be equally possible, we feel that they reflect genuine differences between the FFNI-SF and PNI constructs of the grandiose dimension of narcissism. Indeed, the negative associations that were observed in our multiple regressions between the FFNI-SF GN scale and the SNAP-2 Avoidant and Dependent PD symptom counts are highly consistent with the emphasis placed on agentic extraversion and emotional stability as core components of GN in the trifurcated model of narcissism (Miller et al., 2017). Rather, the positive, significant relationships between the PNI NG scale and the SNAP-2 Dependent PD and Obsessive-Compulsive PD symptom counts are likely to stem from the interplay of grandiose and vulnerable components in narcissism that lies at the core of PNI construct of narcissism (e.g., Pincus & Lukowitsky, 2010).

Among our clinical adult participants the self-report measures of *DSM-5* AMPD Criterion A domains (i.e., the four LPFS-SR scale scores) and Criterion B dysfunctional personality domains (i.e., the five PID-5 domain scale scores) explained 34.6% and 23.7% more variance than the self-reports of the 10 *DSM-5* Section II PD symptom counts (i.e., the corresponding SNAP-5 PD symptom counts)

in the FFNI-SF GN and PNI NG scale scores, respectively. Interestingly, in both multiple regression models both *DSM-5* AMPD Criterion A and Criterion B self-report indicators provided significant contribution in explaining different self-report measures of the grandiose dimension of narcissism (i.e., the FFNI-SF GN and PNI NG scale scores). Notwithstanding the non-negligible inter-correlations that were observed in our study among the LPFS-SR and PID-5 domain scale scores, none of the VIF values was suggestive of relevant collinearity problems in multiple regression models. Impairment in the *DSM-5* Criterion A Empathy domain, at least as it was operationalized in the LPFS-SR Empathy scale, significantly characterized the FFNI-SF GN scales; we feel that this finding was consistent with Miller et al.' (2017) view of NG as marked by prominent antagonistic and callous features. Impairment in the *DSM-5* AMPD Criterion A Identity domain, at least as it is assessed by the LPFS-SR Identity scale, was substantially and significantly linked to the PNI NG scale; this finding was consistent with Pincus' (e.g., Pincus & Lukowitsky, 2010) model of narcissism NG represents an inherently unstable state of mind. These findings suggest that capturing impairment in selected areas of personality functioning included in the *DSM-5* AMPD Criterion A may be more relevant than focusing on the general impairment in personality functioning for clinical understanding of grandiose manifestations of narcissism (e.g., Schalkwijk et al., 2021).

Confirming and extending previous observations (e.g., Anderson & Sellbom, 2018; Hopwood et al., 2012) our multiple regression results suggested that the *DSM-5* AMPD Criterion B Antagonism domain of dysfunctional personality, as it was operationalized in the corresponding PID-5 self-reports, represents a core feature of both FFNI-SF and PNI operationalization of grandiose manifestations of narcissism, at least in adult psychotherapy outpatients. Interestingly, low levels of the *DSM-5* AMPD Criterion B Detachment domain (at least as it was assessed by the corresponding PID-5 scale), which may be considered akin to high levels of Extraversion or Agentic Dominance (e.g., Miller et al., 2017), significantly characterized both FFNI-SF GN and PNI NG scales. Rather, the PID-5 Negative Affectivity domain scales yielded a significant, negative relationships only with the FFNI-SF GN scale; in our opinion, this finding was consistent with Miller et al.' (2021) view of GN as

characterized by high Antagonism, high Extraversion/Agentic Dominance, and low Neuroticism (i.e., Negative affectivity). Rather, the lack of significant association between the PNI NG scale and the PID-5 Negative Affectivity scale may at least partially reflect the substantial overlap between the PNI GN and VN scale scores that was observed in our sample.

According to our multiple regression findings, both the FFNI-SF VN scale and the PNI NV scale were significantly linked to a complex profile of self-reported DSM-5 Section II PD symptom counts, which included Paranoid PD, Borderline PD, Narcissistic PD, Avoidant PD, Dependent PD, and Obsessive-Compulsive PD. Although NV/VN is not explicitly listed in the *DSM-5*, taking a symptom count profile perspective in the assessment of *DSM-5* Section II PDs may help clinicians to capture vulnerable manifestations of narcissism, at least among adult psychotherapy outpatients.

Notwithstanding these important findings, it should be noted that in our sample the self-reports of *DSM-5* AMPD Criterion A personality functioning areas and Criterion B dysfunctional personality domains, at least as they were operationalized in the corresponding LPFS-SR and PID-5 scales, respectively, seemed to outperform self-reported symptom counts of the 10 *DSM-5* Section II PDs. Indeed, in our sample the *DSM-5* AMPD Criterion A and Criterion B features explained 28.8% and 22.6% more variance than the self-reports of the 10 *DSM-5* Section II PD symptom counts (i.e., the corresponding SNAP-5 PD symptom counts) in the FFNI-SF VN and PNI NV scale scores, respectively. Impairment in *DSM-5* AMPD Criterion A Identity and Intimacy areas of personality functioning, as indicated by the elevations of the corresponding LPFS-SR scales scores, and elevations on the Criterion B Negative Affectivity and Antagonism dysfunctional personality domains (at least as they were operationalize din the corresponding PID-5 scales) significantly characterized both FFNI-SF and PNI operationalization of the vulnerable dimension of narcissism. Rather, the PID-5 Detachment domain scale was significantly associated only with the FFNI-SF VN scale.

In the present study, we relied on hierarchical regression models to evaluate the incremental usefulness of the LPFS-SR and PID-5 domain scale scores, as measures of the *DSM-5* AMPD Criterion A areas and Criterion B domains, with respect to self-reported symptom counts of the 10 *DSM-5*

section II PDs, and vice-versa, in predicting self-report measures of grandiose and vulnerable dimensions of narcissism among adult psychotherapy outpatients. Interestingly, in terms of providing additional information while maintaining model parsimony, in no hierarchical regression model both CAIC and BIC coefficients reached their minimum values when the SNAP-2 symptom counts of the 10 *DSM-5* Section II PDs were entered in the regression equation. In our opinion, these findings suggest that the *DSM-5* AMPD Criterion A personality functioning areas and Criterion B dysfunctional personality domains, at least as they are operationalized in the LPFS-SR and PID-5 self-report measures, may provide an adequate representation of grandiose and vulnerable dimensions of narcissism in adult psychotherapy outpatients, at least when FFNI-SF and PNI self-report measures are relied upon. Rather, adding self-reports of the 10 *DSM-5* Section II PDs over DSM-5 AMPD Criterion A and Criterion B self-report measures is unlikely to result in an efficient increase of information when understanding grandiose and vulnerable dimension of narcissism in adult psychotherapy outpatients is at issue.

Although our findings could not be considered definitive, and replication studies are needed, we think that they may provide initial useful information for tracking narcissistic grandiosity and vulnerabilities in clinical populations, particularly relying on *DSM-5* AMPD. Indeed, treatment-seeking patients often initiate contact with practitioners when they are in a more vulnerable state (e.g., Pincus, Cain, & Wright, 2014). Relying on the *DSM-5* AMPD to identify narcissistic vulnerability features may allow clinicians to prevent serious emotional (e.g., anger outburst), and behavioral (e.g., suicidal gestures, substance misuse) consequences (Pincus et al., 2014). In turn, this possibility may help practitioners to provide treatments targeting narcissistic vulnerability without failing to distinguish it from other vulnerable and unstable personality (e.g., borderline personality disorder; Miller et al., 2010). Moreover, *DSM-5* AMPD seemed to be helpful also in identifying narcissistic grandiosity, which typically emerges as the therapeutic relationship develops (e.g., Pincus et al., 2014), providing useful additional information with respect to *DSM-5* Section II PD model.

Of course, our results should be considered in the light of several limitations. We relied on a sample of consecutively admitted adult psychotherapy outpatients; this inherently limits the generalizability of our findings to other populations (e.g., forensic populations, adolescent populations, etc.). Moreover, Berkson's (1946) bias is known to potentially influence findings from clinical populations. Additionally, our participants were adults who were asking for psychotherapy treatment; in this respect, they could not be considered as representative of individuals with narcissistic pathology in the general population. These considerations also apply to the gender distribution of our sample and to the prevalence of *DSM-5* non-PD psychiatric disorders.

We relied exclusively on self-report measures to assesses both *DSM-5* Section II PD and AMPD Criterion A areas and Criterion B dysfunctional personality domains, as well as grandiose and vulnerable dimensions of narcissism; using clinician administered instruments may yield different findings. Although we relied on sound self-report measures of grandiose and vulnerable narcissism dimensions, other scales are available for assessing these constructs, as well as other conceptualization of narcissism exist (e.g., Back et al., 2013; Krizan & Herlache, 2018; see, for a review, Miller et al., 2021). As a whole, these limitations suggest the need for further studies before accepting our results. Even keeping these limitations in mind, we feel that our findings may provide clinicians and researchers with relevant information as to the possibility to rely on the *DSM-5* AMPD to obtain a clearer picture of NG and NV than *DSM-5* Section II PDs in adult outpatients.

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Table 1.

Five-Factor Narcissism Inventory-Short Form Grandiose Narcissism and Vulnerable Narcissism Scales and Pathological Narcissism Inventory Narcissistic Grandiosity and Narcissistic Vulnerability Scales: Descriptive Statistics, Cronbach's Alpha Values, and Pearson r Coefficient Values (N = 369).

Grandiose and Vulnerable Narcissism Measures				Pearson *r* Coefficient Values			
	M	*SD*	α	*1*	*2*	*3*	*4*
1. Grandiose Narcissism Scale (Five-Factor Narcissism Inventory-Short Form)	100.40	28.49	.93	--			
2. Vulnerable Narcissism Scale (Five-Factor Narcissism Inventory-Short Form)	56.12	11.60	.85	.26	--		
3. Narcissistic Grandiosity Scale (Pathological Narcissism Inventory)	2.37	0.84	.88	.65	.46	--	
4. Narcissistic Vulnerability Scales (Pathological Narcissism Inventory)	2.44	0.90	.94	.43	.80	.64	--

Note. The nominal significance level (i.e., $p < .05$) was corrected according to the Bonferroni procedure and set at $p < .0083$; Pearson r values $\geq |.14|$ are significant at $p < .0083$.

Table 2

Schedule for Nonadaptive and Adaptive Personality-2 DSM-5 Section II Personality Disorder Symptom Counts, Levels of Personality Functioning Scale-Self Report Scales, and Personality Inventory for DSM-5 Inventory Domain Scales: Descriptive Statistics and Cronbach's Alpha Values (N = 369).

Schedule for Nonadaptive and Adaptive Personality-2 *DSM-5* Section II Personality Disorder Symptom Counts	*M*	*SD*	α
Paranoid Personality Disorder	1.44	1.50	.95
Schizoid Personality Disorder	1.48	1.50	.88
Schizotypal Personality Disorder	1.82	1.72	.92
Antisocial Personality Disorder	1.99	2.17	.85
Borderline Personality Disorder	3.12	2.55	.95
Histrionic Personality Disorder	1.67	1.40	.85
Narcissistic Personality Disorder	1.10	1.29	.88
Avoidant Personality Disorder	2.08	1.91	.91
Dependent Personality Disorder	2.60	2.29	.92
Obsessive-Compulsive Personality Disorder	2.46	1.46	.77
Levels of Personality Functioning Scale – Self-Report Scales			
Identity	97.82	25.96	.89
Self-Direction	73.04	22.60	.89
Empathy	46.33	14.49	.76
Intimacy	77.28	23.33	.84
Personality Inventory for *DSM-5* Domain Scale			
Negative Affectivity	1.63	0.49	.94
Detachment	1.36	0.56	.95
Antagonism	0.77	0.51	.95
Disinhibition	1.37	0.47	.93
Psychoticism	1.01	0.64	.96

Table 3.

The Schedule for Nonadaptive and Adaptive Personality DSM-5 Section II Personality Disorders Symptom Counts as Predictors of the Five-Factor Narcissism Inventory-Short Form Grandiose Narcissism Scale and of the Pathological Narcissism Narcissistic Grandiosity Scale: Bivariate Correlations (i.e., Pearson r Values) and Multiple Regression Analyses Result Summary Table (N = 369).

Independent Variables	Dependent Variable: FFNI-SF Grandiose Narcissism Scale			Dependent Variable: PNI Narcissistic Grandiosity Scale		
SNAP-2 *DSM-5* Section II PD Symptom Counts	*r*	β	VIF	*r*	β	VIF
Paranoid Personality Disorder	.32*	.06	2.05	.30*	.01	2.05
Schizoid Personality Disorder	.05	.15*	1.66	-.08	-.09	1.66
Schizotypal Personality Disorder	.22*	-.09	2.91	.25*	-.05	2.91
Antisocial Personality Disorder	.39*	.21*	1.51	.34*	.17*	1.51
Borderline Personality Disorder	.35*	.14	2.82	.37*	.04	2.82
Histrionic Personality Disorder	.42*	.13	1.75	.46*	.19*	1.75
Narcissistic Personality Disorder	.61*	.46*	1.42	.47*	.27*	1.42
Avoidant Personality Disorder	-.13	-.26**	1.95	.02	-.05	1.95
Dependent Personality Disorder	.07	-.13*	1.49	.35*	.17*	1.49
Obsessive-Compulsive Personality Disorder	.21*	.10	1.30	.28*	.16*	1.30
R^2 / Adjusted R^2		.52*** / .50***			.38*** / .36***	

Note. SNAP-2: Schedule for Nonadaptive and Adaptive Personality; PD. Personality disorder; FFNI-SF: Five-Factor Narcissism Inventory-Short Form; PNI: Pathological Narcissism Inventory; β: Standardized regression coefficient; VIF: Variance inflation factor. Within each set of comparisons, the nominal significance level was corrected for the Bonferroni procedure and set at p <.005.

* p <.005

*** p <.001

Table 4.

The Levels of Personality Functioning -Self Report Scales and the Personality Inventory for DSM-5 Domain Scales as Predictors of the Five-Factor Narcissism Inventory-Short Form Grandiose Narcissism Scale and of the Pathological Narcissism Narcissistic Grandiosity Scale: Bivariate Correlations (i.e., Pearson r Values) and Multiple Regression Analyses Result Summary Table (N = 369).

Independent Variables	Dependent Variable: FFNI-SF Grandiose Narcissism Scale			Dependent Variable: PNI Narcissistic Grandiosity Scale		
LPFS-SR Scales	*r*	β	VIF	*r*	β	VIF
Identity	.24*	-.01	4.27	.44*	.43*	4.27
Self-Direction	.16*	-.13	3.96	.30*	-.06	3.96
Empathy	.43*	.21*	3.11	.38*	.04	3.11
Intimacy	.38*	.04	3.24	.34*	.00	3.24
Personality Inventory for *DSM-5* Domain Scales						
Negative Affectivity	.09	-.22*	2.11	.33*	.04	2.11
Detachment	.16*	-.15*	2.51	.13	-.39*	2.51
Antagonism	.79*	.76*	1.74	.58*	.48*	1.74
Psychoticism	.33*	.06	1.83	.27*	-.09	1.83
R^2 / Adjusted R^2		.70*** / .69***			.47*** / .46***	

Note. LPFS-SR: Levels of Personality Functioning Scale-Self-Report; FFNI-SF: Five-Factor Narcissism Inventory-Short Form; PNI: Pathological Narcissism Inventory; β: Standardized regression coefficient; VIF: Variance inflation factor. Within each set of comparisons, the nominal significance level was corrected for the Bonferroni procedure and set at p <.0056.

* p <.0056.

*** p <.001.

Table 5.

The Schedule for Nonadaptive and Adaptive Personality DSM-5 Section II Personality Disorders Symptom Counts as Predictors of the Five-Factor Narcissism Inventory-Short Form Vulnerable Narcissism Scale and of the Pathological Narcissism Narcissistic Vulnerability Scale: Bivariate Correlations (i.e., Pearson r Values) and Multiple Regression Analyses Result Summary Table (N = 369).

Independent Variables	Dependent Variable: FFNI-SF Vulnerable Narcissism Scale			Dependent Variable: PNI Narcissistic Vulnerability Scale		
SNAP-2 *DSM-5* Section II PD Symptom Counts	*r*	β	VIF	*r*	β	VIF
Paranoid Personality Disorder	.56*	.19*	2.05	0.55*	0.18*	2.05
Schizoid Personality Disorder	.25*	-.03	1.66	0.20*	-0.06	1.66
Schizotypal Personality Disorder	.54*	-.04	2.91	0.53*	0.02	2.91
Antisocial Personality Disorder	.32*	.00	1.51	0.29*	-0.05	1.51
Borderline Personality Disorder	.60*	.24*	2.82	0.57*	0.21*	2.82
Histrionic Personality Disorder	.30*	.00	1.75	0.34*	0.01	1.75
Narcissistic Personality Disorder	.37*	.13*	1.42	0.45*	0.23*	1.42
Avoidant Personality Disorder	.47*	.21*	1.95	0.40*	0.16*	1.95
Dependent Personality Disorder	.53*	.22*	1.49	0.51*	0.21*	1.49
Obsessive-Compulsive Personality Disorder	.45*	.16*	1.30	0.42*	0.13*	1.30
R^2 / Adjusted R^2		.52*** / .50***			.53*** / .52***	

Note. SNAP-2: Schedule for Nonadaptive and Adaptive Personality; PD. Personality disorder; FFNI-SF: Five-Factor Narcissism Inventory-Short Form; PNI: Pathological Narcissism Inventory; β: Standardized regression coefficient; VIF: Variance inflation factor. Within each set of comparisons, the nominal significance level was corrected for the Bonferroni procedure and set at p <.005.

* p <.005

*** p <.001

Table 6.

The Levels of Personality Functioning -Self Report Scales and the Personality Inventory for DSM-5 Domain Scales as Predictors of the Five-Factor Narcissism Inventory-Short Form Vulnerable Narcissism Scale and of the Pathological Narcissism Narcissistic Vulnerability Scale: Bivariate Correlations (i.e., Pearson r Values) and Multiple Regression Analyses Result Summary Table (N = 369).

Independent Variables	Dependent Variable: FFNI-SF Vulnerable Narcissism Scale			Dependent Variable: PNI Narcissistic Vulnerability Scale		
LPFS-SR Scales	*r*	β	VIF	*r*	β	VIF
Identity	.75*	.45*	4.27	.73*	.43*	4.27
Self-Direction	.61*	-.15	3.96	.59*	-.12	3.96
Empathy	.57*	-.04	3.11	.65*	.10	3.11
Intimacy	.65*	.20*	3.24	.70*	.32*	3.24
Negative Affectivity	.67*	.32*	2.11	.59*	.21*	2.11
Detachment	.62*	.18*	2.51	.52*	-.08	2.51
Antagonism	.46*	.12*	1.74	.52*	.15*	1.74
Psychoticism	.41*	-.04	1.83	.41*	-.04	1.83
R^2 / Adjusted R^2		.67*** / .67***			.65*** / .64***	

Note. LPFS-SR: Levels of Personality Functioning Scale-Self-Report; PID-5: Personality Inventory for *DSM-5*; FFNI-SF: Five-Factor Narcissism Inventory-Short Form; PNI: Pathological Narcissism Inventory; β: Standardized regression coefficient; VIF: Variance inflation factor. Within each set of comparisons, the nominal significance level was corrected for the Bonferroni procedure and set at $p < .0056$.

* $p < .0056$.

*** $p < .001$.

Table 7.

The Relative Amount of Information Provided by the 10 SNAP-2 DSM-5 Section II Personality Disorder Symptom Counts, and Levels of Personality Functioning Scale-Self Report Scales and Personality Inventory for DSM-5 Domain Scales as Predictors of the Grandiose Narcissism/Narcissistic Grandiosity and Vulnerable Narcissism/Anarchistic Vulnerability Measures, Respectively: Hierarchical Multiple Regression Model Bayesian Information Criterion and Consistent Akaike Information Criterion (N = 369).

Hierarchical Multiple Regression Models	Dependent Variable: FFNI-SF Grandiose Narcissism		Dependent Variable: PNI Narcissistic Grandiosity	
Model 1	BIC	CAIC	BIC	CAIC
Step 0: Intercept only	3529.95	3531.95	930.90	932.90
Step 1: Step 0 + SNAP-2 PD Symptom Counts	3321.17	3333.17	813.32	825.32
Step 2: Step 1 + LPFS-SR Scales and PID-5 Domain Scales	**3140.823**	**3161.823**	**776.68**	**797.68**
Model 2				
Step 0: Intercept only	3529.95	3531.95	930.90	932.90
Step 1: Step 0 + LPFS-SR Scales and PID-5 Domain Scales	3142.12	**3153.12**	**750.77**	**761.77**
Step 2: Step 1 + SNAP-2 PD Symptom Counts	**3140.82**	3161.82	776.68	797.68
	Dependent Variable: FFNI-SF Vulnerable Narcissism		Dependent Variable: PNI Narcissistic Vulnerability	
Model 1	BIC	CAIC	BIC	CAIC
Step 0: Intercept only	2866.66	2868.66	979.20	981.20
Step 1: Step 0 + SNAP-2 PD Symptom Counts	2626.50	2638.50	757.04	769.04
Step 2: Step 1 + LPFS-SR Scales and PID-5 Domain Scales	**2527.15**	**2548.15**	**663.15**	**684.15**
Model 2				
Step 0: Intercept only	2866.66	2868.66	979.20	981.20
Step 1: Step 0 + LPFS-SR Scales and PID-5 Domain Scales	**2507.31**	**2518.31**	**642.57**	**653.57**
Step 2: Step 1 + SNAP-2 PD Symptom Counts	2527.15	2548.15	663.15	684.15

Note. SNAP-2: Schedule for Nonadaptive and Adaptive Personality; PD. Personality disorder; LPFS-SR: Levels of Personality Functioning Scale-Self-Report; PID-5: Personality Inventory for *DSM-5*; FFNI-SF: Five-Factor Narcissism Inventory-Short Form; PNI: Pathological Narcissism Inventory; BIC: Bayesian information criterion; CAIC: Consistent Akaike's information criterion. For each hierarchical model, bold highlights the minimum value reached by each information criterion (i.e., the best fitting solution according to each information criterion).