



Full Length Article

Profiling narcissism: Evidence for grandiose-vulnerable and other subtypes

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ABSTRACT

Narcissism is viewed in terms of grandiose versus vulnerable conceptualizations, though among individuals both features may be present. The Narcissism Admiration and Rivalry questionnaire (NARQ) was designed to assess grandiose narcissism. Yet, the rivalry domain also reflects vulnerable narcissism. Using three large general population samples we examined the nature of the NARQ via variable- and person-centered latent variable modeling. Structural modeling results supported the two-factor NARQ model. The rivalry domain accounted for traditional measures of vulnerable narcissism, neuroticism, and aggression. The admiration domain accounted for traditional measures of grandiose narcissism and extroversion. Latent profile analysis resulted in four replicable subtypes, including a grandiose-vulnerable subtype, which were validated in terms of general personality traits, antagonism, aggression, and self-esteem.

1. Introduction

Narcissism has been conceptualized in terms of multiple domains, particularly grandiose and vulnerable (Crowe et al., 2019; Kaufman et al., 2020; Rogoza, et al., 2022; Krizan & Herlache, 2018). Recent research has highlighted the grandiose and vulnerable dimensions in conjunction with antagonism/entitlement (Kaufman et al., 2020; Miller et al., 2021) or Agentic Extroversion, Narcissistic Neuroticism, and Self-centered Antagonism (Crowe et al., 2019). This research often employs a variable-centered approach—i.e., scores aggregated across individuals' trait reports to uncover specific dimensions (e.g., grandiose, vulnerable) and the associations among them. Thus, this approach provides information about variables (e.g., association strength), and not information about persons (e.g., trait profiles) per se (Roy et al., 2023).

On the other hand, there is research that identifies the presence of both grandiose and vulnerable features within individuals (e.g., Eder-shile & Wright, 2021; Pincus & Lukowitsky, 2010). Further, theory and research on the psychological processes of admiration and rivalry seeks to capture the intra- and inter-personal strategies that occur among individuals with narcissistic propensities to manage self-image (Back et al., 2013a, b). These studies suggests that a person-centered approach may prove fruitful for identifying subgroups of individuals with unique narcissistic trait profiles. Thus, alternative conceptualization and understanding of narcissism may be found by combining both person- and variable-centered approaches.

1.1. Grandiose vs. Vulnerable narcissism

There is a long history regarding theories of narcissism (Reich, 1960). It is only more recently that a personality approach to conceptualizing narcissism has offered a viable means of assessing the variable phenomenological nature of narcissism (Kaufman et al., 2020; Miller et al., 2021). Miller et al. (2017) suggest that this trait perspective allows for an objective and unified expression of narcissism while supporting important distinctions between different narcissism dimensions, such as grandiose and vulnerable domains.

A bidimensional definition of narcissism, which separates the vulnerable and grandiose narcissism domains, has been the leading conceptualization of narcissism in recent history (Miller et al., 2017; Wink, 1991). Classically, grandiose narcissism is the most recognized domain of narcissism which includes a sense of self-importance, dominance, disagreeableness, entitlement, and interpersonal antagonism (Miller et al., 2017). It encapsulates the current diagnostic criteria of narcissistic personality disorder (NPD; APA, 2022), is considered the overt or extraverted form of narcissism (Jauk et al., 2017) and is associated with aggression, (Kjærviik & Bushman, 2021), high self-esteem and self-concept clarity (Doerfler et al., 2021). Though vulnerable narcissism is thought to be characterized by a similar sense of entitlement and interpersonal antagonism (Miller et al., 2017), elements of introversion, neuroticism, low self-esteem, and hypersensitivity also characterize this latter covert form of narcissism (Jauk et al., 2017,

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Miller et al., 2017). Thus, Miller et al. (2017) proposed different diagnostic profiles of narcissism, with a central feature of interpersonal antagonism, as well as diagnostic specifiers of agentic extroversion and neuroticism reflecting grandiose and vulnerable variations, respectively.

On the other hand, the “mask model of narcissism” suggests that grandiose features of narcissism are more of a façade, and that vulnerability is critical to understanding narcissism (Miller et al., 2021). Despite the abundance of research highlighting the distinction between grandiose and vulnerable narcissism and their correlates from a variable-centered perspective, the expression of these two domains of narcissism can also be found to co-occur within individuals. Pincus and Lukowitsky (2010) reinforced an idea originally brought forward by Reich (1960) that it was possible for an individual to have a mixed display of narcissism, oscillating between grandiose and vulnerable presentations. For the current study, we used latent variable- and person-centered modeling of the Narcissism Admiration and Rivalry scale (NARQ; Back et al., 2013b), which we propose taps both grandiose and vulnerable aspects of narcissism, and included the antagonism scale developed by Miller and colleagues in conjunction with the agentic extroversion and neuroticism specifiers, as well as traditional measures of grandiose and vulnerable narcissism. In this way, we sought to examine the extent to which antagonism, and the specifiers, are critical aspects of different narcissistic profiles—i.e., those with both grandiose-vulnerable elevations versus those elevated on only grandiose or vulnerable features.

1.2. Admiration vs. Rivalry

While there are a range of measures to assess aspects of narcissism (Miller et al., 2021), one recent scale was built using a rigorous latent variable (LV) modeling approach, the Narcissistic Admiration and Rivalry Questionnaire (NARQ; Back et al., 2013a). The NARQ is designed to evaluate the distinct interpersonal strategies that arise in individuals with narcissistic propensities to manage their self-image as detailed by the Narcissistic Admiration and Rivalry Concept (NARC; Back, 2018). This concept emphasizes the positively related constructs of admiration and rivalry in the context of the grandiose self-image and describes the inter- and intra-personal processes of such. This conceptualization inherently looks at narcissism’s differing presentations as states within the broader construct.

The first facet in the NARC, admiration, reflects *assertive* self-enhancing practices that are used to portray the self-assured and charming behaviors of grandiose narcissism. This agentic component shows predominant correlations with dominance, extroversion, and openness (Grove et al., 2019). It also has negative associations with neuroticism, negative affect, and detachment (Back et al., 2013b; Schaber et al., 2016).

The second facet, rivalry, reflects *antagonistic* self-protection that is used as a defense mechanism to protect a narcissistic self-image against attacks. Individuals with elevated rivalry features are likely to show low affiliation practices with low self-esteem and increased defensiveness and avoidant tendencies (Grove et al., 2019), as well as low agreeableness and conscientiousness (Back et al., 2013b). This research also found that rivalry was uniquely related to pathological vulnerability and emotional instability, neuroticism, and poor self-esteem, all of which are negative correlates of grandiose narcissism (Miller et al., 2014; Miller et al., 2016). Clearly, the rivalry domain reflects aspects of vulnerable narcissism (Wright, & Edershire, 2018).

1.3. Aggression and narcissism

A central correlate of antagonistic personality pathology (Roy et al., 2023), including narcissism, is aggression (Du et al., 2022; Kjærvik & Bushman, 2021; Kohut, 1972; Velotti et al., 2020). Krizan and Herlache (2018) attribute reactivity and hostility towards others to vulnerable narcissism. However, Du and colleagues (2024) found that aggression

was positively and consistently related to narcissism across all levels of its hierarchy (i.e., level 1: narcissism; level 2: grandiose vs. vulnerable narcissism; level 3: antagonism, agentic extraversion, and narcissistic neuroticism), with individuals higher in narcissism displaying more aggression. Additionally, in work done using the NARQ, rivalry was found to be significantly related to aggression (Leckelt et al., 2015) and other negative consequences, compared to NARQ admiration (Back et al., 2013b; Grove et al., 2019). Thus, a secondary question we addressed involved whether grandiose versus vulnerable domains of narcissism are most associated with aggression.

1.4. The current study

Latent variable- and person-centered approaches were used to examine the NARQ with three large general population samples. Our initial and primary sample (#1) was examined first given it included an extensive collection of traditional and contemporary narcissism measures (e.g., Crowe, 2020; see more in Participants). Based on initial reviewer comments, we also identified two other public-domain samples for inclusion, both of which used the NARQ, for the purpose of replication and extension of sample 1 results. Sample 2 provided a diverse group of persons in terms of race/ethnicity (Chou et al., 2023) and sample 3 offered a world sample of over 40,000 persons (Azevedo et al., 2023). While research on narcissism continues to evolve, most studies have primarily worked from a variable-centered perspective. Yet, the frequent discussion of intra- and inter-personal aspects of narcissistic individuals suggests a person-centered perspective could be advantageous. The use of multiple samples allowed us to examine the robustness of evidence for theoretically meaningful latent person-centered NARQ subtypes, as well as extend sample 1 variable-centered analyses to other correlates of narcissism with samples 2 and 3 (i.e., self-esteem, happiness, and open mindedness).

Our rationale for person-centered analyses is also based on variable-centered studies that have reported that the vulnerable and grandiose narcissism domains are positively correlated, *especially* at higher levels of grandiose narcissism (Jauk et al., 2017; Jauk & Kaufman, 2018; Jauk et al., 2022) or are uncorrelated (Miller et al., 2011). One reason this heterogeneous pattern of associations might occur is if there are mixtures (subtypes) within a given sample that differ in proportions of persons who display different profiles of grandiose and/or vulnerable narcissistic propensities.

Finding evidence of unique NARQ profiles may offer a viable means for further understanding of the nature of narcissism, particularly mixed presentations (Wright, & Edershire, 2018). To date, no studies have focused on uncovering a grandiose-vulnerable narcissistic profile using a person-centered approach, along with variable-centered analyses. We hypothesized that the NARQ admiration and rivalry domains would have a differential pattern of variable-centered associations with grandiose vs. vulnerable domains from other established measures of narcissism, i.e., rivalry primarily with vulnerable narcissism and admiration with grandiose narcissism. More importantly, we expected to uncover evidence of a grandiose-vulnerable subtype consistent with the mask model of narcissism (Miller et al., 2021; Wright, & Edershire, 2018), as well as subtypes with different NARQ profiles.

In addition, it was expected that the rivalry and the admiration NARQ domains, respectively, will be positively and negatively associated with the FFNI neuroticism domain, while the latter NARQ domain will be robustly associated with FFNI extroversion. However, a critical question concerns how the rivalry and admiration domains are associated with FFNI antagonism. If one NARQ domain is more robustly associated with FFNI antagonism than the other, it will have implications for understanding the larger construct. Further, varying degrees of FFNI antagonism among NARQ subtypes can add to understanding of narcissistic personality.

Self-esteem is also critical to understanding narcissism. As noted, the links between self-esteem and the narcissism domains can be complex

(Bosson et al., 2008). Moreover, it remains an open question how emergent NARQ subtypes might report different levels of self-esteem. Samples 2 and 3 were used to examine the level of self-reported self-esteem among NARQ subtypes, as well as how the NARQ domains were associated with self-esteem.

Finally, the role of age and gender in the expression of narcissistic features remains of theoretical value. Meta-analytic research suggests the effect of age and gender (and age \times gender interactions) are relatively modest (Weidmann et al., 2023). Nonetheless, males tend to display higher levels of dark traits, such as narcissism (Muris et al., 2017; Neumann et al., 2022). Also, younger persons tend to display higher narcissistic features, compared to older individuals, in line with the idea that personality involves psychological maturation (Neumann et al., 2020). Therefore, we examined how the emergent NARQ subtypes differed by age and gender.

2. Method

The current study employed three different samples as described below, based on publicly available data. Sample 1 was used for our primary analyses and samples 2 and 3 used for replication and extension, respectively, of the LPA and SEM results from sample 1. For each sample, the investigators responsible for the initial data collection sought and obtained relevant IRB approval. In addition, all studies for the three samples used attention checks and omitted invalid responses. Finally, the samples used in the current study were all based on previously published studies, and thus there are no questions regarding data integrity issues.

2.1. Participants and Procedures

Sample 1. As described by Crowe (2020) and his colleagues (Crowe et al., 2019; see below for more) data for this sample were obtained from participants who completed a survey on Amazon Mechanical Turk (MTurk) consisting of 303 items (287 narcissism items mixed from various narcissism measures and 16 validity items). The sample collected consisted of 707 participants. Inclusion criteria were minimal and consisted of being a United States resident and at least 18 years old. After removing participants who did not meet requirements for “valid responding,” i.e., unacceptable responses on Validity Scales, inappropriate response times (e.g., less than 2 s per item), and invariant responding, 591 individuals made up the final sample (62 % women; $M_{\text{age}} = 37.0$ years, $SD_{\text{age}} = 11.8$ years). Participants were able to check more than one race/ethnicity category and reported 83 % White, 10 % Black, 8 % Asian, 6 % Hispanic status. Most participants reported high school (36.9 %) or college education (37.2 %) education, and middle-income status (55 %). Data from this sample has been previously published in the following articles: Crowe et al., 2019; Crowe et al., 2018; Miller, Lynam, Siedor, et al., 2018; Miller, Lynam, Vize, et al., 2018; Vize et al., 2017. However, the analytic approach used in the current study is new and not yet employed with these data, and thus, offer the opportunity to uncover novel aspects regarding profiles of narcissistic propensities.

Sample 2. The second sample was provided via open data access by Chou et al. (2025) and as described by these authors indicated a “... data set of 1260 adults who were recruited through the Qualtrics panel service to participate in a 10–15 min online survey about personality (see <https://osf.io/n4s3f/> for full list of measures). Participants were required to be between the ages of 18–30 years, English-speaking, and residents of the U.S. The sample was contracted to be evenly split by individuals who identify as Black, Latine, and White, determined via a forced choice assessment. The forced-choice assessment was necessary to fill the quota, but we also included a free-response option in the full survey. The sample size was determined by resource constraints, in which they sought to recruit the largest possible sample, rather than based on a power analysis. Compensation was determined individually

by Qualtrics based on the panel the participant was in. This study was approved by the Institutional Review Board of the authors’ institution, IRB# STUDY00009691. The full sample of 1260 reflects the total number of participants who passed all Qualtrics- and researcher-defined quality criteria (e.g., all three attention checks). Missing data was therefore very infrequent and handled via listwise deletion. The final analytic sample was slightly reduced ($N = 1248$; 415 White, 416 Black, 417 Latine; $M_{\text{age}} = 24.41$, $SD_{\text{age}} 3.87$; 72 % women, 25 % men, 2 % gender diverse, 1 % missing)” (p. 5). For the current study, our latent profile analysis (LPA) that used the Chou et al data is original, though note that there is some similarity in the structure of our latent variable model compared to Chou et al., however in the latter case their focus was largely on associations between NARQ and ethnic identity commitment among three ethnic subsamples, while our focus involved an exploratory structural equation model (ESEM) using the total sample to illustrate differential associations of the latent NARQ admiration and rivalry factors with positive and negative self-esteem latent factors. The Chou et al. study found evidence of NARQ measurement invariance across demographic variables.

Sample 3. The third sample was also an open access data set provided by Azevedo et al. (2023) and they described the sample as a “... total of 51,404 individuals from 77 samples across 69 countries participated in our survey. The inclusion criteria were the following: being 18 years of age and older and giving informed consent..... For the most part, participants were recruited via professional survey research companies and were incentivised to participate” (p. 7). A focus of the data collection, which was largely achieved, was to recruit representative samples in terms of age and gender. Data were collected between April–June 2020 via the International Collaboration on Social & Moral Psychology of COVID-19 project (ICSMP COVID-19). Azevedo and colleagues provided links for their original Internal Review Board Ethics application (ICSMP Kent Ethics application full.pdf; osf.io/xt9gr) and Ethics approval (ICSMP Kent Ethics approval.pdf; osf.io/ce638). As described by Azevedo et al., there was “... an average sample size of 745 ($SD = 549$) and a proportion of valid answers of 95 %. The mean age of respondents was 42.93 ($SD = 16.04$) years and 50.9 % were women (44 % males, 0.3 % others, and 4.8 % unreported). The employment status break-down shows 44.8 % employed full-time, 10.6 % part-time, 8.1 % unemployed, 10 % students, 10.1 % retired, 11 % other, and 5.3 % unreported. The overall marital status shows 33 % of respondents were single, 18.7 % in a relationship, 42.7 % married, and 5.5 % unreported. The majority of our participants reported having no children (41.6 %), with 16.7 % having one child, 20.1 %, 9.2 %, and 3.9 % with two, three and four children, respectively, and 1.7 % had five or more children” (p. 10). All instruments were translated using standard methodology across 32 languages. For the current study, our analyses of these data are completely original.

2.2. Measures

Narcissistic Admiration and Rivalry Questionnaire (NARQ; Back et al., 2013a,b). The NARQ is an 18-item measure used to evaluate narcissism within its proposed two-dimensional framework: admiration ($\alpha = 0.84$) and rivalry ($\alpha = 0.80$), and there is a six-item short scale (Back et al., 2013b). For the 18-item scale, two broad domains are each represented by three (3-item) subscales: Admiration (charmingness, grandiosity, uniqueness); Rivalry (aggression, supremacy, devaluation). For the NARQ short scale, each of these domains is represented by a single item. Participant item responses are usually based on a 6-point Likert scale (1 = not agree at all; 6 = completely agree). However, as reported by Crowe (2020) and his colleagues (Crowe et al., 2019), all items were rated on a 1-to-5 point scale (—our assumption, based on Crowe [2020] is that all scales were standardized by using 5-point scales). Thus, an average item score above 3 suggests some endorsement of the underlying latent trait. For the other two samples, Chou et al., (2023) used the usual 6-point NARQ scale and Azevedo et al., (2023) employed a 10-

point scale. Also, Azevedo et al. employed the six item NARQ short form scale (Back et al., 2013b). For these two latter samples mean item responses above 4 and 5, respectively, suggest endorsement of narcissistic propensity. Generally, research with the NARQ has reported good internal consistencies, stabilities, self-other agreements, and appropriate validity with other narcissism measures (Back et al., 2013b; Chou et al., 2023; Crowe, 2020; Leckelt et al., 2018).

Pathological Narcissism Inventory (PNI; Pincus et al., 2009). The PNI is a 52-item measure of “pathologically narcissistic” traits of both the grandiose and vulnerable domains of narcissism through 7 dimensions of pathological narcissism: exploitativeness, grandiose fantasy, self-sacrificing self-enhancement, entitlement rage, contingent self-esteem, hiding the self, and devaluing. The latter four dimensions correspond with vulnerable narcissism subscale ($\alpha = 0.94$) and the former three with grandiose narcissism subscale ($\alpha = 0.88$). The PNI was validated with confirmatory factor analysis and has since been found to reliably measure pathological narcissism in a variety of context (Pincus et al., 2009; Di Pierro et al., 2023).

Narcissism Grandiosity Scale (NGS; Rosenthal et al., 2007). The NGS is a 13 adjective rating questionnaire assessing narcissism as a unidimensional construct ($\alpha = 0.93$). For the purposes of this study (i.e., mixing of measures), the adjectives were turned into full sentence statements, e.g., “I am perfect.” Participants are asked to rate each item for how accurately it describes them on a 1 (not at all) to 9 (extremely) Likert scale. Crowe et al. (2019) found that this scale had strong convergent and discriminant validity in its measure of grandiose narcissism.

Hypersensitive Narcissism Scale (HSNS; Hendin & Cheek, 1997). The HSNS is a 10-item measure rated on a 5-point Likert scale assessing covert narcissism ($\alpha = 0.77$). Hendin & Cheek (1997) found that the HSNS supported Wink’s (1991) distinction between overt and covert forms of narcissism. The HSNS also provided appropriate discriminant validity with measures of overt narcissism, e.g., the Narcissistic Personality Inventory (Hendin & Cheek, 1997).

Five Factor Narcissism Inventory Short Form (FFNI-SF; Sherman et al., 2015). The FFNI-SF is 60-item, abbreviated form of the FFNI (Glover et al., 2012). It measures five main facets of narcissism: grandiose ($\alpha = 0.94$) and vulnerable narcissism ($\alpha = 0.85$), as well as agentic extroversion ($\alpha = 0.90$), antagonism ($\alpha = 0.92$), and neuroticism ($\alpha = 0.88$). The short form of this measure has been found to perform similarly to its long form, replicating correlational profiles and relations to criterion measure of grandiose and vulnerable narcissism (Sherman et al., 2015).

Reactive and Proactive Aggression Questionnaire (RPQ; Raine et al., 2006). The RPQ is a 23-item measure of aggression that is scored on a 0 (never) to 2 (often) scale. It assesses proactive ($\alpha = 0.82$) and reactive aggression ($\alpha = 0.82$) at a trait level. The RPQ has demonstrated good to excellent reliabilities, as well as adequate construct, convergent, criterion and discriminant validities (Raine et al., 2006).

Self-esteem. As part of the Chou et al. open data, we included the Rosenberg self-esteem scale (Rosenberg, 1965), which includes five positively and five negatively worded self-esteem items (see Fig. 2, Panel A), and therefore we specified positive vs. negative self-esteem LVs. Included in the Azevedo et al. (2020) data was a single self-esteem item, rated on a 10-point scale ($M = 6.61$, $SD = 2.46$), which was used in the current study to compare with the self-esteem measure from Chou et al.

Happiness. From the Azevedo et al. (2020) data, happiness was assessed via a single item question (“In general, to what extent do you feel happy these days?”) which was rated on a 10-point scale (1 = very unhappy – 10 = very happy). The average for the total sample was 6.00 ($SD = 2.34$). Single item questions have been regularly used in the happiness literature (Veenhoven, 2017).

Open-mindedness. Questions selected by Azevedo et al. (2023) to tap open mindedness were based on previous research (Alfano et al., 2017). Based on this research and our own preliminary ESEM, it appears that that three items make up an open-minded factor while the remaining three items reflect not being open minded (see Fig. 2, Panel C).

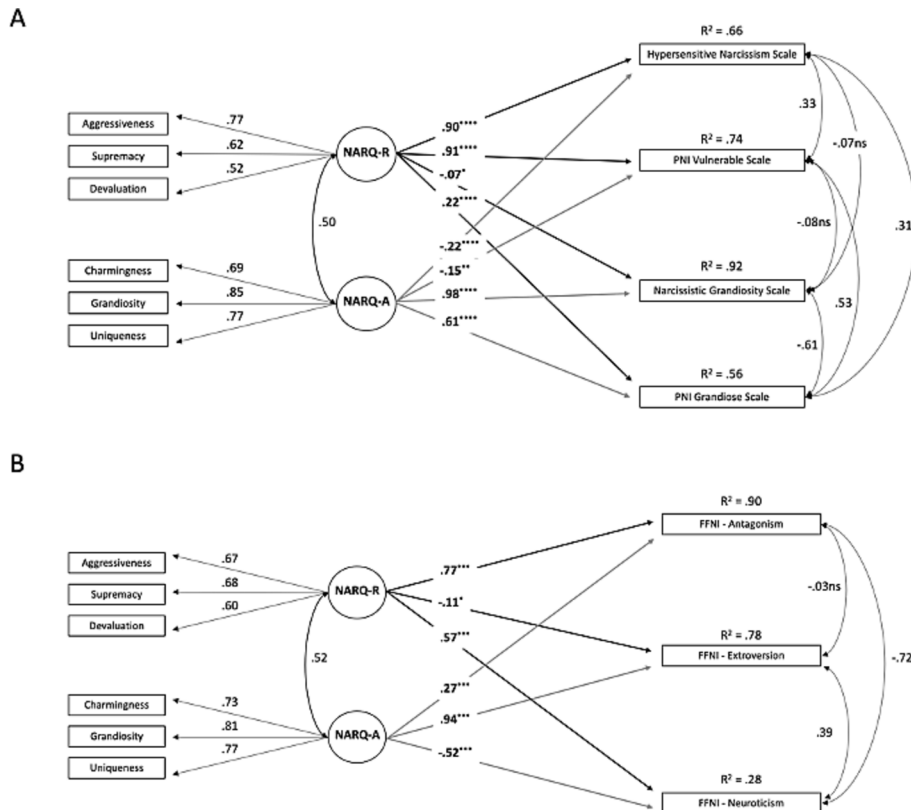
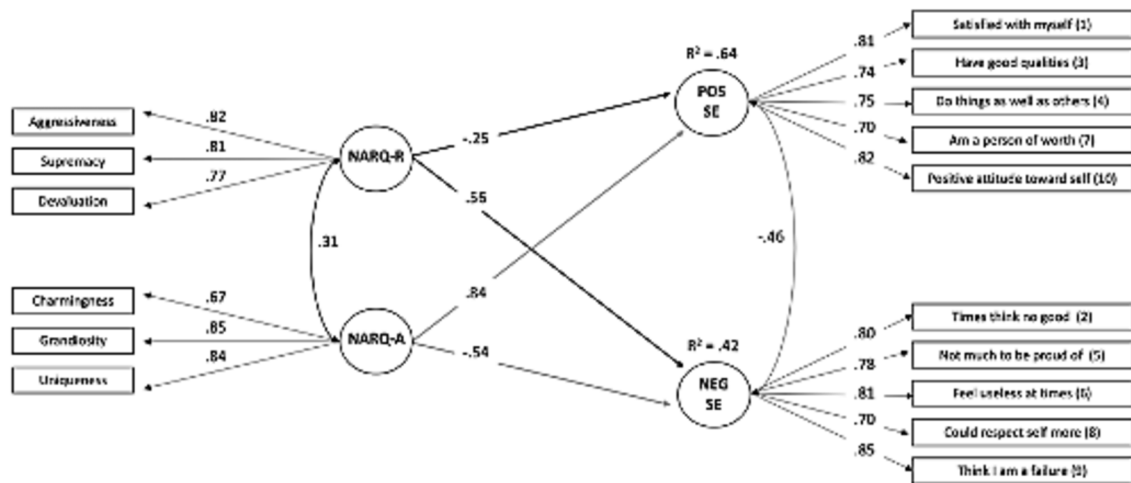
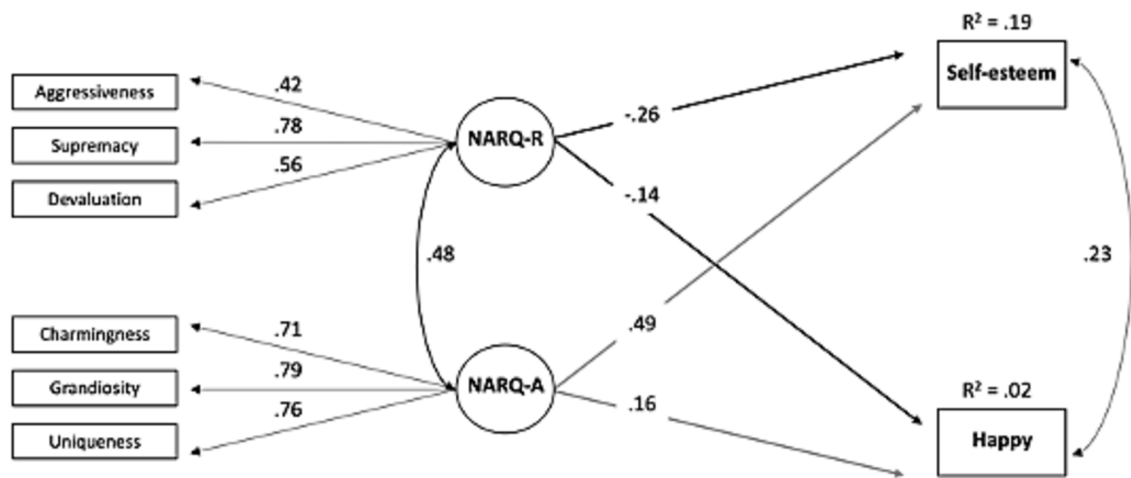


Fig. 1. SEM Results- Sample 1. Note. NARQ Factors Predicting Vulnerable and Grandiose Narcissism Scales (Panel A) and FFNI Scales (Panel B). Factor loadings, correlations, and residual error correlations significant at $p < 0.001$, unless indicated otherwise.

A



B



C

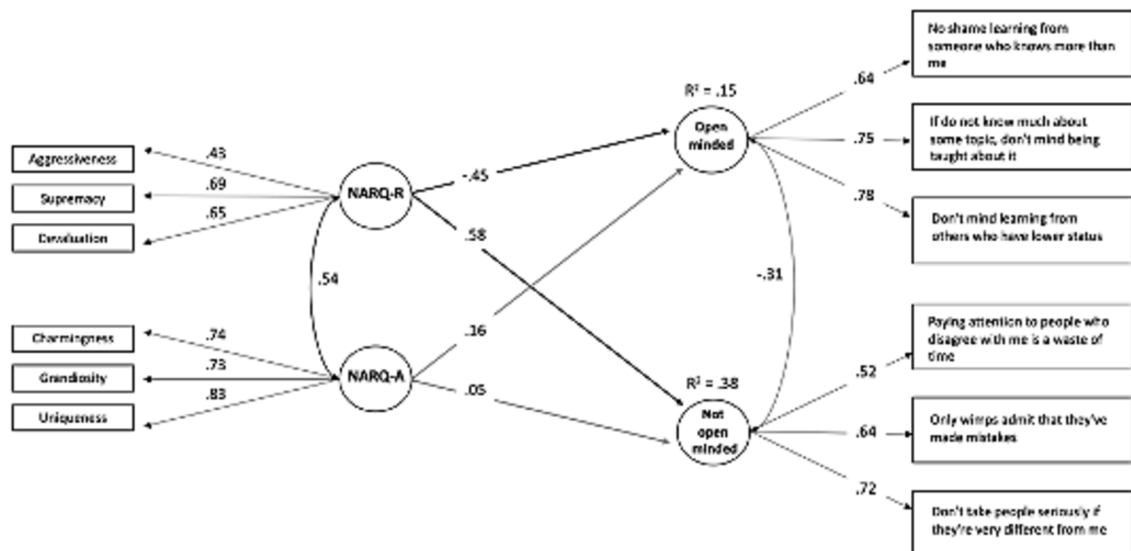


Fig. 2. ESEM Results- Sample 2 (Panel A) and Sample 3 (Panel B & C). Note. NARQ factors predicting positive and negative self-esteem (Panel A), single item (10-point) ratings of self-esteem, happy (Panel B), and open versus not open minded (Panel C). Factor loadings, correlations, betas, and residual error correlations significant at $p < 0.001$.

2.3. Data analytic Plan

For our sample 1 primary analyses, a structural equation modeling (SEM) approach was used to test how respective NARQ scales served as indicators for a Rivalry versus Admiration latent variable (LV) via a strict confirmatory factor analysis (CFA) (i.e., no scale cross-loadings). Also, separate models were run with the NARQ LVs in conjunction with the other narcissism scales, the FFNI scales, and then the RPQ scales. In these separate runs, SEMs were specified with the NARQ LVs set to account for the traditional grandiose (NGS, PNI grandiose) and vulnerable (HSNS, PNI vulnerable) scales, a second SEM specified the NARQ LVs to account for the FFNI scales (antagonism, extroversion, neuroticism), and finally a third SEM to account for latent (RPQ) aggression. Also, to be comprehensive, we followed up with non-linear SEMs which included the interaction between the two NARQ LVs, along with the separate effect of each NARQ LV.

For our supplementary latent variable-centered analyses with samples 2 and 3, we choose to take a more open approach and used exploratory structural equation modeling (ESEM) to specify the two NARQ LVs (predictors) and the latent self-esteem and open-minded variables (criterion). In other words, to check the rigor of the manifest variable indicator to latent variable relations, we allowed the possibility of scale (or item in the cases of 6-item NARQ short form) cross-loadings. In all analyses, the average cross-loadings were extremely small, offering further support for the integrity of each structural model.

Maximum likelihood was used for parameter estimation. The incremental Comparative Fit Index (CFI) and an absolute fit index, the Root Mean Square Error of Approximation (RMSEA) were used to assess model fit. The values of CFI > 0.90 and RMSEA < 0.08 are considered indicative of acceptable model fit, thereby avoiding falsely rejecting viable latent variable models. The Standardized Root Mean Squared Residual (SRMR) was used to gauge how well the models accounted for the observed data.

Latent profile analysis (LPA) with the six NARQ facets was conducted using robust maximum likelihood (MLR). LPA is a variant of finite-mixture modeling used to identify nominal variables that underlie continuous data and classifies individuals who are similar on the indicators into latent classes (Hallquist & Wright, 2014; Vermunt & Magidson, 2006). The Bayesian Information Criterion (BIC) and sample-size adjusted BIC are considered reliable indices for selecting the optimal model (Nylund et al., 2007). Models with lower BIC values are preferred. Theoretical considerations and classification accuracy are also useful for selecting models (Neumann et al., 2020; Roy et al., 2023). Viable LPA solutions are obtained when the average latent class probabilities (accuracy) for the most likely class membership are > 0.80 (Rost, 2006). Monte Carlo simulations indicate larger samples (>250), more (vs. fewer) indicators, and greater degree of class separation (large effect size) influence the likelihood of uncovering true latent class solutions (Tein et al., 2013). For the current study primary analyses, N = 591, LPA indicators = 6, and class separation was expected to be large (partial η^2 > 0.20). Class separation effect size was calculated via multivariate analysis of variance with latent class as the independent variable and the NARQ scales as dependent variables. Finally, the emergent LPA subtypes were examined in terms of the external narcissism and aggression correlates via MANCOVA, given its robustness from departures from normality, with planned contrasts (i.e., grandiose-vulnerable > other subtypes). Effect sizes are reported as partial eta-squared (η^2). Also, latent profiles for each NARQ domain are presented in terms of average response (mean item) scores (i.e., total scale score / # scale items), given this provides utility in understanding participants average response for a given traits. For example, on a 5-point scale (1 = strongly disagree to 5 = strongly agree), a mean item score above 3 indicates that a participant had to have endorsed agreement with some the trait items to obtain such a mean item score.

3. Results

All analyses were conducted via SPSS version 29 and the Mplus program (Muthén & Muthén, 2010). Latent variable analyses included confirmatory factor analysis (CFA) and structured equation modeling (SEM) for sample 1, followed by exploratory structural equation modeling (ESEM, replication samples), as well as latent profile analysis (LPA) and MANCOVAs (using covariates age, gender, and ethnicity, as appropriate) for all samples.

Descriptive Statistics: Sample 1. Mean item scores (total raw scale score / # of scale items) provide clinical interpretive utility since they indicate the average response choice of participants. In other words, consider item response choices based on 1 ("strong disagree") to 5 ("strongly agree"). As we are conducting research on non-clinical forms of narcissism, mean item scores below 3 are expected, thus any mean item scores approaching or above 3 are considered clinically meaningful, as it indicates that a respondent provided some item responses as "agree" (4) or above ("strongly agree" 5) which is an endorsement of the underlying latent traits. The mean item responses become especially relevant when interpreting the pattern of subtype item responses. Overall, for the total sample, prior to subtype identification, participants had the following mean NARQ mean item subscale scores, aggression 2.14 ($SD = 0.81$), supremacy 2.07 ($SD = 1.05$), devaluation 1.72 ($SD = 0.76$), charmingness 2.74 ($SD = 0.86$), grandiosity 2.50 ($SD = 0.99$), and uniqueness 2.81 ($SD = 0.83$). Notably, participants reported the highest mean item score for FFNI neuroticism ($M = 3.05$, $SD = 0.86$), followed by PNI grandiosity ($M = 2.93$, $SD = 0.71$).

3.1. Variable-Centered (CFA/SEM) Results: Sample 1

The CFA results of the two-factor NARQ model resulted in good fit (CFI = 0.99; RMSEA = 0.03; SRMR = 0.02).¹ Similarly, the preliminary CFAs of the NARQ LVs in conjunction with the other narcissism (CFI = 0.95; RMSEA = 0.10; SRMR's = 0.05), FFNI (CFI = 0.91; RMSEA = 0.13; SRMR's = 0.05) and RPQ (RPQ as LV: CFI = 0.95; RMSEA = 0.08; SRMR's = 0.03; RPQ as MVs: CFI = 0.96; RMSEA = 0.08; SRMR's = 0.03) scales resulted in acceptable model fit. Some models had sub-optimal RMSEA's, but nonetheless substantially accounted for the data (SRMR's = 0.02 – 0.05). The Rivalry LV was strongly correlated with HSNS ($r = 0.79$), PNI vulnerability ($r = 0.85$), and FFNI antagonism ($r = 0.92$) scales (p 's < 0.001), in addition to a latent RPQ variable ($r = 0.56$). In line with expectation, the Admiration LV was robustly correlated with the NGS ($r = 0.96$), PNI grandiosity ($r = 0.71$), FFNI antagonism ($r = 0.68$), and FFNI extroversion ($r = 0.88$) scales. Full set of correlations available upon request.

SEM was used to better understand the unique contributions of the NARQ LVs with a) the traditional narcissism scales, b) the FFNI scales, and c) the RPQ scales. Fig. 1 (A & B) displays the standardized structural parameters for these SEMs. Note that the SEMs are alternative equivalent models with their respective CFAs reported above (i.e., exact same statistical fit). However, the CFA versus SEM parameters differ in that the SEM results (Beta's) can be interpreted as partial correlations versus simple bivariate associations.

As expected, the NARQ Rivalry LV significantly predicted the HSNS and PNI vulnerability scales (p 's < 0.001), though had relatively modest links with the grandiose scales. See Fig. 1 (Panel A). In contrast, the NARQ Admiration LV significantly predicted the NGS and PNI grandiose scales (p 's < 0.001), and negatively predicted the vulnerable narcissism

¹ While not a formal part of this study, a multiple-group CFA with gender was tested. Results indicated no difference between configural (CFI = 0.99) and metric (CFI = 0.99) models, but the scalar model fell short of the CFI no-difference value (CFI = 0.97). However, once the Rivalry devaluation intercept was freed, which differed across males (1.96) and females (1.56), there was evidence for partial scalar invariance (CFI = 0.98).

scales. By comparing the pattern of CFA (correlation) to SEM (structural) results, the SEM results indicate a meaningful cross-over suppression effect of the Admiration LV with the vulnerable narcissism scales (i.e., going from positive to negative associations). These results suggest that after accounting for the covariation of the Rivalry and Admiration LVs, as well as the effect of the former on the vulnerable scales, that the Admiration latent trait is inversely associated with vulnerable narcissistic traits.

For the second SEM, the Rivalry LV significantly predicted antagonism and neuroticism (p 's < 0.001) and had a cross-over suppression effect with extroversion (p < 0.05). The Admiration LV significantly predicted extroversion (p < 0.001) and had an enhanced negative association with neuroticism (p < 0.001), after the effects of the Rivalry LV were accounted for. Notably, the Admiration LV had a relatively modest association with FFNI antagonism, after accounting for the Rivalry LV. Fig. 1 (Panel B) displays the standardized structural parameters for the second SEM. For the third SEM (not shown), only the Rivalry LV ($Beta = 0.62$, p < 0.001) was significantly associated with the latent (RPQ) aggression variable and the Admiration LV was not significantly associated with aggression ($0.11p$ > 0.05). This last SEM accounted for 32 % of the variance in the aggression LV.

The non-linear SEMs did not show substantively better model fit (traditional scales $BIC_{adj} = 11045$; FFNI scales $BIC_{adj} = 10721$), compared to the SEMs without an interaction ($BIC_{adj} = 11058$; $BIC_{adj} = 10733$). Also, the pattern of results was unchanged and NARQ LVs had stronger effects (absolute mean $beta$'s = 0.50 – 0.54) than the interaction ($beta$'s = 0.06 – 0.08). Nonetheless, that the interaction did have a significant effect (p 's < 0.05 – 0.001) in most cases (except for FFNI neuroticism), providing support for identifying unique profiles of grandiose and vulnerable traits via LPA.

3.2. Variable-Centered (ESEM) Results: Samples 2 and 3

Fig. 2 (Panels A, B, C) displays the full set of ESEM results for samples 2 and 3. The first ESEM specified the two NARQ LVs along with positive and negative self-esteem LVs (Panel A). This model had good fit ($CFI = 0.96$; $RMSEA = 0.08$; $SRMR$'s = 0.02) and indicated that the Admiration LV had positive and inverse associations, respectively, with the positive and negative self-esteem LVs. Conversely, the Rivalry LV had inverse and positive associations, respectively, with the positive and negative self-esteem LVs. The ESEM accounted for most of the variance of positive self-esteem (64 %) and nearly half of negative self-esteem (42 %).

The ESEM for sample 3 had the same pattern with respect to self-esteem (Fig. 2., Panel B), with the Admiration and Rivalry LVs, respectively, displaying positive and negative associations with self-esteem. Also, this same pattern of differential NARQ LV associations held when predicting the happy manifest variable. Model fit was excellent for this ESEM ($CFI = 0.99$; $RMSEA = 0.04$; $SRMR$'s = 0.01).²

The final ESEM with sample 3 predicted the open-minded LVs. Model fit was excellent ($CFI = 0.98$; $RMSEA = 0.03$; $SRMR$'s = 0.02), and only the Rivalry LV showed strong inverse and positive associations, respectively, with the open-minded and not open-minded LVs.

3.3. Person-Centered (LPA) Results: Sample 1

LPA was conducted to address whether individuals could be accurately classified based on their NARQ profiles using the six NARQ subscales (i.e., aggressiveness, supremacy, devaluation, charmingness, grandiosity and uniqueness). Table 1 shows the LPA results. The LPA analyses indicated that the four-class solution was the best model for allocating cases to subtypes, based on the drop in BIC across 1- to 4-class

solutions versus 4- to 5-class, classification accuracy, and meaningfulness of the extracted subtype profiles. The 5-class solution was less optimal in terms of classification accuracy, and on the fact that it was simply splitting non-narcissistic subtypes into varying degrees of low narcissistic traits. In contrast, the 4-class solution was in line with expectation of relatively distinct NARQ profiles reflecting grandiose-vulnerable and grandiose subtypes versus cases displaying less narcissistic traits.

As shown in Fig. 3 (Panel A), the LPA NARQ results revealed, 1) a subtype without evidence of elevated narcissism (non-NAR; 17.8 % of total sample; 70 % females), 2) a subtype with sub-clinical but some problematic narcissistic traits (subclinical vulnerable; 32.3 % of total sample; 73 % females), 3) a grandiose subtype (grandiose; 30.8 % of total sample; 49 % females) and finally, 4) a subtype with elevations on both grandiose and vulnerable characteristics (grandiose-vulnerable; 19.1 % of total sample; 58 % females). Based on the differential proportions of females across subtypes, it is no surprise there was significant subtype \times gender chi-square ($\chi^2(3) = 25.80$, p < 0.001). The nature of this difference is seen between the two subtypes without elevated narcissistic traits versus the two narcissistic subtypes (grandiose & grandiose-vulnerable). These latter two subtypes did not differ in proportions of males/females. Also, the subtypes displayed some differences ($\eta^2 = 0.06$) in age ($F(3,582) = 11.26$, p < 0.001), though there was no evidence of age differences across gender ($F(1,582) = 0.76$, p > 0.05), or a subtype \times gender ($F(3,582) = 1.42$, p > 0.05) interaction. The grandiose-vulnerable subtypes (GV: $M = 31.75$) were younger than the other three subtypes, and the non-narcissistic subtype (40.67) was the oldest. The grandiose (38.68) and sub-clinical narcissistic (36.34) subtypes did not differ statistically. Given evidence of gender and age differences by subtype, these variables were used as covariates in the validation analyses.

For descriptive purposes, a two factor (subtype \times gender) MANCOVA was conducted with age as a covariate, using the NARQ facets as DVs to assess the degree of subtype class separation that resulted from the LPA. The results indicated a large effect size ($\eta^2 = 0.30$). Also, for descriptive purposes, the NARQ total mean item score for each subtype were as follows, non-NAR ($M = 1.71$, $SD = 0.28$), subclinical vulnerable ($M = 2.07$, $SD = 0.46$), grandiose ($M = 2.50$, $SD = 0.38$), and grandiose-vulnerable ($M = 3.07$, $SD = 0.42$), with all posthoc subtype comparisons being significant (p 's < 0.001). Similarly, there were significant subtype effects for each of the six NARQ facets (Aggressiveness $F(3, 587) = 105.57$, p < 0.001; Supremacy $F(3, 587) = 72.84$, p < 0.001; Devaluation $F(3, 587) = 59.40$, p < 0.001; Charmingness $F(3, 587) = 90.97$, p < 0.001; Grandiosity $F(3, 587) = 115.56$, p < 0.001; Uniqueness $F(3, 585) = 82.90$, p < 0.001;), as well as most posthoc comparisons (p 's < 0.05 – 0.001), indicating maximal separation and thus good classification of the subtypes. Notably, posthoc comparisons between the non-NAR and subclinical vulnerability subtypes were insignificant for the NARQ admiration facets: charmingness ($p = 0.790$), grandiosity ($p = 0.125$), and uniqueness ($p = 0.219$). Lastly, the grandiose subtype had an insignificant posthoc comparison with the subclinical vulnerability group for supremacy ($p = 0.148$). Taken together, these descriptive results provide evidence of class separation and relatively distinct subtype profiles.

3.4. LPA subtype external Validity: Sample 1

Validation of the NARQ subtypes was carried out with two-factor MANCOVAs (subtype \times gender) with age as a covariate, using commensurate sets of dependent variables.³ The results of these

² Note that in preliminary ESEM NARQ analyses we found strong evidence of scalar invariance across sex for sample 3 (i.e., the difference in fit between configural and scalar models was $\Delta CFI = 0.006$).

³ To provide robust support for the subtype profiles, above and beyond dimensional NARQ scores, the NARQ total score was also used as a covariate in supplemental MANCOVAs. In all analyses the subtype effect remained highly significant. Results available upon request.

Table 1

Latent profile results LPA Solution (# of classes).

LPA Solution (# of classes)					
<i>Latent Profile Analysis (LPA) Results – Sample 1</i>					
<u>Model Fit/Latent class solution</u>	1	2	3	4	5
Log-Likelihood	–4053.39	–3649.2	–3422.96	–3239.09	–3133.56
No. of Free Parameters	12	19	26	33	40
BIC _{adjusted}	8145.27	7359.35	6929.31	6584.01	6395.41
<u>Classification Accuracy Avg.</u>	.	0.94	0.92	0.92	0.88
<i>Latent Profile Analysis (LPA) Results – Sample 2</i>					
<u>Model Fit/Latent class solution</u>	1	2	3	4	5
Log-Likelihood	–12628.95	–11698.1	–11216.79	–10881.75	–10701.36
No. of Free Parameters	12	19	26	33	40
BIC _{adjusted}	25305.35	23471.32	22536.36	21893.95	21560.84
<u>Classification Accuracy Avg.</u>	.	0.95	0.92	0.92	0.89
<i>Latent Profile Analysis (LPA) Results – Sample 3</i>					
<u>Model Fit/Latent class solution</u>	1	2	3	4	5
Log-Likelihood	–723195.92	–696417.59	–687335.29	–682299.08	–687372.98
No. of Free Parameters	12	19	26	33	40
BIC _{adjusted}	1446483.28	1392979.94	1374868.67	1364849.59	1357050.72
<u>Classification Accuracy Avg.</u>	.	0.92	0.88	0.88	0.84

Note. Bold = best fitting model.

MANCOVAs are presented in Table 2. Overall, the NARQ subtype effect was robust and significant across all analyses and there was no evidence of subtype x gender interactions, and only two modest effects for gender. Also shown in Table 2 is that the planned contrasts indicated in nearly every case, the grandiose-vulnerable subtype displayed higher scores on the traditional grandiose (NGS, PNI grandiosity) and vulnerable (HSNS, PNI vulnerability) scales, and higher FFNI antagonistic and neuroticism traits and greater reactive and proactive aggression compared to the other three subtypes. For comprehensiveness, we also conducted one-way ANOVAs with the NARQ subtypes, using the traditional narcissism and FFNI scales as dependent variables, which resulted in statistical differences across all subtypes, except one comparison (i.e., subclinical = non-NAR on NGS). Interestingly, the subclinical narcissistic subtype reported higher neuroticism than the grandiose-vulnerable subtype. The complete pattern of results is graphically displayed in Fig. 4 (Panels A and B).

3.5. Person-Centered (LPA) Results: Samples 2 and 3

As shown in in Table 1 and Fig. 3 (Panels A, B, C), the replication LPAs with sample 2 and 3 were in strong accordance with the sample 1 results. Despite each sample having used different response options, the correlation between the subtype NARQ profiles across samples was $r = 0.89$ with an overall ICC of 0.86 (p 's < 0.001). Also, each 4-class solution had high classification accuracy (88 % – 92 %) and strong subtype (class) separation.⁴

For sample 2, four NARQ subtypes as in sample 1 were evident: one subtype without evidence of elevated narcissism (non-NAR; 31.7 % of total sample; 86 % females), a second subtype with sub-clinical but some narcissistic traits (subclinical vulnerable; 20.4 % of total sample; 68 % females), a third grandiose subtype (grandiose; 40.8 % of total sample; 75 % females), and a fourth subtype with elevations on both grandiose and vulnerable characteristics (grandiose-vulnerable; 7.1 % of total sample; 45 % females). Not surprisingly, there was a significant subtype x gender chi-square ($\chi(3)^2 = 67.93$, $p < 0.001$), which was largely

accounted for by more males than females (proportionally) in the sub-clinical and grandiose-vulnerable subtypes. The subtypes for sample 2 differed little by age (mean age [SD]: non-NAR = 24.19 [3.98]; sub-clinical vulnerable = 23.91 [3.82]; grandiose = 24.59 [3.79]; grandiose-vulnerable = 25.70 [3.60]), but this is likely due to the age restriction in the original sample collection.

For sample 3, there were also similar subtypes as samples 1 and 2, with one subtype without elevated narcissistic traits (non-NAR; 26.1 % of total sample; 58 % females), a second subtype with subclinical but some narcissistic traits (subclinical vulnerable; 32.3 % of total sample; 46 % females), a third grandiose subtype (grandiose; 29.7.0 % of total sample; 56 % females), and a fourth subtype with elevations on both grandiose and vulnerable characteristics (grandiose-vulnerable; 11.9 % of total sample; 47 % females). As before, there was a significant subtype x gender chi-square ($\chi(3)^2 = 515.92$, $p < 0.001$), which was largely accounted for by more males than females (proportionally) in the sub-clinical and grandiose-vulnerable subtypes. With respect to age, the subtypes for sample 3 showed a pattern of age differences like sample 1 (mean age [SD]: non-NAR = 46.02 [16.18]; subclinical vulnerable = 42.84 [15.87]; grandiose = 41.75 [15.89]; grandiose-vulnerable = 40.18 [15.58]), thus providing further support that younger age plays a role in the expression of narcissistic propensities.⁵

3.6. LPA subtype external Validity: Samples 2 and 3

As done with sample 1, follow-up MANCOVAs for each sample with the respective dependent variables (see Fig. 5) were conducted with the same planned comparisons (contrasting grandiose-vulnerable vs. non-narcissistic/subclinical-NAR/grandiose subtypes). The sample 2 MANCOVA with positive and negative self-esteem as dependent variables indicated a subtype effect ($F(6,2428) = 107.09$, $p < 0.001$, $\eta^2 = 0.21$), and all planned contrasts were significant for positive self-esteem (p 's < 0.001). For negative self-esteem, only the comparison of grandiose-vulnerable > grandiose subtypes was significant ($p < 0.001$). As shown in Fig. 5 (Panel A), there was a linear pattern of differences for positive self-esteem, with the grandiose-vulnerable subtype showing the highest

⁴ As done with sample 1, for both samples 2 and 3, we ran descriptive MANCOVAs with relevant covariates (age, gender, ethnicity/race) with NARQ variables as dependent variables and subtype as independent variable. The analyses indicated strong effect sizes (η^2 's = 0.56 – 0.59) and thus good class separation.

⁵ The results for age indicated a main effect for gender and a gender x subtype interaction, though these had trivial effect sizes (η^2 's = 0.001 – 0.006), and thus the significant effects due to very large sample size.

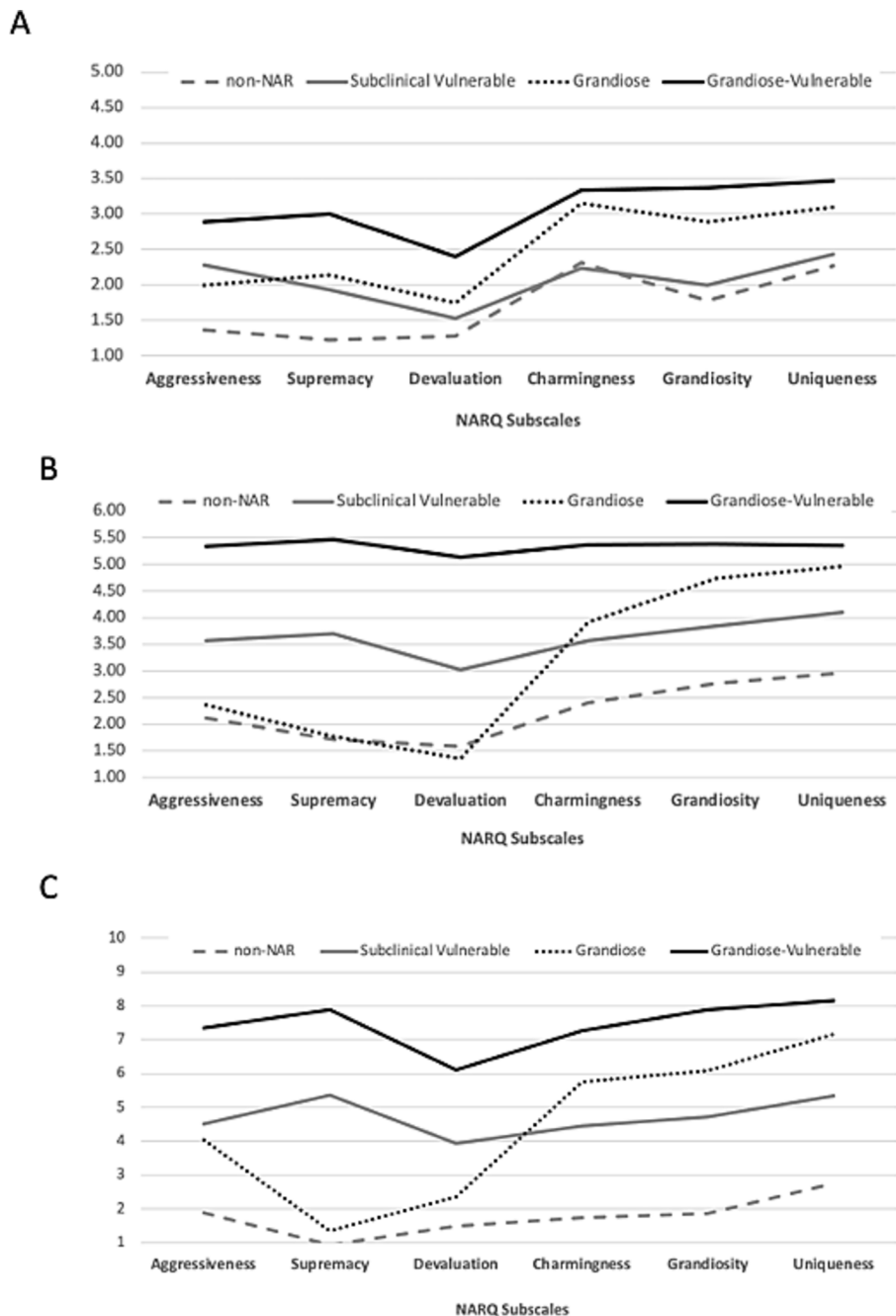


Fig. 3. LPA subtype results – Sample 1 (Panel A), Sample 2 (Panel B) and Sample 3 (Panel C). Note. Scores shown as mean item response (scale total / # items). Sample 1 used a 5-point, Sample 2 a 6-point, and Sample 3 a 10-point item response scale. Correlation between sample subtype profiles, Mean $r = 0.89$ and overall ICC = 0.86 (p 's < 0.001).

reported positive self-esteem, while this subtype also reported the highest negative self-esteem. There was also a small multivariate effect for the covariates (gender, ethnicity, age), ($F(6,2428) = 3.40$, $p < 0.01$, $\eta^2 = 0.008$).

The sample 3 MANCOVAs, one with self-esteem and happy DVs, and one with open- and not open-minded as DVs, respectively, had significant subtype effects ($F(6,95524) = 689.87$, $p < 0.001$, $\eta^2 = 0.04$; $F(6,94944) = 1358.68$, $p < 0.001$, $\eta^2 = 0.08$), and all planned contrasts were significant for both MANCOVAs (p 's < 0.001). However, in contrast to the subtype differences for self-esteem and happy variables, Fig. 5 (Panel C) shows that for the open-minded variable, the subclinical vulnerable subtype had the lowest open mindedness, followed by the grandiose-vulnerable subtype, while the latter displayed the highest

level of being not open-minded. There were also small multivariate effects for the covariates (gender, age), ($F(4,95524) = 246.06$, $p < 0.001$, $\eta^2 = 0.01$; $F(4,94944) = 54.04$, $p < 0.001$, $\eta^2 = 0.002$).

Finally, Fig. 5 displays intriguing within-subtype differences for positive and negative self-esteem, as well as for self-esteem versus happy. Supplementary paired t -tests done separately for each subtype revealed that only the non-narcissistic subtype did not display any differences between positive vs. negative self-esteem or between self-esteem vs. happy variables, while the subtypes with narcissistic features all differed significantly (p 's < 0.05 – 0.001). Particularly striking is the disparity between the self-esteem versus happy responses for the grandiose and grandiose-vulnerable subtypes (all paired t -test results available upon request).

Table 2
MANCOVA Results by Commensurate Dependent Variable (DV) Set – Sample 1.

	<u>F</u>	<u>p</u>	<u>Wilk's Δ</u>	<u>η²</u>	<u>Contrast Significance</u>	<u>(p)</u>	
					<u>GV > G</u>	<u>GV > sub-V</u>	<u>GV > non-N</u>
<u>HSNS, PNI-Vulnerable, GNS, PNI-Grandiose</u>							
Subtype:	F(12,1511.02) = 83.06	p < 0.001	0.261	0.36	0.001 – 0.001	0.01 – 0.001	0.001 – 0.001
Gender:	F(4,571) = 1.86	p = 0.115	0.987	0.01			
Subtype x Gender:	F(12,1511.02) = 0.66	p = 0.788	0.986	0.00			
Covariate age:	F(4,571) = 3.36	p < 0.01	0.977	0.02			
<u>FFNI: Antagonism, Extroversion, Neuroticism</u>							
Subtype:	F(9,1404.42) = 199.22	p < 0.001	0.135	0.49	0.001 – 0.001	0.001 – 0.001	0.001 – 0.001
Gender:	F(3,577) = 7.90	p < 0.001	0.96	0.04			
Subtype x Gender:	F(9,1404.42) = 0.22	p = 0.991	0.996	0.00			
Covariate age:	F(3,577) = 1.89	p = 0.129	0.99	0.01			
<u>RPO (Reactive, Proactive Aggression)</u>							
Subtype:	F(6,1160) = 30.29	p < 0.001	0.747	0.13	0.003 – 0.31 ^a	0.001 – 0.001	0.001 – 0.001
Gender:	F(2,580) = 3.50	p < 0.01	0.988	0.01			
Subtype x Gender:	F(6,1160) = 1.21	p = 0.296	0.987	0.01			
Covariate age:	F(2,580) = 1.09	p = 0.337	0.996	0.00			

Note. GV = grandiose-vulnerable; G = grandiose; sub-V = subclinical vulnerable; non-N = non-narcissistic. ^a = GV = G for Reactive.

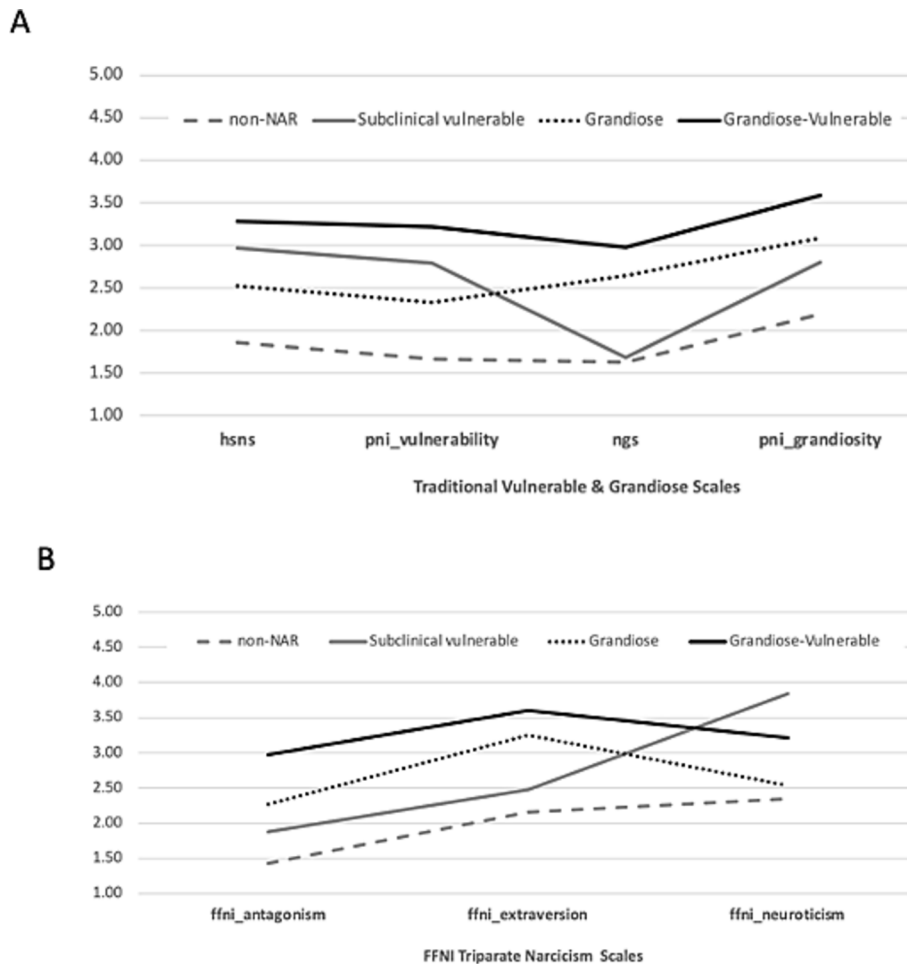


Fig. 4. LPA Subtype Validation: Sample 1. Note. hsns = hypersensitivity narcissism scale; ngs = narcissistic grandiosity scale. See Table 2 for subtype statistical differences.

4. Discussion

The aim of the current study was to combine person- and variable-centered approaches to better conceptualize the nature of grandiose-vulnerable narcissism via the narcissism domains of admiration and rivalry. Specifically, we explored whether the two broad NARQ domains had a differential pattern of associations with other established

measures of narcissism— rivalry with vulnerable narcissism and admiration with grandiose narcissism. We also examined whether LPA would identify groups of persons with different NARQ scale profiles and thus provide evidence of meaningful narcissistic-related subtypes. Finally, we sought to examine how rivalry and admiration would be associated with aggression, as well as with FFNI extroversion, neuroticism, antagonism, self-esteem, happiness, and open-mindedness.

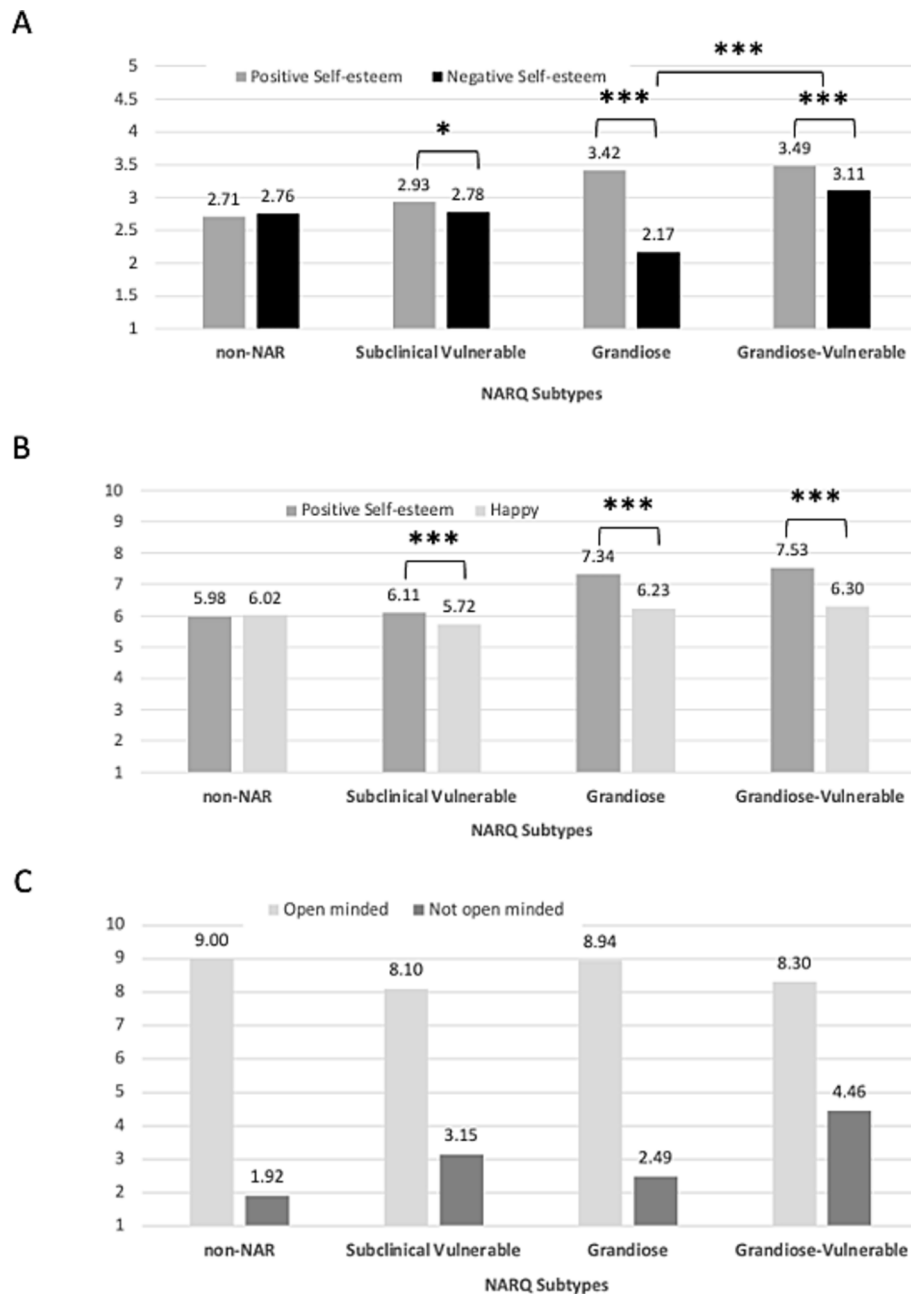


Fig. 5. LPA Subtype Validation: Sample 2 (Panels A) and Sample 3 (Panel B & C). Note. Not shown are significant (p 's < 0.001) MANCOVA comparisons (Grandiose-Vulnerable vs. Grandiose/Subclinical-Vulnerable/non-NAR) for positive-self-esteem (SE), happy, and open, not open-minded. Shown above are significant paired t -test results for each subtype (pos. vs. neg. SE; SE vs. happy, but not open/not open-mind given obvious differences), and the only significant comparison for negative self-esteem, Grandiose-Vulnerable > Grandiose.

Consistent with previous research on narcissism with the NARQ (Back et al., 2013b), the results of the current study demonstrated the admiration domain's ability to account for features of grandiosity as measured by the NGS and PNI grandiose scales. Further, the admiration domain showed strong positive associations with extroversion and no association with aggression. Such relationships are to be expected with admiration reflecting the behavioral dynamics of the grandiosity domain of narcissism (Back et al., 2013b) and its emphasis on agentic features (Grove et al., 2019) which have been theorized as a hallmark trait of grandiose narcissism (Miller et al., 2017; Jauk et al., 2017). Additionally, the admiration domain also showed a strong inverse association with neuroticism, a trait which have been previously found as negatively correlated with grandiose narcissism (Kaufman et al., 2020; Miller et al., 2016). In line with the neuroticism findings, results from

sample 2 indicated that admiration was robustly inversely associated with negative self-esteem, as well as positively associated with positive self-esteem across both samples 2 and 3.

The rivalry facet of the NARQ was able to substantially account for vulnerable narcissism as measured by the PNI vulnerable and HSNS scales. While this is contradictory to Back et al.'s (2013b) explicit remarks on rivalry's tie to grandiose narcissism, it is in line with their description of rivalry's relations to pathological vulnerability and emotional instability (Back et al., 2013b). Furthermore, the rivalry domain was robustly associated with antagonism and neuroticism, as well as aggression. Further, rivalry showed a low-moderate inverse association with positive self-esteem across samples 2 and 3 and was strongly associated with negative self-esteem. Finally, a novel finding was that the rivalry domain was associated with lower open-mindedness

and elevated levels of not being open-minded. The pattern of results suggests that the rivalry domain accounts for the underlying behavioral, affective-motivational, and cognitive processes of vulnerable narcissism.

Notably, the FFNI antagonism variable had distinctive associations with the admiration and rivalry domains of the NARQ; admiration had a relatively modest association with antagonism, while rivalry showed a stronger association with antagonism. This finding supports that the vulnerable domain of narcissism is most linked with antagonism, weakening the idea from Miller et al. (2017) that antagonism is the central, cohesive element of the narcissism construct (grandiose and vulnerable). If the latter were true, we would expect a more similar relationship, in terms of strength of association, between the NARQ domains and antagonism.

Variable-centered results only provide information on variable associations, aggregated across persons, and not necessarily about individuals who display specific profiles of grandiose, vulnerable, or combined narcissistic traits. Therefore, a person-centered approach is needed for examining individual narcissistic trait profiles. In this way, investigators explicate what various narcissistic trait elevations are linked to, among persons, to further understand the intra-personal nature of narcissistic personality pathology.

In the current study, the LPA results indicated that a four-class solution was the best fitting model, across all three samples. As hypothesized, the NARQ subtypes exhibited specific profiles reflecting non-narcissism, subclinical vulnerable narcissism, grandiose narcissism, and a mixed grandiose-vulnerable narcissism profile. The last profile is in line with the mask model of narcissism (Miller et al., 2021).

Based on the utility of mean item responses (total scale score / # scale items), it is reasonable to suggest that the first profile consists of non-narcissistic individuals, with low item responses (i.e., not endorsing traits) on all facets of the NARQ, the traditional vulnerable and grandiose narcissism scales, FFNI scales and aggression. Regarding the subclinical vulnerable profile, individuals in this group showed higher patterns of aggressiveness and reactive aggression than the grandiose subtype and were further validated in terms of endorsement of vulnerable narcissism traits as measured by the HSNS and PNI vulnerable scales. Additionally, the subclinical vulnerable profile was also the highest in neuroticism as measured by the FFNI and displayed lower positive self-esteem compared to the subtypes with grandiose features. This pattern of elevation is consistent with Edershile and Wright's (2021) findings of individuals with a more vulnerable disposition being less likely to express grandiose characteristics.

The grandiose narcissism profile involved elevations primarily on NARQ admiration domains, along with relatively lower NARQ aggressiveness. Individuals in this subtype also displayed higher elevations on the traditional grandiosity scales (NGS, PNI-grandiosity), along with FFNI extroversion and relatively higher positive self-esteem and low negative self-esteem. This pattern is consistent with grandiose narcissism conceptualizations with its domineering agentic features. Also, relative to the non-narcissistic subtype, the grandiose subtype displayed some slight elevation of vulnerable traits and a difference between self-esteem and happy responses. In line with these findings, Edershile and Wright (2021) found that individuals with elevated dispositional grandiose narcissism showed more variance in their presentation and levels of narcissism (grandiose and vulnerable) overtime. It follows that individuals with a grandiose profile would have slight elevations in vulnerable narcissism characteristics, providing them more potential to oscillate between narcissistic related experiences, or vulnerable-grandiose states, especially at the higher levels of grandiose narcissism (e.g., Jauk & Kaufman, 2018; Jauk et al., 2022). These individuals were also the second highest in terms of antagonism, consistent with traditional conceptualizations of grandiose narcissism involving some degree of antagonistic propensities (Miller et al., 2017; Jauk et al., 2017). However, this could also be due to the profile's slight elevations of vulnerable features as well.

The final subtype, with the grandiose-vulnerable profile, was

significantly elevated in both the rivalry and admiration domains, above any other profile, and showed the highest levels of vulnerable and grandiose narcissism when validated with the HSNS, PNI and NGS. In addition to the classification profile and external validation results, it is notable that these individuals report clinically meaningful levels (i.e., endorsement) of both grandiose and vulnerable narcissism traits, irrespective of the response scale used in each of the three samples. The dual elevation of grandiose and vulnerable features in an individual profile is consistent with Back et al.'s (2013a) original conceptualization of the NARC in describing the narcissist's self-regulation patterns. That is to say that within a singular individual, expression of (vulnerable) rivalry and (grandiose) need for admiration would be present to appropriately maintain self-image in an ever-changing environment, i.e., reacting aggressively in the face of criticism or more charming in the face of social approval. Moreover, the challenges of a grandiose-vulnerable narcissistic personality are evident in the results showing elevations in both positive and negative self-esteem. It is also intriguing that this subtype displayed relatively elevated levels on not being open-minded to others. Given all this, it is not surprising that this subtype profile showed the highest levels of aggression (proactive and reactive aggression), consistent with Kjærviik and Bushman (2021).

This study also provided an opportunity to explore the usefulness of the NARQ in clarifying the nature of narcissism, particularly when using person-centered analyses, like LPA. The structure of the NARQ held up when examined via sophisticated statistical analyses, and provided information beyond traditional narcissism measures, suggestive of the behavioral, cognitive, and affective processes underlying narcissism presentations (Back et al., 2013a). Moreover, both the 18-item (samples 1 & 2), and the short 6-item NARQ (sample 3), each provided similar findings. The 6-item NARQ might be especially useful for future works using person-centered analyses across a broad range of context, i.e., community and forensic.

Additionally, the combination of variable and person-centered research allowed for a more nuanced perspective on naturally arising narcissistic traits by surpassing the limits of variable-centered analyses alone and providing information about persons. This method also emphasized the need to view narcissism as a dimensional construct, albeit with varying profiles of narcissistic features, rather than one of categories due to the evidence of a profile with coexisting grandiose and vulnerable traits.

Finally, it is worth highlighting that the nature of a given sample appears to play a role in the relative proportion of persons within a given subtype. For instance, in sample 2, which was highly diverse in terms of race/ethnicity, there were more persons in the grandiose subtype, compared to the results from sample 1 and 3. Sample 2 stemmed from the previous work of Chou et al. (2025), who found that black individuals (compared to white persons) tended to report higher levels of NARQ admiration features, and that a significant reason for this was due to commitment to ethnic identity, as opposed to grandiose features per se. Relatedly, we found that samples 1 and 2 had the highest proportion of women in the non-narcissistic subtypes, but this may be due in part to high proportions of women in these samples. Sample 3 provided more gender balance and as such there were relatively fewer women on the non-narcissistic subtype, compared to the sample 1 and 2 results. All this said, and in the context of differences in sample composition, it is still rather remarkable that across all samples, the grandiose-vulnerable subtypes had proportionally more males than females, while females were more likely to make-up the non-narcissistic subtype. This pattern of findings is in line with variable-centered research on narcissism, and dark traits more broadly (Muris et al., 2017; Neumann et al., 2022).

4.1. Limitations of the present study

While this study may have several strengths and improved upon previous studies of the NARQ by using three different samples, there are still some limitations to consider. The current study included a range of

external correlates, as well as other established narcissism measures, yet there is still a need to increase the focus on other external correlates (e.g., cognition, interpersonal functioning). Second, the self-report and online data gathering for each sample, while beneficial in obtaining larger sample sizes and being easily assessable, can also lead to undesirable consequences, i.e., uncontrolled, and haphazard responding. To decrease the risk, validity checks were added throughout all three studies from which the samples were obtained. Still, when measuring constructs with a negative connotation, such as narcissism, socially desirable responding can also lead to reporting low levels of narcissism, and thus, lessening the significance of distinctions found within profiles. Finally, this study evaluated narcissism via non-clinical samples, though at the same time, we did obtain evidence for a group of persons displaying some degree of problematic narcissistic propensities. Thus, statements made about narcissism in this study should be understood to the extent it appears in the general population. That is, acknowledging that narcissistic traits may be expressed among many individuals to some degree, rather than pathologizing narcissistic traits and only considering those who have clinical levels of the construct.

Lastly, the types of analyses used in this study, latent variable- and person-centered approaches, are optimal in that they both involve modeling measurement error separately from common variance, while also robustly testing for model fit. It is reasonable to say that our variable-centered model analyses had acceptable power not only in terms of sample size, but more importantly, the models were not complex, there were not too many items per factor, all had acceptable participants-to-free parameter ratios, all had strong factor loadings, along with good model fit (Kyriazos, 2018). As for determining power for the LPA, this is more difficult to do, however, the class separation effect size in all LPAs was larger, and this is strongly suggestive of uncovering accurate latent class solutions (Tein et al., 2013). Moreover, the NARQ profiles uncovered with each sample were highly concordant. To the extent that we met expected power requirements, investigators can trust the reliability of the SEM parameters and viability of the NARQ subtypes that were uncovered.

4.2. Areas of future research

Future studies on narcissism should continue the endeavor to clarify narcissism's structure by further acknowledging the differences and similarities between vulnerable and grandiose narcissism. Using the NARQ in this study provided preliminary information needed to understand the fluctuations in narcissism phenotype and behavior patterns. Future studies may benefit from using similar methods, as well as continuing to work with narcissism at the person-centered level to understand traits beyond their variable-centered relationships. Also, additional measures of adaptive functioning and well-being (in addition to measures of maladjustment and aggression) could be added in future studies to further understand the unique profiles of narcissism at a person-centered level of analysis.

For instance, recent research has called into the question assumptions about the "narcissistic" nature of grandiose narcissism. Grandiose narcissism apart from the vulnerable or antagonistic dimensions suggests that it is uniquely correlated with a wide range of positive coping and well-being variables, in addition to enhanced leadership positions (Leckelt et al., 2019; Kaufman et al., 2020; Pringle et al., 2024). What's more, research is re-evaluating whether enhancement is a dominant feature of narcissism, finding that those scoring higher in grandiose narcissism are not systematically biased in their positive self-views (Pringle et al., 2024), though it is worth repeating that in the current study, the grandiose subtype reported higher self-esteem, compared to the non-narcissistic subtype. Thus, future research could benefit from looking at different subtype profiles of grandiose and vulnerable narcissism to better elucidate the nature of grandiose narcissism and whether it reflects narcissistic propensity versus high self-esteem.

Of course, the current findings suggest that presence of vulnerable

features along with grandiose features is what brings narcissistic propensity into a clinical domain (e.g., negative self-esteem, lack of open mindedness, aggression). However, we also found that the subtypes with grandiose features reported increased self-esteem and being happy, compared to those without grandiose features, suggesting the absence of intrapersonal distress. At the same time, there was an intriguing difference between the self-esteem and happy responses for those with grandiose features compared to the non-narcissistic subtypes. As such, future research might seek to uncover other types of disjointed response patterns (e.g., high positive self-esteem with low identity consolidation and high negative self-esteem).

Additionally, researchers have noted there is a change in the relationship between grandiose and vulnerable narcissism at different levels of analysis (Edershire et al., 2019; Jauk et al., 2022). Individuals that had higher levels of dispositional grandiose narcissism showed more variance in their presentation of overall levels of narcissism over time, while those at lower levels had more stable and distinct grandiose or vulnerable traits (Edershire & Wright, 2021; Jauk & Kaufman, 2018). Importantly, these findings help explain the poor temporal stability within narcissistic personality disorder diagnoses, as well as the higher levels of variance found for grandiose narcissism (Cain et al., 2008). Thus, more research implementing methods to assess the temporal shifts of individuals' narcissism presentation within the observed profiles is warranted.

5. Conclusion

Using latent variable- and person-centered approaches in combination provided for a deeper understanding of narcissistic personality. The NARQ rivalry domain was strongly linked with other measures of vulnerable narcissism and its corresponding correlates. Conversely, the NARQ admiration domain was strongly associated with other measures of grandiose narcissism and its corresponding correlates. Finally, the six NARQ facets/items provided a basis for subtyping persons, resulting in four distinct narcissism subtypes, including a grandiose-vulnerable subtype, each with unique profiles and differences in aggression, self-esteem, happiness, and open mindedness.

CRedit authorship contribution statement

Skyler T. Maples: Writing – review & editing, Writing – original draft, Formal analysis, Data curation, Conceptualization. **Craig S. Neumann:** Writing – review & editing, Supervision, Formal analysis, Data curation, Conceptualization. **Scott Barry Kaufman:** Writing – review & editing, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jrp.2025.104585>.

Data availability

The authors do not have permission to share data.

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