

A Matter of Measure? Assessing the Three Dimensions of Narcissism

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The Trifurcated Model of Narcissism (TriMN) has received growing attention in the scientific study of narcissistic traits, as it provides a clear and clinically useful distinction of the three core elements of narcissistic personalities: agentic extraversion (AE), narcissistic antagonism (NA), and narcissistic neuroticism (NN). So far, the Five-Factor Narcissism Inventory (FFNI) and its abbreviations—for example, the recently introduced brief form (FFNI-BF)—represent the only measures that allow for a direct and simultaneous assessment of these traits. Distinct parts of the TriMN have also been measured by other narcissism scales, however, including the Narcissistic Admiration and Rivalry Questionnaire (NARQ) or the Hypersensitive Narcissism Scale (HSNS). It remains unclear to what extent trait estimates provided by these alternative measures overlap and under which circumstances they can be used interchangeably. Here, we present a model-driven combination of NARQ and HSNS items that may serve as a valuable, economic tool to assess the three narcissism dimensions. In two studies (accumulated $N = 2,266$, 1,673 female, 580 male, 13 diverse), we show that the NARQ/HSNS and the FFNI-BF access virtually the same presentations of AE, NA, and NN, whereby the combined NARQ/HSNS outperforms the FFNI-BF in terms of structure, theory-consistent relations among (latent) narcissistic traits, and predictive validity with respect to personality pathology. Our research provides new insights on the assessment of narcissistic traits according to the increasingly popular TriMN and can inform future research on its dimensions.

Public Significance Statement

This article presents comparative, in-depth assessments of two alternative self-report measures of the Trifurcated Model of Narcissism, a state-of-the-art theoretical account on the organization of narcissistic personality traits. Our findings can inform future scientific and clinical decision making regarding the measurement of narcissistic traits.

Keywords: narcissism, trifurcated model, self-report measures, operationalization

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Contemporary trait models describe narcissism as a multidimensional construct (Back et al., 2013; Cain et al., 2008; Crowe et al., 2019; Krizan & Herlache, 2018; Miller et al., 2016; Morf & Rhodewalt, 2001; Wink, 1991) with hierarchically organized trait dimensions (Miller et al., 2021). The Trifurcated Model of Narcissism (TriMN) delineates narcissism into agentic, antagonistic, and neurotic aspects (Crowe et al., 2019; Miller et al., 2016; Weiss et al., 2019). The TriMN was derived from the five-factor model of narcissism (Campbell & Miller, 2013; Corbit, 1994; Glover et al., 2012), and posits grandiose (e.g., being manipulative, egoistic, dominant) and vulnerable (e.g., hypervigilant, shy, self-conscious) narcissism as

distinct expressions of narcissistic personalities (Campbell & Miller, 2017). At a subordinate three-factor level, grandiose and vulnerable narcissism constitute malevolent presentations of extraversion (grandiose) and neuroticism (vulnerable), dimensions described within the overarching five-factor model (FFM) of personality (McCrae & John, 1992). The TriMN proposes a third factor at this level, which is mainly characterized by antagonism (low FFM agreeableness), and which is thought to link grandiose and vulnerable aspects of narcissism, as they both encompass antagonistic tendencies (e.g., self-importance, low empathy, or distrust). Thus, the TriMN partitions narcissism into three dimensions: Agentic extraversion

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Andreas Mokros played a supporting role in conceptualization, formal analysis, and methodology and an equal role in supervision and writing—review and editing.

Along with their data, analyses scripts are provided online and can be accessed through <https://osf.io/awmus/>. Hypotheses and methods for both studies were preregistered at <https://archive.org/details/osf-registrations-rbn5t-v1>.

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(comprising grandiose narcissistic traits), narcissistic neuroticism (NN; comprising vulnerable traits), and narcissistic (or self-centered) antagonism (including both grandiose and vulnerable features; Campbell & Miller, 2017; Crowe et al., 2019, see also supplemental Figure A1). This three-factor model has received empirical support from psychometric studies on the Five-Factor Narcissism Inventory (FFNI; Jauk et al., 2023; Miller et al., 2016; Papageorgiou et al., 2022; Rogoza et al., 2021) as well as compilations of various narcissism scales (Crowe et al., 2019). As an extension of the prominent grandiosity–vulnerability distinction (Cain et al., 2008; Wink, 1991), the TriMN provides an avenue for richer explanatory concepts of narcissism as it frames antagonism as the vital link between grandiose and vulnerable aspects of the narcissistic personality. As a hierarchical model, the TriMN includes lower-level FFM-grounded facets related to the higher order narcissistic factors. Therefore, it allows to assess presentations of narcissism with higher resolution (Weiss et al., 2019).

Operationalizations of the TriMN

Various self-report measures of narcissism have long been available. However, these measures either tap into narcissism as a unidimensional construct (e.g., within measures of dark triad traits, such as the Short Dark Triad; Jones & Paulhus, 2014) or solely examine aspects of grandiose (e.g., the Narcissistic Personality Inventory [NPI]; Raskin & Hall, 1979) or vulnerable narcissism (e.g., the Hypersensitive Narcissism Scale [HSNS]; Hendin & Cheek, 1997) or the grandiose–vulnerable distinction (e.g., the Pathological Narcissism Inventory; Pincus et al., 2009). Others focus on isolated facets of narcissism, such as entitlement (e.g., the Psychological Entitlement Scale, Campbell et al., 2004) or communal narcissism (e.g., Communal Narcissism Inventory, Gebauer et al., 2012). A measure that explicitly captures the three dimensions according to the TriMN is the FFNI (Glover et al., 2012), which comprises 15 facets that are associated with either or both grandiose (e.g., acclaim seeking, arrogance, grandiose fantasies) and vulnerable narcissism (e.g., distrust/cynicism, need for admiration, reactive anger). Therefore, the instrument provides scale scores for both a two-factor solution (i.e., grandiose and vulnerable narcissism) and a three-factor solution, which allows to distinguish antagonistic from agentic and neurotic aspects of narcissism (cf. supplemental Figure A1). The 148 FFNI items have been created based on 30 facets of general personality measures. Accordingly, the FFNI factor and facet scores translate directly to the nomological net of the FFM (Glover et al., 2012; Miller et al., 2016). To allow for more economical assessments of narcissistic traits, several short forms have been created, with measures including 60 (FFNI–Short Form, FFNI-SF; Sherman et al., 2015), 30 (FFNI–Brief Form, FFNI-BF; Jauk et al., 2023), or 15 items (FFNI–Super-Short Form, FFNI-SSF; Packer West et al., 2021). Since exploratory factor analyses of the FFNI subscales (Miller et al., 2016) and items (Rogoza et al., 2021) yielded a three-factor structure which appeared consistent with the TriMN, a growing body of research has been applying the FFNI(-SF) to capture agentic extraversion, narcissistic antagonism, and neuroticism. The factor analytic results were sometimes ambiguous (Rogoza et al., 2021), however, and attempts at modeling a simple structure for the FFNI

using confirmatory factor analytic approaches provided unsatisfactory results (see Jauk et al., 2023).

One should note that diagnostic access to the TriMN traits is not limited to the FFNI. In fact, the three dimensions have been identified as the superior factor structure when items of a wide range of common narcissism scales were analyzed together (Crowe et al., 2019), suggesting that the TriMN traits can be captured with a variety of measures. Several studies have already used alternative operationalizations for certain parts of the TriMN, especially the antagonistic and the agentic dimensions (e.g., Fatfouta, 2017; Fatfouta et al., 2022; Heinze et al., 2020; Richardson et al., 2021). For example, Fatfouta et al. (2022) alternately used the Entitlement/Exploitativeness subscale of the NPI and the Rivalry subscale of the Narcissistic Admiration and Rivalry Questionnaire (NARQ; Back et al., 2013) to assess antagonistic aspects of the TriMN and linked them to reactive aggression. The NARQ is a brief self-report instrument developed to capture two aspects of grandiose narcissism, as proposed by the eponymous theory (Narcissistic Admiration and Rivalry Concept [NARC]; Back et al., 2013). The 18-item inventory captures two correlated subscales, one describing a strong need for admiration and acknowledgement (NARC Admiration) and the other reflecting a tendency toward competing behavior and the devaluation of others (NARC Rivalry). According to Weiss et al. (2019) and Back (2018), Admiration and Rivalry represent instantiations of TriMN extraversion and antagonism, respectively. As the NARQ does not include items to formally assess neurotic aspects of narcissism, it needs to be combined with another measure, which reliably captures these aspects, to cover the three dimensions of the TriMN completely.

Among extant measures of vulnerable narcissism, the HSNS (Hendin & Cheek, 1997) is probably the most popular one. This 10-item self-report instrument was derived from Murray's Scale of Narcissism (Murray, 1938). Originally designed as a unidimensional measure, several factor analyses concurrently revealed a two-factor structure (Cheek et al., 2015; Fossati et al., 2009; Stone & Bartholomay, 2020), which seems superior to the single-factor model (Stone & Bartholomay, 2020). While the reported item-to-factor assignments slightly differ, there is overall agreement that the HSNS items can be partitioned into a component that reflects hypersensitivity to judgment or rejection (Fossati et al., 2009; Stone & Bartholomay, 2020) and one egocentric/self-centered component (self-absorption, excessive focus on one's own desires, disregard of others' needs; e.g., Stone & Bartholomay, 2020). Thus, the HSNS could offer a useful complement for the NARQ to jointly assess the full spectrum of TriMN traits (cf. supplemental Figure A1). The utility of the NARQ and HSNS as TriMN measures would considerably advance the assessment of narcissistic traits at the three-factor level and, therefore, research surrounding the hierarchical model of narcissism (Miller et al., 2021) in general. Both measures are widely known and used, wherefore a vast body of data that can be used to test hypotheses surrounding the TriMN is already available. Moreover, both NARQ and HSNS are highly efficient measures and, therefore, attractive for multivariate studies in which reliable brief assessment tools are of great importance. To this end, the present research aimed at the first formal validation of the NARQ/HSNS as a measure of the three dimensions of narcissism (Crowe et al., 2019; Miller et al., 2021; Weiss et al., 2019).

Conceptual and Methodological Concerns—Implications for Research on Narcissistic Traits

Despite compelling evidence suggesting considerable overlap between TriMN traits captured by the FFNI, the NARQ, and the HSNS (e.g., see Campbell & Miller, 2017; Crowe et al., 2019; Jauk et al., 2023), these measures also differ with regard to their theoretical and psychometric development. Notably, none of the three was initially designed to measure narcissistic traits according to the TriMN. With respect to the FFNI, however, parcel-based exploratory factor analyses indicated a three-dimensional structure that is consistent with the model. A corresponding examination of the structure underlying a combined NARQ/HSNS scale is still pending. The FFNI and its derivatives are FFM-based measures, which define narcissistic traits from the perspective of basic personality units. Theoretical accounts from which the NARQ and HSNS items were derived both highlight (dual) dynamics of narcissism (Back et al., 2013; Hendin & Cheek, 1997; Murray, 1938). Narcissistic traits assessed by the NARQ thereby emphasize intra- and interpersonal strategies at work to maintain grandiose self-views (Back et al., 2013). HSNS items reflect the overt-covert distinction (Murray, 1938) to outline “how an individual can be both vulnerable and self-absorbed at the same time” (Hendin & Cheek, 1997, p. 590). Due to these conceptual specialties, the FFNI and the NARQ/HSNS may exhibit individual strengths in the assessment of the TriMN, which may depend on the research question at hand.

The central aim of the present study was to investigate similarities and differences in the factor structure and criterion validity of one representative of the FFNI family, the FFNI-BF¹ and the NARQ/HSNS ensemble as two potentially alternative, brief operationalizations of the TriMN. On that account, we conducted two studies to examine the factor structures and factor interrelations of the measures (Study 1), as well as their individual relationships with relevant outcomes, including psychopathological markers (Study 2). Future research on narcissism will benefit from these insights as they will assist researchers in making informed decisions on assessment tools to capture the three dimensions of narcissism.

Study 1

The aim of our first study was to assess and compare the respective factor structure of the FFNI-BF and a combination of NARQ and HSNS items as two potentially alternative operationalizations of the TriMN. With respect to the FFNI-BF, prior constrained measurement model analyses (i.e., confirmatory factor analyses [CFA]) indicated relatively poor fit for the simple structure model with three correlated factors (comparative fit index [CFI] = .65; root-mean-square error of approximation [RMSEA] = .09; Jauk et al., 2023). Using exploratory structural equation modeling, Jauk et al. (2023) identified a properly fitting measurement model for the FFNI-BF (CFI = .97; RMSEA = .04), which, however, did not follow a simple structure as it included numerous cross-loadings and yielded distorted parameter estimates due to probable overfitting. A simple structure, however, is usually desired in psychometric testing, as it warrants clear and unambiguous factor interpretations when each item is assigned to only one, not multiple factors (Furr, 2021). Therefore, Jauk et al. (2023) recommended the use of a correlated factor model with residual correlations between items of the same facet, which also resembled the selection model based on which the FFNI-BF was developed.

As for the FFNI-BF, we intended to examine the dimensional structure of the NARQ/HSNS combination through factor analyses. Based on the theoretical background and previously reported individual factor structures for both scales (Back et al., 2013; Fossati et al., 2009), we expected the NARQ admiration items to load on the agentic extraversion factor, the HSNS hypersensitivity items to load on the NN factor, and both the NARQ rivalry and the HSNS egocentrism items to load on narcissistic antagonism.

A critical goal of our research was to elucidate whether (or not) the FFNI-BF and the NARQ/HSNS measure (approximately) the same personality traits. To this end, in addition to separate model assessments for both, in Study 1, we further tested a consolidated structural model that included the FFNI-BF, NARQ, and HSNS items, their respective latent factors, and bivariate correlations between those factors (cf. Figure 1). Our preregistered hypotheses regarding these correlations included strong associations ($r > .50$) between factors representing corresponding traits (e.g., FFNI-BF Antagonism and NARQ/HSNS Antagonism). Moreover, within the same measure, we predicted positive associations between narcissistic antagonism and both agentic extraversion and NN, whereby correlations between extraversion and neuroticism were thought to be small to negligible.²

Method

Sample

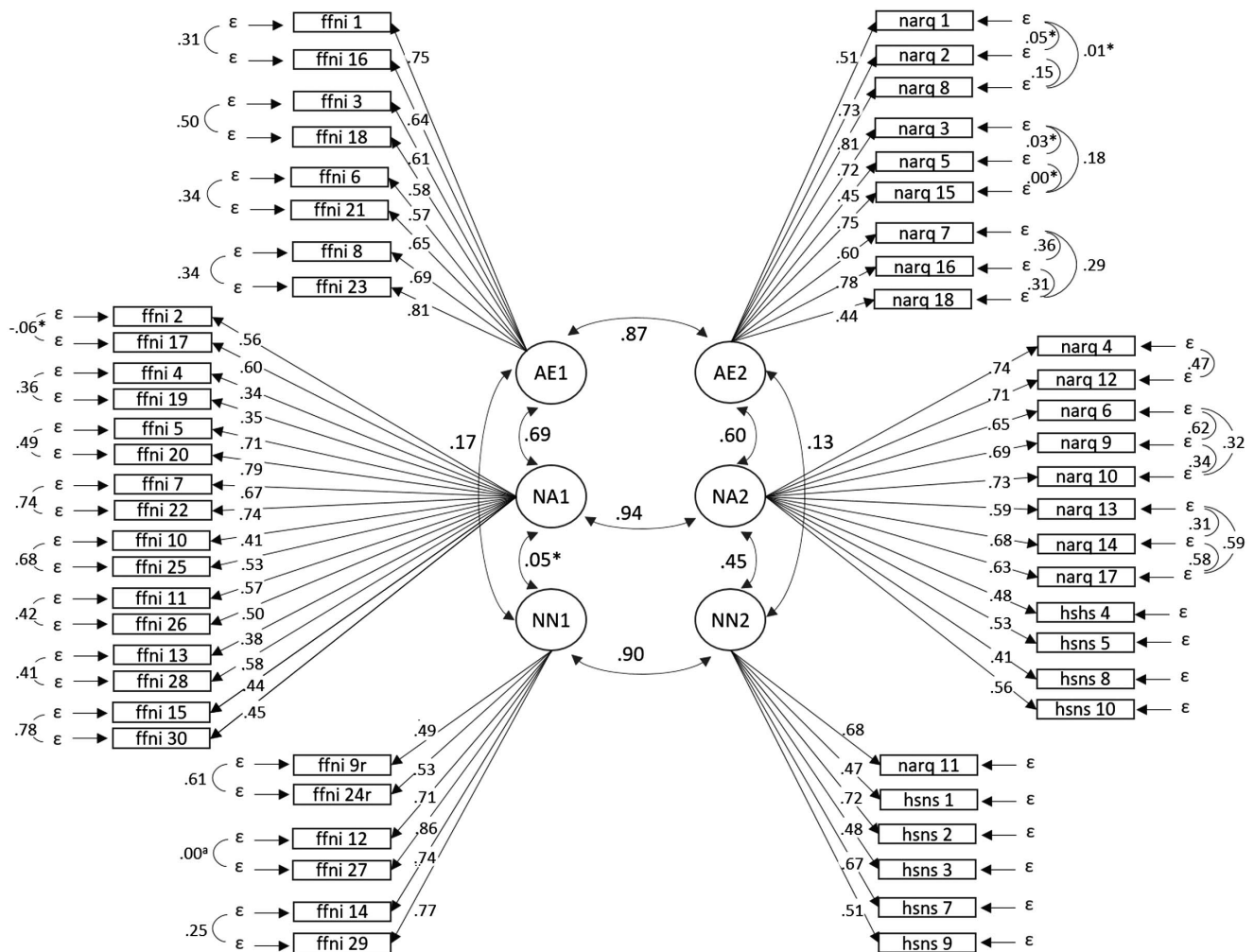
We used the procedure recommended by Kim (2005) to determine the sample size required to estimate the most complex model to be tested in Study 1, which comprises measurement models of both measurement approaches (i.e., the FFNI-BF and NARQ/HSNS) as well as interrelations of their respective latent factors (cf. Figure 1). Aiming at a power of $1 - \beta = .90$, a CFI of .95 and a type I error rate $\alpha = .05$, this analysis indicated a minimum sample size of $N = 323$ to adequately estimate the factor structure of both measures and the interrelations of the resulting latent factors.³

In order to strengthen the generalizability of the results, we strove for a considerably larger sample. To this end, samples of four empirical projects that had been carried out in the course of the BSc and MSc Psychology teaching program (three masters classes and one bachelor research class) were combined. German-speaking participants were recruited from a survey pool of the host university and from the social network of students enrolled in the aforementioned classes to increase sample heterogeneity. The hypotheses and analytic strategy were preregistered before the data sets were

¹ Among the available FFNI variants, the recently introduced FFNI-BF (Jauk et al., 2023) is most comparable with the NARQ and HSNS in terms of length (30 items for the FFNI-BF, 28 items for both NARQ and HSNS). Therefore, we will refer to the FFNI-BF as one particular, brief representative of the FFNI family from here on.

² Our preregistration includes two additional analyses, which—for the sake of conciseness—we report in the supplemental materials of this article. These analyses include (a) multigroup confirmatory factor analyses for both the FFNI-BF and the NARQ/HSNS to assess measurement invariance of both measures in men and women and (b) exploratory structural equation modeling analyses of both measures which we conducted to replicate the analytic strategy reported by Jauk et al. (2023).

³ For a detailed description of the sample size estimation procedure, please see our preregistration (<https://archive.org/details/osf-registrations-rbn5t-v1>).

Figure 1*Consolidated Structural Model of the TriMN Measures FFNI-BF and NARQ/HSNS*

Note. $N = 901$. Standardized parameter estimates are displayed. AE = agentic extraversion; NA = narcissistic antagonism; NN = narcissistic neuroticism; FFNI = Five-Factor Narcissism Inventory (Brief Form); NARQ = Narcissistic Admiration and Rivalry Questionnaire; HSNS = Hypersensitive Narcissism Scale; TriMN = trifurcated model of narcissism. Residual correlations were estimated for items from the same FFNI-BF and NARQ facets, respectively, in order to account for the nested structure (i.e., items are nested within facets at the subordinate factor level) of both questionnaires (cf. Jauk et al., 2023). Cross-trait cross-measure correlations (e.g., between AE1 and NA2) are not shown for the sake of clarity and because no hypotheses on those associations were defined a priori but they can be retrieved from <https://osf.io/awmus/>.

* Nonsignificant ($p > .001$).

combined and while data collection in three of the projects was still in progress. The resulting combined sample consisted of $N = 2,080$ subjects. The data set was screened for self-reported dishonest or inattentive responding, leading to the exclusion of $n = 235$. Underage participants (age < 18) were excluded ($n = 12$). Finally, we removed $n = 31$ cases that showed signs of invalid/invariant responding, which was determined based on a lacking intraindividual variance in item responses ($SD = 0$) per questionnaire. Thus, the final sample included $n = 1,802$ subjects (1,333 female, 460 male, nine diverse) with a mean age of 33.78 ± 12.9 years. The educational level was overall high: 47% reported having A-Levels (German *Abitur*) and 41% reported holding a bachelor's degree (or higher). The majority of individuals who reported their civil status were in a long-term

relationship (67%). The final sample was randomly divided into two equally sized subsamples to be able to conduct exploratory factor analyses (EFA; Subsample 1) and CFA (Subsample 2) with independent groups of individuals. A formal description of the subsamples is provided in [supplemental Table B1](#).

Instruments

FFNI-BF. The FFNI-BF includes 30 items and represents the most recently developed abbreviation of the FFNI (Jauk et al., 2023). Items of the FFNI-BF were derived from the FFNI-SF using ant colony optimization, a probabilistic optimization technique that can be used to identify item subsets based on a combination of

desired scale-level criteria (e.g., the factor structure of the respective item subset, Olaru & Danner, 2021). Optimization criteria set to create the FFNI-BF included sufficient model fit for the three-factor structure as well as reliability and content validity of the resulting scales representing Agentic, Antagonistic, and Neurotic Narcissism. Given its brevity and the developmental emphasis on the three-factor structure, we chose the FFNI-BF over other FFNI versions as the primary TriMN measure.

NARQ. The 18 NARQ items (Back et al., 2013) were developed to assess the two core dimensions of the NARC: Grandiose Admiration and Narcissistic Rivalry. Facets (three items each) include Striving for Uniqueness, Grandiose Fantasies, and Charm for Admiration as well as Striving for Supremacy, Devaluation of Others, and Aggressiveness for Narcissistic Rivalry. Respondents provide their answers on a 6-point Likert-type scale (*fully disagree—fully agree*). Previous research indicated significant overlap between NARQ Admiration and Agentic Extraversion measured with the FFNI-BF and, likewise, between NARQ Rivalry and FFNI-BF Antagonism (both $r = .65$, $p < .01$, $N = 1,027$; Jauk et al., 2023).

HSNS. This 10-item Likert-type scale (Hendin & Cheek, 1997) is a widely used measure of vulnerable narcissism, which is not captured by the NARQ. Response categories range from 1 = *very uncharacteristic or untrue* to 5 = *very characteristic or true*. Designed as a unidimensional scale, previous research indicates that a two-factor solution shows superior model fit (Fossati et al., 2009; Stone & Bartholomay, 2020). Hereby, the HSNS items capture a hypersensitive (e.g., Item 2: “My feelings are easily hurt by ridicule or the slighting remarks of others”) and an egocentric/self-centered dimension (e.g., Item 5: “I feel that I have enough on my hands without worrying about other people’s troubles”). Strong overlap between FFNI-BF NN and the HSNS composite score has been confirmed ($r = .57$, $p < .01$, $N = 1,285$; Jauk et al., 2023), whereas the correspondence between NN and the respective HSNS subscales has not been examined so far. Our own data, however, suggest that the correlation between FFNI-BF Neuroticism and the HSNS Oversensitivity subscale (Fossati et al., 2009) is substantial (cf. supplemental Table B5), while the HSNS Egocentrism subscale is only related to FFNI-BF Antagonism (cf. supplemental Table B5).

Design and Procedure

Data were collected online. Interested individuals were provided with a Quick Response code or URL to access the online survey. Before the survey commenced, individuals were briefly informed about the study and anonymous data processing was guaranteed. After providing informed consent, participants completed a questionnaire on demographics followed by the NARQ, HSNS, and FFNI-SF items. Students were offered course credit for their participation, and additional incentives were not provided. At the end of the survey, participants were asked to indicate whether they completed all questionnaires in an honest and conscientious manner and were then thanked and debriefed.

Statistical Analyses

Since neither the FFNI-BF nor the combined NARQ/HSNS items have been subjected to exploratory factor analyses (EFA) so far, we first estimated and explored the unconstrained measurement model of both instruments using EFA. This first analysis step was conducted in

Subsample 1 ($n = 901$, cf. supplemental Table B1). The resulting item-to-factor assignment was then subjected to constrained model analyses (i.e., CFA), which were conducted on Subsample 2 ($n = 901$, cf. supplemental Table B1), in order to test for simple structure. All analyses were conducted in R Version 4.2.1 (R Core Team, 2020). Unconstrained measurement model analyses were conducted using the package *EFAtools* (Steiner & Grieder, 2020). Data suitability for these EFA was explored by means of the Kaiser–Meyer–Olkin (KMO) criterion and Bartlett’s test of sphericity. We implemented principle axis factoring (PAF) to extract latent factors. If the PAF revealed items that did not show sufficient relationships with any of the factors extracted (i.e., items with factor loadings below .30), these items were dropped from the subsequent constrained model analyses, which we conducted with the *lavaan* package (Rosseel, 2012).⁴ Hereby, separate constrained model analyses were conducted for the FFNI-BF and the NARQ/HSNS items at first. In a second step, a consolidated factor model was tested which included all items and six latent factors. Model specifications for this consolidated model (i.e., free item residual correlations) were adopted from the separate constraint model analyses that were conducted during Step 1. We used the weighted least squares mean and variance adjusted estimator as a robust variant of diagonally weighted least squares for parameter estimation in all constrained model analyses because of the ordered categorical data structure. We determined model adequacy based on two aspects: (a) whether all indicators showed significant path coefficients in the hypothesized direction and (b) whether goodness-of-fit (GOF) indices suggested satisfactory model fit. With respect to (b), the CFI and the RMSEA were considered, whereby model fit was deemed adequate if $CFI > .90$ or $RMSEA < .08$, respectively (cf. Hooper et al., 2008). Throughout the constrained model analyses, we further assessed bivariate correlations between the estimated latent factors. Due to the large sample size and multiple tests of correlation coefficients, the Type I error rate for these correlation analyses was set to a conservative level of $\alpha = .001$.

Results

Unconstrained Model Analysis of the FFNI-BF

Preceding examinations of the FFNI-BF item correlation matrix indicated that the data set was suitable for EFA, $\chi^2(435) = 10399.24$, $p < .001$; KMO = .856. While Horn’s parallel analysis suggested a different number of factors (six), the Hull method, screeplot, and the Kaiser–Guttman criterion concurrently indicated three factors (eigenvalues of the first three factors were 6.07, 2.70, and 1.51). PAF of the FFNI-BF items revealed an item-to-factor assignment that was largely in line with the structure reported by Jauk et al. (2023). Detailed EFA results (factor loadings) are provided in the supplemental material (cf. supplemental Table B2). All items of the facets acclaim seeking, authoritativeness, grandiose fantasies, and exhibitionism exhibited highest positive loadings on the first factor ($.38 \leq \lambda \leq .71$), representing agentic extraversion. Contrary to the literature, items of the Manipulativeness facet also showed highest primary loadings on this factor ($\lambda = .35-.38$) but simultaneously had small secondary loadings on the second factor ($\lambda = .24-.28$) to which this facet has been assigned initially (Jauk et al., 2023;

⁴ Along with our data, analyses scripts are provided online and can be accessed through <https://osf.io/awmus/>.

Miller, Gentile, et al., 2013). Moreover, items of the reactive anger facet showed borderline primary loadings on the agentic extraversion factor ($\lambda = .29-.32$). The 12 items of the scales Arrogance, Distrust, Exploitativeness, Entitlement, Lack of Empathy, and Thrill Seeking were assigned to the second factor (narcissistic antagonism, $.35 \leq \lambda \leq .70$). Finally, items of the scales Shame, Indifference (reversed), and Need for Admiration were assigned to the third factor reflecting NN with six items ($.56 \leq \lambda \leq .76$).

Unconstrained Model Analysis of the NARQ/HSNS

Preceding examinations of the NARQ/HSNS item correlation matrix indicated that the data set was suitable for EFA, $\chi^2(378) = 8824.76$, $p < .001$; KMO = .87. The joint PAF on the 28 NARQ and HSNS items yielded three factors, which were concurrently indicated by the scree plot, Kaiser–Guttman criterion (eigenvalues of the first three factors were 5.81, 2.42, and 1.29), and the Hull method. Only Horn’s parallel analysis indicated a slightly different number of factors (5). Factor loadings of the rotated solution are shown in Table 1. In line with the NARC (Back et al., 2013), items assigned to the first factor (which we labeled agentic extraversion, in accordance with the TriMN) were the nine items of the NARQ Grandiose Admiration subscale. All items but one (Item 11: “I often get annoyed when I am criticized.”) of the NARQ Rivalry subscale were assigned to the second factor (narcissistic antagonism). Additional items loading on this factor were four items of the HSNS Egocentrism subscale (Fossati et al., 2009). Thus, the antagonism factor was represented by 12 items. HSNS Item 6 (also egocentrism) did not load substantially on any of the extracted factors (cf. Table 1). All HSNS items of the Hypersensitivity subscale were assigned to the third factor (neuroticism), to which also NARQ item 11 was allocated, resulting in seven items to capture NN.

Constrained Measurement Models

We analyzed constrained measurement models of the FFNI-BF and the NARQ/HSNS in order to test both measures for simple structure in a second sample (Subsample 2, cf. supplemental Table B1).

For both measures, the respective factor-item assignment was initially specified based on the prior unconstrained model results from Subsample 1. Hence, with regards to the FFNI-BF, four items (from the reactive anger and the manipulateness facet) were assigned to the agentic extraversion factor (instead of antagonism) in the constrained model. As recommended by Jauk et al. (2023), we specified free residual correlations between items belonging to the same facet/scale in order to consider “variance at the factor- and facet level, thus capturing the intended factor- and facet-structure of the FFNI” (Jauk et al., 2023, p. 986). Notably, the fit of this model (CFI = .867, RMSEA = .073, 95% CI [.069, .077]) was almost identical to the theory-driven measurement model of the FFNI-BF (Jauk et al., 2023), in which the reactive anger and manipulateness items capture narcissistic antagonism (CFI = .861, RMSEA = .073, 95% CI [.069, .077]). To ensure compatibility with previous literature on the FFNI-BF, we will present results on the theory-based measurement model of the measure hereafter. All factor loadings differed significantly from zero ($.32 \leq \lambda \leq .92$, all $p < .001$). The supplemental material includes a comprehensive list of (un)-standardized path coefficients and corresponding test statistics for the constrained FFNI-BF measurement model (cf. supplemental Table B3). Correlation analyses among the estimated latent FFNI-BF factors indicated a strong positive association between agentic extraversion and narcissistic antagonism ($r = .70$, $p < .001$), a weak positive association between agentic extraversion and NN ($r = .16$, $p < .001$), and—surprisingly—no significant association between narcissistic antagonism and neuroticism ($r = .03$, $p = .50$).

As for the FFNI-BF, factor-item assignment for the constrained NARQ/HSNS model was based on the PAF results. Thus, eight NARQ rivalry and four HSNS egocentrism items were assigned to the antagonism factor, six HSNS oversensitivity items and one NARQ item were modeled to load on the neuroticism factor, and nine NARQ (admiration) items were proposed to load on the agentic extraversion factor. As for the FFNI-BF, we accounted for the nested facet structure of the NARQ (cf. Back et al., 2013, Figure 2) by specifying free residual correlations between items of the same facet. This model fit the data well (CFI = .92, RMSEA = .072, 95% CI [.068, .075]). All factor loadings were large and differed

Table 1
Factor Loadings Resulting From the Joint Principal Axis Factor Analysis (PAF) of NARQ and HSNS Items

Factor	Extraversion			Item	Antagonism			Item	Neuroticism		
	AE	NA	NN		AE	NA	NN		AE	NA	NN
NARQ1	.70	-.17	-.10	NARQ4	.28	.35	.29	NARQ11	.00	.21	.54
NARQ2	.56	.13	-.08	NARQ6	.11	.51	.14	HSNS1	-.02	-.09	.43
NARQ3	.73	-.09	.06	NARQ9	.16	.57	.11	HSNS2	-.14	-.10	.80
NARQ5	.51	-.07	.05	NARQ10	.20	.50	.16	HSNS3	.23	.01	.31
NARQ7	.61	.00	-.07	NARQ12	.24	.39	.26	HSNS7	-.09	-.07	.72
NARQ8	.66	.18	-.01	NARQ13	.02	.62	-.04	HSNS9	-.09	-.07	.42
NARQ15	.62	.09	.04	NARQ14	-.06	.64	-.15				
NARQ16	.67	.14	-.07	NARQ17	-.07	.81	-.18				
NARQ18	.48	-.01	-.08	HSNS4	-.01	.31	.26				
				HSNS5	.07	.36	.05				
				HSNS8	.01	.33	.18				
				HSNS10	-.07	.57	-.04				
				HSNS6	.18	.21	.19				

Note. Pattern matrices are displayed. Highest primary factor loadings are shown in bold. NARQ = Narcissistic Admiration and Rivalry Questionnaire; HSNS = Hypersensitive Narcissism Scale; AE = agentic extraversion; NA = narcissistic antagonism; NN = narcissistic neuroticism.

significantly from zero ($.41 \leq \lambda \leq .81$, all $p < .001$, see [supplemental Table B4](#) for more detailed information). Between-factor correlation estimates revealed the hypothesized positive associations between narcissistic antagonism and both agentic extraversion ($r = .59$, $p < .001$) and NN ($r = .39$, $p < .001$), while there was no relationship between agentic extraversion and neuroticism ($r = .06$, $p = .10$).

Consolidated Structural Model and Relationships Among Latent Factors

The consolidated model of both TriMN measures (cf. [Figure 1](#)) represents an integration of the constrained models for the FFNI-BF and the NARQ/HSNS. GOF indices indicated borderline model fit, with only the RMSEA meeting the a priori set threshold (CFI = .80, RMSEA = .073, 95% CI [.071, .074]). All path coefficients were positive (see [Figure 1](#)) and differed substantially from zero ($.34 \leq \lambda \leq .86$, all $p < .001$). [Figure 1](#) displays the bivariate relationships among the latent factors estimated for both instruments. Pearson correlation coefficients indicated a considerable convergence between the latent TriMN factors estimated from the FFNI-BF and the NARQ/HSNS items. Hereby, strongest cross-measure concordance was found for narcissistic antagonism ($r = .94$, $p < .001$), followed by NN ($r = .90$, $p < .001$) and agentic extraversion ($r = .87$, $p < .001$). As shown in [Figure 1](#), we found theory-consistent within-measure correlations between latent factors for the NARQ/HSNS. With respect to the FFNI-BF-based factors, only the relationship between agentic extraversion and narcissistic antagonism was as expected (i.e., strong and in the positive direction).

Discussion

Our main focus in Study 1 was a comparative examination of the latent structures of two potentially alternative, brief measures of the TriMN, the FFNI-BF, and the NARQ/HSNS. We tested unconstrained and constrained measurement models of both instruments and examined the relationship of their underlying latent factors in order to elucidate whether they indeed assess roughly the same narcissistic traits.

First and foremost, our unconstrained model analyses largely confirmed the expected item-to-factor allocations for both measures. Notably, the factor structure of the FFNI-BF items has not yet been explored by unconstrained factor analyses (i.e., EFA). Recent confirmatory examinations of the supposed item-factor assignment yielded rather unsatisfying results (see [Jauk et al., 2023](#)), indicating perhaps weakly correlated items, several cross-factor loadings, and/or considerable residual covariance between items that cannot be accounted for by the underlying common trait. In fact, our unconstrained model analysis indicated that four items (from the Reactive Anger and the Manipulativeness subscales) could also be assigned to a different factor (i.e., agentic extraversion instead of narcissistic antagonism). Moreover, the fit of the constrained simple structure model was, if anything, borderline (CFI = .86, RMSEA = .073), which corroborates the findings reported by [Jauk et al. \(2023\)](#). As the NARQ and HSNS have, thus far, not been systematically combined in order to jointly capture TriMN traits, our exploratory factor analysis provided initial insights on whether the NARQ/HSNS combination would indeed assess three distinct latent factors. Hereby, the item-factor assignment (cf. [Table 1](#)) was mostly in line with our predictions. Given its wording (“I often get annoyed when

I am criticized”), the unexpected assignment of NARQ item 11 (rivalry) to the neuroticism factor was not overly surprising, as its content appears to align well with items of the HSNS Hypersensitivity subscale, such as HSNS Item 7 (“I often interpret the remarks of others in a personal way”). The constrained model analysis of the combined NARQ/HSNS items further indicated a simple structure of this joint TriMN measure (CFI = .92, RMSEA = .072). A simple structure or, in other words, the absence of substantial cross-factor loadings, promotes the interpretability of a measure’s scale score(s) ([Furr, 2021](#)), especially when potential cross-loadings are not represented within the scoring algorithm. Therefore, the interpretation of TriMN scale scores might be more precise and plain for the NARQ/HSNS as compared to the FFNI-BF, at least our data would suggest so.

A third important goal of Study 1 was to elucidate the associations among the latent factors measured by our two TriMN alternatives. This particular research aim relates to the critical concern of jingle or jangle fallacies. While the former refers to the use of a single term to describe a multiplicity of different things, the latter describes circumstances in which the same, or at least highly similar, things are labeled differently ([Alexander & Winne, 2012](#)). To avoid such fallacies, it was crucial to clarify if agentic extraversion, narcissistic antagonism, and neuroticism—captured with the FFNI-BF on one hand and with the NARQ/HSNS on the other hand—represent (almost) the same or distinct personality traits. Correlation coefficients between the respective latent factors suggest a broad congruence of the traits that are measured with the FFNI-BF and the NARQ/HSNS, in particular with respect to narcissistic antagonism and neuroticism (both $r > .90$). We, thus, conclude that the traits underlying both measures are (at least approximately) the same and should be labeled accordingly to prevent the jangle fallacy. However, the findings from our first study do not allow for conclusions on the predictive validity of the traits captured by these two measures, that is, their respective associations with relevant external outcomes. We explored this issue in a subsequent study.

Study 2

In order to compare the external validity of TriMN traits derived from the FFNI-BF and the NARQ/HSNS, we conducted a second study in which associations between the corresponding measures of agentic extraversion, narcissistic antagonism, and neuroticism were associated with psychosocial outcome variables that appear relevant in the context of narcissism. Previous work attested to the utility of the FFNI(-SF) scales to predict outcomes of general psychology as well as psychopathology (e.g., [Kaufman et al., 2020](#); [Miller, Few, et al., 2013](#); [Miller, Gentile, et al., 2013](#)). [Jauk et al. \(2023\)](#) further provided evidence of theory-consistent associations of the FFNI-BF with a wide range of self-concept components, including general personality, self-esteem, motivational dispositions, and psychological (mal)adjustment. Moreover, they reported elevated scores of FFNI-BF neuroticism among participants with at least one mental disorder diagnosis and increased FFNI-BF antagonism scores among incarcerated criminal offenders. When used as separate measures of grandiose and vulnerable narcissism, both the NARQ and HSNS have proven themselves in terms of their predictive validity for a variety of psychological outcomes in community (e.g., [Back et al., 2013](#); [Fossati et al., 2009](#); [Grove et al., 2019](#)), clinical (e.g., [Erkoreka & Navarro, 2017](#); [Fossati et al., 2009](#)), and

incarcerated populations (e.g., Krusemark et al., 2018). Nevertheless, it remains unclear how the NARQ and HSNS relate to such outcomes when they are combined in order to jointly capture narcissistic traits according to the TriMN. Given their differential developmental background, we assumed that the FFNI-BF and the NARQ/HSNS might exhibit somewhat distinct association profiles when linked with external criteria, suggesting individual strengths in the prediction of relevant psychological constructs. Detailed descriptions of our preregistered hypotheses for Study 2 can be obtained from <https://osf.io/awmus/>.⁵

Method

Sample

Five-hundred seventy-seven individuals were recruited from an internal survey pool of the host university. Inclusion criteria were a minimum age of 18 years and language proficiency (at least fluent German was required). Of those who initially enrolled, $n = 484$ participants provided informed consent to data collection and scientific data use and declared serious and attentive responding. Data of three subjects who reported insufficient language proficiency (below C1 level/fluent language) were excluded. Seven subjects did not pass the social desirability control item ("I have previously talked or thought badly of others"). The remaining data ($n = 474$) were screened for invariant responding (cf. Study 1), which led to the exclusion of another 10 participants. The final sample consisted of 120 males, 340 females, and four diverse individuals (total $n = 464$) with a mean age of 34.02 ± 12.75 years. Ninety-three percent ($n = 432$) reported to live in Germany at the time of study participation, 6.2% came from another German-spoken region (Austria, Switzerland), and three subjects (0.6%) stated to live in non-German-spoken countries in- and outside Europe. Forty-four percent declared to hold a bachelor's ($n = 106$) or master's ($n = 102$) degree. Thirty-five percent of participants were single and 60% reported to be in a long-term relationship.

A priori power analyses indicated a minimum required sample size of $N = 164$ participants to detect at least medium-sized bivariate relationships ($r \geq .130$) with a power of $1 - \beta = .80$ at a restrictive type I error rate of $\alpha \leq .001$. Thus, the present sample size was more than sufficient to test our preregistered hypotheses even when a higher test power was desired (i.e., $N = 203$ for $1 - \beta = .90$).

Instruments

We used the FFNI-BF, NARQ, and HSNS to assess narcissistic traits. Detailed descriptions of these scales can be found in the Method section of Study 1. In order to explore and compare the nomological nets of the FFNI-BF and the NARQ/HSNS, we included measures of general personality traits, behavior control and regulation, psychological adjustment and maladjustment, as well as self-report scales that capture expressions of pathological personality traits and functions. Descriptive statistics and internal consistencies of all scales are provided in supplemental Tables E1–E3.

HEXACO-60. General personality traits were measured using the German version of the HEXACO-60 (Ashton & Lee, 2009), which is based on the six-dimensional HEXACO model of personality by Ashton and Lee (2007). Sixty items provide scale scores for the model-defined personality traits, with 10 items per trait:

(H)onesty–Humility, (E)motionality, e(X)traversion, (A)greeableness, (C)onscientiousness, and (O)penness. Items are answered on a Likert-type scale from 1 = *strongly disagree* to 5 = *strongly agree*.

Behavioral Inhibition/Behavioral Activation Scales. Approach and avoidance motivation were measured using the German version (Strobel et al., 2001) of the Behavioral Inhibition/Behavioral Activation Scales (BIS/BAS) (Carver & White, 1994). The 24 items are based on Gray's (1970) reinforcement sensitivity theory of the BIS/BAS. Thirteen items measure the BAS, four measure passive avoidance (i.e., the BIS), and three items capture active avoidance (i.e., the fight-flight-freeze system, FFFS), while the remaining four items are dummies. Responses are provided on a 4-point Likert-type scale from 1 = *not at all true for me* to 4 = *true for me exactly*.

Barratt Impulsiveness Scale. To measure impulsiveness, the German version (Meule et al., 2011) of the Barratt Impulsiveness Scale (BIS-15) by Spinella (2007) was used. The questionnaire provides sum scores for the three scales: Nonplanning Impulsivity, Motor Impulsivity, and Attention-Based Impulsivity. These scales are assessed with five items each on a 4-point Likert-type scale from 1 = *rarely/never* to 4 = *almost always/always*.

Buss–Perry Aggression Questionnaire–Short Form. Aggression was measured using the German items (von Collani & Werner, 2005) of the Buss–Perry Aggression Questionnaire–Short Form (Bryant & Smith, 2001). The inventory provides sum scores for anger, physical aggression, verbal aggression, and hostility, measured with three items each. A 4-point Likert-type response scale from 1 = *strongly disagree* to 4 = *strongly agree* is used.

Rosenberg Self-Esteem Scale. Self-esteem was measured using the revised German version of the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) by von Collani and Herzberg (2003). The unidimensional scale comprises 10 items answered on a 4-point Likert-type scale from 0 = *strongly disagree* to 3 = *strongly agree*.

Satisfaction With Life Scale. Life satisfaction was measured with the German version of the Satisfaction With Life Scale (SWLS; Diener et al., 1985) provided by Glaesmer et al. (2011). The unidimensional scale consists of five items, which are measured on a 7-point Likert-type scale from 1 = *do not agree at all* to 7 = *agree completely*.

World Health Organization–5 Well-Being Index. General well-being was measured using the World Health Organization–5 (WHO-5; World Health Organization, 1998) in its German version (Brähler et al., 2007). Its five items are answered on a 6-point Likert-type scale from 0 = *at no time* to 5 = *all the time*.

Depression Anxiety Stress Scale. Depression, anxiety, and stress were assessed with the German version (Nilges & Essau, 2015) of the 21-item Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995). The three subscales (seven items each) are measured on a 4-point Likert-type scale from 0 = *did not apply to me at all* to 3 = *applied to me very much or most of the time*.

Personality Inventory for Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition–Brief Form. Pathological personality traits were measured using the German version of the Personality Inventory for the *Diagnostic and Statistical Manual of Mental Disorders, fifth edition*–Brief Form (PID-5-BF; American Psychiatric Association, 2013b), which is based on criterion B of the

⁵ The study protocol was approved by the local institutional review board (reference: EA-127-2019).

Alternative *Diagnostic and Statistical Manual of Mental Disorders, fifth edition* Model for the Classification of Personality Disorders (AMPD; American Psychiatric Association, 2013a). The PID-5-BF provides sum scores for negative affect, detachment, psychoticism, antagonism, and disinhibition, which correspond to maladaptive variants of the FFM traits. The questionnaire consists of 25 items with five items per trait, measured on a 4-point Likert-type scale from 1 = *does not apply at all* to 4 = *applies exactly*.

Level of Personality Functioning Scale–Brief Form 2.0. We used the German version (Spitzer et al., 2021) of the most recent version of the Level of Personality Functioning Scale–Brief Form (Weekers et al., 2019), a 12-item inventory that is based on criterion A of the AMPD. It provides scale scores for the domains *self-* and *interpersonal pathology*, assessed with six items each, on a Likert-type scale from 1 = *strongly disagree* to 4 = *strongly agree*.

Design and Procedure

All data were collected online. After providing informed consent, the participants first completed the three narcissism measures and the WHO well-being scale. Then, the remaining questionnaires were presented in the following order: Level of Personality Functioning Scale–Brief Form, DASS, HEXACO-60, Buss–Perry Aggression Questionnaire, RSES, SWLS, BIS-15, BIS/BAS, and PID-5-BF. Finally, participants were asked to complete a brief set of eight demographic items. Then, they had the opportunity to comment on the survey, after which they were thanked and debriefed. Study participation took about half an hour ($M = 29.1 \pm 13.32$ min).

Statistical Analyses

The statistical analyses for Study 2 were conducted in R Version 4.2.1 (R Core Team, 2020). To test our a priori hypotheses in Study 2, we conducted one-sided bivariate correlation analyses. To formally test for significant differences between correlation coefficients of the FFNI-BF and NARQ/HSNS with relevant criteria, we used the *cocor* R package Version 1.1-4 (Diedenhofen & Musch, 2015) and employed tests for dependent groups with overlapping variables. Due to the large sample size, our hypotheses tests tended to be overpowered (final $N = 464$ vs. estimated $N = 203$ to detect medium-sized associations). Therefore, we set a restrictive Type I error rate of $\alpha = .001$ for all correlation analyses. In addition, profiles of correlations which the FFNI-BF and NARQ/HSNS show with respective criteria were compared via double-entry intraclass correlation (ICC_{DE}) using the *iccde* R package Version 0.3.5 (Blötner & Grosz, 2023).

Results

Relationships With General Personality

Bivariate correlation analyses between FFNI-BF and NARQ/HSNS scale scores revealed theory-consistent relationships between general personality units and measures of agentic extraversion, narcissistic antagonism, and NN (see supplemental Table F1, for details). Thus, we observed the predicted positive associations between HEXACO eXtraversion and agentic extraversion, specifically when measured with the NARQ/HSNS ($r = .41, p < .001$). In line with our hypotheses, both measures of agentic extraversion were linked to lower

agreeableness and honesty–humility (agreeableness: $r = -.25$ to $-.17$, honesty–humility: $r = -.38$ to $-.35$, all $p < .001$). As expected, both FFNI-BF and NARQ/HSNS measures of narcissistic antagonism were related to low agreeableness ($r = -.37$ to $-.32$) and honesty–humility ($r = -.54$ to $-.50$, all $p < .001$). Notably, we further detected a negative relationship between narcissistic antagonism and extraversion (cf. Table F1), only when the NARQ/HSNS scale score was used ($r = -.19, p < .001$; $|z| = 5.02, p < .001$). In accordance with our hypotheses, NN derived from both measures was strongly associated with HEXACO emotionality ($r = .53$ to $.45, p < .001$). We also found the predicted negative relationships with eXtraversion and honesty–humility; however, passing the significance threshold only when the NARQ/HSNS score was considered ($r = -.15, p < .001$).

Relationships With Behavior Regulation and Control

As predicted, both measures of agentic extraversion were associated with higher approach motivation, however, not necessarily with lower active and passive avoidance motivation (see Table 2). NN was substantially linked to higher passive (BIS) and active (FFFS) avoidance, whereby the former association was stronger when the FFNI-BF scale score was used to capture narcissistic antagonism and neuroticism ($|z| = 3.94, p < .001$). Our a priori hypotheses included assumptions on positive associations between both agentic extraversion and narcissistic antagonism and measures of impulsiveness. Interestingly, narcissistic antagonism displayed consistent positive correlations with attentional impulsiveness only. Agentic extraversion was associated with motor impulsiveness only, and NN was, like antagonism, only related to attentional impulsiveness. The strength of these relationships did not depend on the respective TriMN measure (cf. Table 2).

According to our preregistered hypotheses, we expected all three TriMN traits to be positively linked with measures of aggression. Table 2 indicates that our data support the expected relationships, whereby various associations were found to be stronger when the NARQ/HSNS scale scores were considered. For example, NN exhibited significant correlations with anger, verbal aggression, and hostility almost exclusively when the NARQ/HSNS scale was considered (see Table 2). Notably (and in accordance with assumptions of the TriMN), antagonistic narcissism was linked to higher levels of aggression across all aggression subtypes considered (i.e., anger, hostility, physical, and verbal aggression), mostly independent of the measure used.

Relationships With Personality Pathology

In line with our hypotheses, narcissistic antagonism showed moderate-to-large positive relationships with maladaptive personality traits as described within the AMPD (American Psychiatric Association, 2013a, see Table 3). More specifically, the strongest link was found with PID-5 antagonism and the weakest link was with negative affectivity. NN revealed considerable associations, reflected by moderate-to-large correlation effect sizes, with negative affectivity, psychoticism, and detachment, whereby the latter two relationships were more strongly pronounced for the NARQ/HSNS measure ($3.38 \leq |z| \leq 4.31, p < .001$).

Table 2

Zero-Order Correlations Between FFNI-BF and NARQ/HSNS Scale Scores for Agentic Extraversion, Narcissistic Antagonism, and Neuroticism and Behavior Regulation

Criterion variable	Extraversion			Antagonism			Neuroticism		
	A	B	z	A	B	z	A	B	z
Approach/avoidance									
BAS	.37	.37	0.16	.12	.02	3.10	-.03	.05	2.32
BIS	-.03	-.12	2.57	-.20	.02	5.10	.74	.64	3.94
FFFS	-.12	-.18	1.57	-.20	-.03	5.11	.56	.53	1.23
Impulsiveness									
Nonplanning	-.09	-.08	0.27	.12	.11	0.11	-.03	.01	1.03
Motor impulse	.23	.25	0.64	.16	.08	2.22	-.08	-.03	1.40
Attentional impulse	.03	-.01	1.05	.21	.28	2.27	.26	.33	2.19
Aggression									
Anger	.15	.16	0.24	.28	.35	2.04	.11	.23	3.82
Physical aggression	.15	.18	1.07	.40	.42	0.50	-.10	.02	3.75
Verbal aggression	.26	.26	0.04	.44	.49	1.67	.04	.19	4.58
Hostility	.03	-.06	2.65	.26	.38	3.61	.31	.39	2.45
Profile similarities (ICC _{DE})	.96			.85			.93		

Note. A = FFNI-BF scale score; B = NARQ/HSNS scale score; |z| = Pearson and Filon's (1898) z scores of correlation test between FFNI-BF and NARQ/HSNS. Values are shown in bold if $p < .001$. FFNI-BF = Five-Factor Narcissism Inventory-Brief Form; NARQ = Narcissistic Admiration and Rivalry Questionnaire; HSNS = Hypersensitive Narcissism Scale; BAS = behavioral approach system; BIS = behavioral inhibition system; FFFS = fight-flight-freeze system; ICC_{DE} = double-entry intraclass correlation.

Relationships With Psychological (Mal-)Adjustment

As expected, particularly NN was linked to higher self-reported levels of internalizing symptoms (stress, anxiety, and depression; cf. Table 3). Similar, albeit slightly weaker, associations were found with regard to narcissistic antagonism. These relationship patterns emerged somewhat more clearly when NARQ/HSNS scores were used to determine the correlation coefficients, though differences in correlation coefficients were not significant. Moderate-to-strong negative associations were found between both measures of NN and explicit self-esteem, life satisfaction, and

well-being. Narcissistic antagonism was also moderately linked to lower self-esteem and satisfaction with life, irrespective of the TriMN measure used. As predicted, agentic extraversion was positively related with self-esteem, life satisfaction, and general well-being. This pattern emerged, however, for the NARQ/HSNS-based TriMN trait only (see Table 3).

Correlation Profile Similarities

Profile similarities between FFNI-BF-based and NARQ/HSNS-based correlation coefficients with HEXACO personality traits,

Table 3

Zero-Order Correlations Between FFNI-BF and NARQ/HSNS Scale Scores for Agentic Extraversion, Narcissistic Antagonism, and Neuroticism and Psychopathology Markers

Criterion variable	Extraversion			Antagonism			Neuroticism		
	A	B	z	A	B	z	A	B	z
Personality pathology									
Intrapersonal	.05	-.10	4.05	.20	.29	2.52	.58	.58	0.02
Interpersonal	.12	.07	1.20	.42	.49	2.34	.26	.37	3.38
Negative affectivity	.06	-.02	2.02	.18	.30	3.48	.52	.57	1.79
Detachment	-.02	-.05	0.79	.35	.44	2.80	.21	.32	3.38
Psychoticism	.15	.13	0.77	.41	.47	0.74	.23	.37	4.31
Antagonism	.33	.35	0.74	.67	.62	1.92	-.02	.01	0.95
Disinhibition	.17	.16	0.18	.36	.35	0.30	.06	.11	1.66
Psychological maladjustment									
Stress	.11	.01	2.74	.22	.27	1.66	.37	.46	3.12
Anxiety	.09	.02	2.00	.26	.32	1.82	.29	.35	2.06
Depression	-.01	-.10	2.50	.20	.24	1.22	.36	.39	1.07
Psychological adjustment									
Self-esteem	.07	.28	6.17	-.17	-.27	3.10	-.52	-.49	0.98
Life satisfaction	.06	.18	3.52	-.15	-.25	2.87	-.29	-.33	1.26
Well-being	.12	.19	1.94	-.03	-.09	1.78	-.28	-.32	1.03
Profile similarities (ICC _{DE})	.65			.95			.98		

Note. A = FFNI-BF scale score; B = NARQ/HSNS scale score; |z| = Pearson and Filon's (1898) z scores of correlation test between FFNI-BF and NARQ/HSNS. Values are shown in bold if $p < .001$. ICC_{DE} = double entry intraclass correlation; FFNI-BF = Five-Factor Narcissism Inventory-Brief Form; NARQ = Narcissistic Admiration and Rivalry Questionnaire; HSNS = Hypersensitive Narcissism Scale.

dispositional behavior motivation, and psychopathology markers can be obtained from [supplemental Tables F1, F2, and F3](#), respectively. Correlation profiles of the FFNI-BF and the NARQ/HSNS were highly similar, $.85^6 \leq ICC_{DE} \leq .98$.⁷ In contrast, the measures' correlation profiles were less similar with regard to the association between agentic extraversion and psychopathology markers ($ICC_{DE} = .65$). Nonetheless, the overall correlation profile similarity was excellent ($ICC_{DE} = .95$).

Discussion

In the second study, we examined and compared the individual association profiles of the FFNI-BF and the NARQ/HSNS to ascertain similarities and differences in their relationships with critical psychological outcomes. Overall, the correlation profiles of both TriMN measures were highly similar, which is important with regard to the comparability of studies using either the FFNI-BF or the NARQ and HSNS. Hereby, relationships between the three narcissism dimensions and external criteria were in accordance with the TriMN: Both measures of narcissistic antagonism, described as "the core" of narcissism, were linked to low agreeableness, high aggression, higher intra- and interpersonal problems, dysfunctional personality styles, and mental distress (i.e., experiences of stress or depression). While also linked with low agreeableness and honesty, FFNI-BF and NARQ/HSNS measures of agentic extraversion differed from the antagonism dimension, for example, with regard to their associations with approach motivation and psychological adjustment (including self-esteem). Both measures of NN were considerably related to intrapersonal problems, high levels of distress/internalizing dysfunctions, and dispositional avoidance.

At a closer look, both TriMN measures also showed nuanced profile differences. The FFNI-BF depicted clearer associations between narcissistic antagonism, neuroticism, and active and passive avoidance. Our results suggest that the FFNI-BF and the NARQ/HSNS provide slightly distinctive separations of the three narcissism dimensions in terms of their underlying motivational profiles: When TriMN traits are assessed by means of the FFNI-BF, the motivational profile of extraversion (high dispositional approach) and neuroticism (high dispositional avoidance) matches the NARQ/HSNS assessed traits. In contrast to NARQ/HSNS antagonism, which appeared unrelated to dispositional avoidance tendencies, however, FFNI-BF antagonism was linked to attenuated (active and passive) avoidance. This particular finding informs future research, in which the selection of a particular TriMN measure might depend on implicit theories on the motivational profiles underlying the three narcissism dimensions.

Statistical tests conducted to examine the differences of the FFNI-BF and the NARQ/HSNS-based correlation coefficients further revealed that the NARQ/HSNS measures of antagonism and neuroticism show more distinct, theory-consistent relationships with different forms of aggression, in particular, verbal aggression, anger, and hostility. A similar picture emerged with respect to markers of personality pathology (e.g., interpersonal dysfunction, negative affect, or detachment) and psychological adjustment (self-esteem, life satisfaction, and well-being).

Taken together, the results of our correlation analyses in Study 2 confirm that the FFNI-BF and the NARQ/HSNS share distinct amounts of variance with measures of relevant psychological

constructs, which may be due to underlying conceptual and psychometric differences between the two measures.

Study Limitations and Future Directions

To the best of our knowledge, the current studies present the first attempt to combine extant, well-established narcissism scales (i.e., the NARQ and HSNS) in order to measure the TriMN. Even though the resulting factor structure of the NARQ/HSNS largely confirmed our theory-derived expectations, replications in independent samples are necessary. Hereby, future studies could also consider the hierarchical structure of the TriMN by including the superordinate level of grandiose and vulnerable narcissism or even subordinate personality facets, which were not addressed in the present research. Furthermore, our analyses were limited to self-reports from well-educated, predominantly female community samples. In fact, research on the TriMN and its measurement appears to be limited to Western, educated, industrialized, rich, and democratic samples, so far and future studies will need to expand their investigations to culturally and ethnically diverse samples to overcome constraints on generalizability. Future research could also add valuable information by applying the NARQ/HSNS and/or FFNI-BF in clinical populations and further link them to informant reported outcomes, such as judgments made by family members or clinical professionals.

General Discussion

The FFNI-BF and the combined NARQ/HSNS provide two alternative, theory-based and thoroughly designed measures of the TriMN. Albeit similar in length and their respective item-to-factor ratio, they differ in terms of their theoretical foundations and both display individual strengths in the assessment of agentic extraversion, narcissistic antagonism, and NN.

The FFNI-BF is rooted in one of the most influential theories on personality structure, the FFM (McCrae & John, 1992), and its subscales show high internal consistencies, which are a crucial prerequisite for reliable trait assessment. The NARQ and HSNS were created to map specific dynamic self-regulatory processes that are considered relevant to either grandiose (with respect to the NARQ; Back et al., 2013) or vulnerable (with respect to the HSNS; Hendin & Cheek, 1997; Murray, 1938) narcissism. To this end, the NARQ and HSNS items access narcissistic traits from a different conceptual angle than the FFNI and its derivatives. Notably, although the NARQ and HSNS were not designed to jointly measure the TriMN dimensions, our factor analyses indicate a theory-consistent three-factor structure when the items of both instruments are combined, which provides further compelling evidence for the TriMN as such, and for the notion that the TriMN traits can be assessed by a variety of narcissism measures (Crowe et al., 2019). In this manner, the NARQ/HSNS outperformed the FFNI-BF in terms of model fit (evidence of a simple structure) and theory-consistent interrelations between the latent factors representing agentic extraversion, narcissistic antagonism, and neuroticism. Hence, researchers might opt for the NARQ/HSNS when aiming at economic assessments of narcissistic traits at the three-factor level of the narcissism hierarchy (Miller et al., 2021) also because of the measures' particular briefness

⁶ Narcissistic antagonism—behavior regulation.

⁷ Narcissistic neuroticism—psychopathology markers.

(27 items). On the other hand, researchers could favor one of the many FFNI variants when narcissistic traits shall be assessed at the far more differentiated level of facets (e.g., Glover et al., 2012; Miller, Few, et al., 2013).

Study 2 revealed that both operationalizations provide trait measures with exceedingly similar nomological nets, supporting the overall comparability of (future) results obtained with both measures. At the same time, our results indicate that the NARQ/HSNS shows somewhat stronger associations with measures of personality dysfunction. Therefore, researchers might also resort to the NARQ/HSNS when they intend to focus on personality pathology.

Taken together, the results from our factor analytic and correlative analyses suggest that the NARQ/HSNS combination provides a valuable complement for the assessment of narcissistic traits according to the TriMN, providing a distinct, psychometrically sound assessment of the three factors, and less redundancy between the respective traits. We hope that our work will assist researchers to make informed choices when they decide on instruments to assess and diagnose narcissistic traits in their prospect scientific enterprises.

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