

# Can the individual composition Big Five personality traits be used as a proxy for narcissism?

While Big Five personality traits can partially predict narcissism by explaining 42% of its variance, they serve as incomplete proxies for narcissistic tendencies.

## Abstract

Studies indicate that certain Big Five traits reflect key aspects of narcissism. Low agreeableness appears as a robust correlate across both grandiose and vulnerable forms. Extraversion shows a positive association with narcissism—especially its grandiose features—while neuroticism strongly predicts vulnerable narcissism (with some studies reporting 56–79% variance explained). Associations for openness and conscientiousness are less consistent, though openness sometimes relates to admiration and conscientiousness to rivalry. In combination, the Big Five traits account for roughly 42% of the variance in narcissistic tendencies. These findings support the view that specific personality traits may serve as partial proxies for narcissism.

## Paper search

Using your research question "Can the individual composition Big Five personality traits be used as a proxy for narcissism?", we searched across over 126 million academic papers from the Semantic Scholar corpus. We retrieved the 50 papers most relevant to the query.

## Screening

We screened in papers that met these criteria:

- **Big Five Assessment:** Does the study measure all five dimensions of the Big Five personality traits (Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism) using validated instruments?
- **Narcissism Measurement:** Does the study include validated measures of narcissism (e.g., NPI, PNI, or other established narcissism scales)?
- **Study Design:** Is this an empirical study with quantitative data and a sample size of at least 50 participants?
- **Participant Age:** Does the study include only adult participants (18 years or older)?
- **Population Type:** Does the study include general population participants or mixed samples (rather than exclusively severe clinical populations)?
- **Research Methodology:** Is the study either a primary research study (cross-sectional, longitudinal, or correlational) or a systematic review/meta-analysis?

We considered all screening questions together and made a holistic judgement about whether to screen in each paper.

## Data extraction

We asked a large language model to extract each data column below from each paper. We gave the model the extraction instructions shown below for each column.

- **Study Design Type:**

Identify the primary type of study design used:

- Correlational study
- Validation study
- Cross-sectional analysis
- Longitudinal study

Look in the methods or design section of the paper. If multiple design elements are present, list the primary design type. If unclear, note "design not clearly specified".

- **Personality Measurement Instruments:**

List ALL personality measurement instruments used in the study:

- Full name of instrument
- Specific scales or subscales used
- Brief description of what each instrument measures

Locate this information in the methods section. If multiple instruments are used, list all of them. Include details about domain or facet-level measurements (e.g., Big Five domains, specific facets).

- **Participant Demographics:**

Extract the following details:

- Total sample size
- Mean age
- Age range
- Gender breakdown (percentage or ratio)
- Geographic/cultural context (country, population type)

Prioritize reporting of mean and standard deviation for age. If ranges are only provided, note this. If demographic details are incomplete, indicate which specific information is missing.

- **Narcissism Measurement Approach:**

Specify:

- Type of narcissism measured (e.g., sub-clinical, grandiose, vulnerable)
- Specific narcissism scale or measure used
- How narcissism was operationalized in relation to Big Five traits

Look in methods and results sections. If multiple approaches are used, list all. Note any unique methodological approaches to measuring narcissism in relation to personality traits.

- **Primary Statistical Relationships:**

Extract:

- Key correlation coefficients between Big Five traits and narcissism
- Statistically significant relationships
- Effect sizes if reported
- Direction of relationships (positive/negative)

Locate in results section. Prioritize main findings directly addressing the relationship between Big Five traits and narcissism. If multiple statistical approaches were used (correlation, regression), note all significant findings.

## Results

### Characteristics of Included Studies

Study	Study Design	Narcissism Measure	Sample Size	Population Type
Obschonka et al., 2015	Longitudinal study	No mention found (part of aberrant personality profiles)	934 (Time 1), 366 (Time 2)	Flemish undergraduate alumni
Glover et al., 2012	Validation study	Five-Factor Narcissism Inventory (FFNI)	412	Undergraduates (University of Kentucky, USA)
Dal, 2018	Cross-sectional analysis	Narcissistic Personality Inventory (NPI-16)	52	College student athletes
Furnham and Crump, 2014	Correlational study	Bold scale from Hogan Development Survey (HDS)	6957	British adults
Nedeljković and Tucaković, 2022	Correlational study	No mention found	Study 1: 150, Study 2: 215	No mention found
Leckelt et al., 2018	Validation study	Narcissistic Admiration and Rivalry Questionnaire Short Scale (NARQ-S)	Convenience: 11,937; Representative: 4,433	German and English-speaking populations (US, UK, Germany)
Miller et al., 2018a	Correlational study	Pathological Narcissism Inventory (PNI) Vulnerable scale, Hypersensitive Narcissism Scale (HSNS), Five-Factor Narcissism Inventory (FFNI) Vulnerable scale	Sample 1: 238; Sample 2: 347; Sample 3: 603; Sample 4: 98	Undergraduates, students, online community, community adults in treatment (USA)

Study	Study Design	Narcissism Measure	Sample Size	Population Type
Miller et al., 2018b	Validation study	Five-Factor Narcissism Inventory–Short Form (FFNI-SF)	Study 1: 1,792; Study 2: 603	No mention found
Back et al., 2013	Validation study	Narcissistic Admiration and Rivalry Questionnaire (NARQ)	Study 1: 953; Study 2: 93; Study 3: 96; Study 4: 510-1,814; Study 5: 1,085; Study 6: 202; Study 7: 96	No mention found
O'Boyle et al., 2015	Meta-analysis	No mention found	310 independent samples	No mention found

The included studies comprised 4 validation studies, 3 correlational studies, 1 longitudinal study, 1 cross-sectional analysis, and 1 meta-analysis.

**Narcissism Measures:** Various measures were used across studies. The most common were the Five-Factor Narcissism Inventory (FFNI) and Narcissistic Admiration and Rivalry Questionnaire (NARQ), each used in 2 studies. Other measures included NPI and HDS. No mention of specific narcissism measures was found for 3 studies, and 1 study used multiple measures.

**Sample Size:** 4 studies had sample sizes larger than 500 participants. 2 studies had sample sizes between 100-500, 1 study had fewer than 100 participants, and 2 studies had mixed sample sizes across multiple sub-studies. 1 meta-analysis included 310 independent samples.

**Population Type:** Undergraduate populations were studied in 2 cases. Other population types included student athletes, adults, and general population. No mention of specific population information was found for 4 studies, and 1 study included mixed population types.

## Effects Analysis

### Big Five Trait Correlations

Personality Domain	Correlation Range	Significance Pattern	Key Findings
Neuroticism	Negative to Positive	Mixed	Strongly positive for vulnerable narcissism; Negative for admiration aspect
Extraversion	Mostly Positive	Consistent	Positive association with narcissism across multiple studies

Personality Domain	Correlation Range	Significance Pattern	Key Findings
Openness	Mixed	Inconsistent	Positive correlation with admiration aspect; Inconsistent across studies
Agreeableness	Consistently Negative	Strong	Negative association across all studies
Conscientiousness	Mixed	Inconsistent	Negative for rivalry aspect; Inconsistent across studies

The studies reported:

- Mixed correlations for 3/5 personality domains (Neuroticism, Openness, and Conscientiousness)
- Mostly positive correlations for 1/5 domains (Extraversion)
- Consistently negative correlations for 1/5 domains (Agreeableness)

Significance patterns:

- Inconsistent significance for 2/5 personality domains (Openness and Conscientiousness)
- Mixed significance for 1/5 domains (Neuroticism)
- Consistent significance for 1/5 domains (Extraversion)
- Strong significance for 1/5 domains (Agreeableness)

Key findings:

- Mixed results for 3/5 personality domains (Neuroticism, Openness, and Conscientiousness)
- Consistent positive associations for 1/5 domains (Extraversion)
- Consistent negative associations for 1/5 domains (Agreeableness)

Specific notable findings include:

- Neuroticism showed a strongly positive correlation with vulnerable narcissism, but a negative correlation with the admiration aspect of narcissism
- Extraversion showed a positive association with narcissism across multiple studies
- Agreeableness showed a negative association with narcissism across all studies
- Conscientiousness showed a negative correlation specifically with the rivalry aspect of narcissism

### Predictive Power Analysis

Personality Trait	Variance Explained	Type of Narcissism	Key Moderators
Neuroticism	56-79%	Vulnerable	Sample type (clinical vs. non-clinical)
Agreeableness	13-28%	Vulnerable	-
All Big Five Traits	42%	No mention found	-
Extraversion	No mention found	Grandiose	Admiration vs. Rivalry aspects

Personality Trait	Variance Explained	Type of Narcissism	Key Moderators
Openness	No mention found	Grandiose (Admiration)	-

- Variance explained was reported for 3 of the 5 personality traits:
  - Neuroticism: 56-79%
  - Agreeableness: 13-28%
  - All Big Five Traits combined: 42%
- No mention of variance explained was found for Extraversion and Openness.
- The types of narcissism associated with these traits were:
  - Vulnerable narcissism: 2 traits (Neuroticism and Agreeableness)
  - Grandiose narcissism: 2 traits (Extraversion and Openness, with Openness specifically linked to the Admiration aspect)
  - No mention found: 1 trait (All Big Five Traits combined)
- Key moderators were reported for 2 of the 5 traits:
  - Sample type (clinical vs. non-clinical) for Neuroticism
  - Admiration vs. Rivalry aspects for Extraversion
- No mention of specified moderators was found for the other 3 traits.

## Synthesis of Findings

### Trait-Specific Relationships

The studies reported nuanced relationships between specific Big Five traits and different aspects of narcissism:

- Agreeableness consistently emerged as negatively associated with narcissism across studies. This relationship held for both grandiose and vulnerable narcissism, suggesting that low agreeableness is a core feature of narcissistic personality.
- Extraversion showed a generally positive relationship with narcissism, particularly with grandiose narcissism. This association is likely driven by shared elements such as assertiveness and social dominance.
- Neuroticism demonstrated a complex relationship with narcissism. It was strongly positively associated with vulnerable narcissism but may have a negative or neutral relationship with grandiose narcissism.
- Conscientiousness and Openness showed less consistent relationships with narcissism. Some studies suggested a negative association between Conscientiousness and the rivalry aspect of narcissism, while Openness may be positively related to the admiration aspect.

### Admiration vs Rivalry Distinctions

Several studies, particularly those using the Narcissistic Admiration and Rivalry Questionnaire (NARQ), highlighted important distinctions between the admiration and rivalry aspects of narcissism:

- Admiration was associated with higher Extraversion and Openness, and lower Neuroticism. This pattern aligns with the more socially adaptive and confident aspects of narcissism.

- Rivalry, in contrast, was associated with higher Neuroticism and lower scores on Agreeableness, Conscientiousness, and Extraversion. This pattern reflects the more antagonistic and socially aversive aspects of narcissism.

### Predictive Validity Assessment

The predictive validity of Big Five traits for narcissism varied depending on the type of narcissism and the specific traits considered:

1. For vulnerable narcissism, Neuroticism emerged as the strongest predictor, explaining up to 79% of the variance in some samples. This suggests that vulnerable narcissism may be largely characterized by traits associated with emotional instability and negative affectivity.
2. Agreeableness consistently predicted both grandiose and vulnerable narcissism, albeit with stronger associations for the latter. The negative relationship between Agreeableness and narcissism appears to be a robust finding across studies.
3. The Five-Factor Model as a whole explained a substantial portion (42%) of the variance in narcissism, indicating that basic personality traits can serve as a meaningful proxy for narcissistic tendencies.
4. However, the remaining unexplained variance suggests that narcissism encompasses unique elements not fully captured by the Big Five traits. This highlights the potential need for specialized narcissism measures to comprehensively assess the construct.

In conclusion, while the Big Five personality traits demonstrated significant predictive validity for narcissism, particularly for its vulnerable form, they did not fully encompass the construct. The complex and multifaceted nature of narcissism, including distinctions between grandiose and vulnerable types and admiration and rivalry aspects, necessitates a nuanced approach to its assessment and understanding in relation to basic personality traits.

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