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Original Article

Psychometric Properties of the Persian Version of the Five-Factor Narcissism Inventory-Short Form (FFNI-SF)

Bita Bahrami*, Nasrin Safarloo

Abstract

Objective: For a long time, it was held that narcissism had two aspects: narcissistic grandiosity and narcissistic fragility. The extraversion, neuroticism, and antagonism elements of the three-factor narcissism paradigm, on the other hand, have gained popularity in recent years. Based on the three-factor framework of narcissism, the Five-Factor Narcissism Inventory-short form (FFNI-SF) is a relatively recent invention. Therefore, this research aimed to assess the validity and reliability of the FFNI-SF in Persian among Iranians.
Method: Ten specialists (with Ph.D.s in psychology) were enlisted in this research to translate and evaluate the reliability of the Persian version of the FFNI-SF. The Content Validity Index (CVI) and the Content Validity Ratio (CVR) were then used to assess face and content validity. It was given to 430 students at Azad University, Tehran Medical Branch, once the Persian form was completed. The available sampling technique was used to choose the participants. Cronbach's alpha and the test-retest correlation coefficient were used to assess the reliability of the FFNI-SF. In addition, concept validity was obtained using exploratory factor analysis. In addition, correlations with NEO Five-Factor Inventory (NEO-FFI) and Pathological Narcissism Inventory (PNI) were employed to establish the convergent validity of the FFNI-SF.
Results: According to professional opinions, the face and content validity indices met expectations. With Cronbach's alpha and test-retest reliability, the questionnaire's reliability was also established. Cronbach's alphas varied between 0.7 and 0.83 for the FFNI-SF components. According to test-retest reliability coefficients, the components' values varied from 0.7 to 0.86. Additionally, three factors (extraversion, neuroticism, and antagonism) were recovered using the principal components approach and a straight oblimin rotation. According to an analysis of the eigenvalues, the three-factor solution accounted for 49.01 of the variation in the FFNI-SF. The eigenvalues for the three variables were 2.95 (M = 1.39), 2.51 (M = 1.3), and 1.88 (M = 1.24) respectively. The FFNI-SF Persian form's convergent validity was further verified by the association between its results and those from the NEO-FFI and PNI tests and the FFNI-SF. There was a substantial positive association between FFNI-SF Extraversion and NEO Extraversion ($r = 0.51$, $P \leq 0.001$), as well as a strong negative correlation between FFNI-SF antagonism and NEO agreeableness ($r = -0.59$, $P \leq 0.001$). As well as this, PNI grandiose narcissism ($r = 0.37$, $P \leq 0.001$) was shown to be significantly associated with FFNI-SF grandiose narcissism ($r = 0.48$, $P \leq 0.001$), as it was with PNI vulnerable narcissism ($r = 0.48$, $P < 0.001$).
Conclusion: with its solid psychometric qualities, we may utilize the Persian FFNI-SF to test the three-factor model of narcissism as an effective tool for research.

Key words: *Narcissism; Personality Test; Personality Assessment; Psychometrics*

Islamic Azad University, Tehran Medical Branch, Tehran, Iran.

***Corresponding Author:**
Address: Tehran Medical Branch, Islamic Azad University, Khaghani Street, Shariati Avenue, Tehran, Iran, Postal Code: 1949635881.
Tel: 98-21 22006660-7, Fax: 98-21 22008049, Email: bahrami@iautmu.ac.ir, bahrami.clinicalpsych@gmail.com

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As academics have come to appreciate the construct's importance for several crucial outcomes, there has been a rise in theoretical interest in the conceptualization of narcissism (1). These include mental formidability (1), psychopathological symptoms (2), interpersonal dysfunction (3), and academic performance (4, 5).

According to research, there are at least two manifestations of narcissism- vulnerable and grandiose- and it is not a single component (6). The tendency to respond negatively is the key link between the two opposed poles of narcissism (7). Vulnerable narcissism is defined by a weak sense of self-worth, a sense of guilt, and a need for admiration, whereas grandiose narcissism is characterized by entitlement, exhibitionism, and interpersonal authority (7). This difference has to be made clear in a study, because grandiose and vulnerable narcissism have different relationships with psychological consequences. Grandiose narcissism, for instance, is linked to lower levels of depression compared to vulnerable narcissism, which is linked to higher levels of depression, according to a new study (8).

Narcissism has been measured with unifactorial measures, despite evidence suggesting a multifactorial construction for the disorder (e.g. grandiose and vulnerable narcissism) (9) with each factor containing multiple dimensions (e.g. grandiose narcissism is characterized by antagonism and extraversion) (10). As a result, a lot of the tests that are now available evaluate narcissism as having a unifactorial structure (e.g. the Short Dark Triad) (11), concentrating on either its grandiose qualities (e.g. Narcissistic Personality Inventory) (12) or its susceptible traits (e.g. Hypersensitive Narcissism Scale) (13). There are few assessments that can detect both grandiose and vulnerable narcissism, although the Pathological Narcissism Inventory (14), for example, has been modified for use in many different nations (15,16). The Five-Factor Narcissism Inventory is an additional example of a tool that has been created for the assessment of narcissism (17).

The Five-Factor Narcissism Inventory (FFNI) is one of the few assessments that measure both grandiose and vulnerable narcissism. This inventory has 148 questions drawn from the 30 features of the Five-Factor Model (18). The test includes 15 characteristics that are linked to either or both grandiose narcissism (such as cynicism/distrust, desire for admiration, reactive rage, and shame) and vulnerable narcissism (such as thrill-seeking, exhibitionism, indifference, lack of empathy, and grandiose dreams). Antagonism, extraversion, and neuroticism make up a three-factor structure that Miller *et al.* (10) find to be supported by data. Recent years have seen a progressive increase in the acceptance of the three-factor model of narcissism. In the end, the FFNI components explain the distinctions between different types of narcissism, showing that all are related to antagonism but vary in terms of neuroticism (relevant to vulnerable narcissism and narcissistic personality disorder based on the Diagnostic and Statistical Manual of Mental Disorders (19)) and extraversion (relevant to grandiose narcissism and narcissistic personality disorder based on the Diagnostic and Statistical Manual of Mental Disorders).

60 items make up the Five-Factor Narcissism Inventory-Short Form (FFNI-SF), which is a condensed version of the FFNI created by Sherman *et al.* (20). The fact that both the long and short versions were developed to include various conceptualizations of narcissism- including representations of narcissistic personality disorder and vulnerable and grandiose narcissism- makes them both conceptually relevant. According to Sherman's research, the three components that make up the FFNI-SF factors (Neuroticism, Extraversion, and Antagonism) are reliable (20). For each of the 15 attributes, the alpha values varied from 0 to 0.89. For antagonistic behavior, extraversion, and neuroticism, the corresponding Cronbach's alpha values were 0.9, 0.81, and 0.76, respectively.

Additional research is necessary to replicate and expand the FFNI-SF results found by Sherman *et al.* (20), obviously in cultural contexts other than the United States, due to the need for reliable assessments that capture narcissism's aspects. There have only been a few numbers of research examining the FFNI-SF psychometric properties beyond the US. For instance, Eksi (21) assessed the psychometric properties of the Turkish version of the FFNI-SF among a sample of university students. The findings demonstrated that the scores were consistent and acceptable, and that the Turkish version of the FFNI-SF is a useful tool for assessing narcissistic personality in nonclinical populations (21).

In some Italian university students, Fossati *et al.* (22) evaluated the psychometric features of the instrument, confirming its consistency (median = 0.76) and three-factor structure His study's congruence coefficient results suggested that the FFNI-neuroticism, SF's extraversion, and antagonism variables were consistent with those found in the investigations by Miller and Sherman (20, 23).

A Russian sample was recently used by Papageorgiou (24) who assessed the instrument. For the Russian population, the findings showed that components had a high degree of dependability (median = 0.76). Furthermore, a three-component construct was revealed in the factor analysis findings. This acceptable degree of consistency indicated that the test evaluates many narcissistic traits.

Overall, it seems that the Five-Factor Narcissism Inventory-short form (FFNI-SF) is a potential narcissistic indicator. Establishing the FFNI's underlying component structure and testing how these factors connect to fundamental personality characteristics as well as current narcissism and narcissistic personality

disorder (NPD) tests is a crucial step in the right direction, nevertheless. Therefore, the main objective of the present research was to evaluate the reliability and validity of the Persian version of the FFNI-SF among Iranian people. The translation of the FFNI-SF into Persian was the initial goal. Afterwards, Content Validity Index (CVI) and Content Validity Ratio (CVR) were used to assess the face and content validity. The second objective was to examine the internal consistency of the scale using Cronbach's alpha values and test-retest reliability. Exploratory Factor Analysis (EFA) was used as part of a third goal to evaluate the FFNI-SF factor structure. At the process's conclusion, the test's convergent validity was tested by examining its association with Pathological Narcissism Inventory (PNI). FFNI-SF would provide the result of a three-factor structure that would approximately correlate with the most well-represented Five-Factor Model (FFM) domains in narcissism. These domains include neuroticism (such as shame and indifference), extraversion (such as authoritativeness and exhibitionism), and antagonism (such as entitlement and arrogance).

Materials and Methods

The current research was undertaken as a descriptive and analytical study to assess the validity and reliability of the Persian version of the FFNI-SF. Ten specialists with Ph. D.s in psychology were involved in this research to translate and evaluate the face and content validity of the Persian version of the FFNI-SF. Four hundred and thirty university students took the test once the Persian version was completed. All Tehran University students enrolled in the 2020–2021 academic year were included in the statistical population. The Tehran Medical Branch of Azad University offered a sampling technique that was used to choose the participants. Being a student at the aforementioned institution and consenting to partake in the study were prerequisites for entry into the current study. In this research, sample information was kept strictly secret. The ethical committee of the Tehran Medical Branch of Azad University has authorized this work. Cronbach's alpha and the correlation coefficient between test and retest were utilized in this research to assess the FFNI-reliability. Moreover, the construct validity of this short form was obtained using exploratory factor analysis using SPSS. The FFNI- SF's correlation with NEO-FFI and PNI were also employed to ensure convergent validity and reliability. The following are the tools that were utilized in this study:

Short Form of the Factor Narcissism Inventory (FFNI-SF): Self-reported assessment of 15 qualities associated with three-factor narcissism; the FFNI–SF has 60 questions (Antagonism, Extraversion, and Neuroticism). Factor 1, designated as FFNI-SF Neuroticism, was distinguished by characteristics obtained from the FFM Neuroticism domain. These characteristics included reactive wrath, shame, a need for admiration, and inverted scores on indifference. Factor 2, known as FFNI-SF Extraversion, mainly consisted of features drawn from the FFM Extraversion domain, such as acclaim seeking, authoritarianism, and grandiose fantasies. Factor 3, dubbed FFNI-SF Antagonism, predominantly consisted of features drawn from the FFM antagonism domain, such as exploitativeness, arrogance, entitlement, manipulativeness, lack of empathy, thrill-seeking, and mistrust. The overall score for narcissism is also involved in FFNI-SF (19).

The NEO Five-Factor Inventory (NEO-FFI): is a personality test that evaluates a person on five personality dimensions, or the so-called Big Five personality characteristics. These characteristics include neuroticism, conscientiousness, extraversion, agreeableness, and openness to new experiences. The NEO-FFI was composed of 60 different components (12 per trait). Costa and McCrae's 1978 publication of a personality inventory marked the beginning of the historical development of the Revised NEO Personality Inventory (NEO PI-R). The manual indicated the following internal consistencies for the NEO FFI: neuroticism = 0.79 extraversion = 0.79, Openness = 0.80, agreeableness = 0.75, conscientiousness = 0.83. The NEO-FFI was verified by Anisi and colleagues (25) using a sample of Iranian university students. The findings indicated that the conscientiousness and neuroticism subscales had acceptable reliability values of 0.83 and 0.80, respectively; while agreeableness and extraversion subscales had acceptable reliability values of 0.60 and 0.58, respectively. Openness to new experiences, however, did not exhibit any internal correlation (0.39).

Pathological Narcissism Inventory (PNI): Two aspects of pathological narcissism -narcissistic grandiosity and narcissistic vulnerability- are assessed by the 52-item PNI (14) self-report questionnaire. Analyses of confirmatory factors were used to verify the PNI structure. The overall PNI scores have a coefficient alpha of 0.92. A sample of Iranian university students served as the basis for Soleimani and colleagues' (26) validation of the PNI. Results suggested that the PNI and its subscales had convergent validity with the Eysenck Self-Esteem Scale and the neuroticism component of the NEO-PI-R.

Additionally, results over a 15-day period demonstrated strong test-retest reliability for the PNI and its scales, as well as high internal consistency according to Cronbach's alpha. Additionally, confirmatory component analysis on the narcissistic grandiosity and narcissistic vulnerability factors demonstrated strong validity of the PNI in these domains. The overall scores for the PNI have coefficient alphas of 0.93.

Results

Two separate mentions of the outcomes are required. The translation of the FFNI-SF program into Persian was the initial step. The second step included determining the

Iranian version of the FFNI-SF's structure and convergent validity.

The initial phase involves the production of the Persian version of FFNI-SF.

The Global Quality of Life Tools Project's three-step methodology served as the basis for the translation of the FFNI-Standards Document. First, the scale was translated into Persian with the gracious permission of Donald R. Lynam, the corresponding author of the original FFNI-SF research. Then, by two academics fluent in English and Psychology, the FFNI-SF items were translated and back translated. Following the creation of the Persian form (which is shown in appendix 1), 10 experts were asked to review the FFNI-SF in order to assess CVI and CVR. Their opinions about the need of the terminology, relevance of the categories to the content, simplicity, fluency, transparency, and clarity were taken into account for both the individual items and the entire questionnaire. According to the findings of this research, greater than 0.7 values of CVI and CVR were determined to be statistically satisfactory. According to the findings, the Persian version of FFNI-SF possessed appropriate levels of CVI and CVR. The CVI and CVR scores for the whole FFNI-SF were both 0.9, and the overall score was 0.8.

The second stage consisted of determining the reliability, factor structure, and convergent validity of the Persian version of the FFNI-SF.

430 university students were given the Persian form when it was finished. The average age of participants was 21, with a standard deviation of 1 year (M = 21.03, SD = 1.72). Of these 430 individuals, 63.48% were men and 36.52% were women. They went to school for psychology (n = 203, 47.2%), medical school (n = 47, 10.94 percent), and non-medical school (n = 170, 39.54%). In addition, 0.81% were never married, 0.13% were married, and 0.06% had been divorced. Table 1 contains the demographic information that was collected for this investigation.

Table 1. Distribution of Demographic Characteristics in the Participants of the Study

Variables	Categorized	N (%)/Mean (SD)
Age		21.03(1.72)
gender	Male	273(63.48)
	Female	157(36.52)
Major	Psychology	203(47.2)
	Medical	47(10.94)
	non-medical	170(39.54)
	missing	10(2.32)
Educational level	Medical	52(0.12)
	undergraduate degree	278(0.65)
	a graduate level degree	100(0.23)
Marital status	Unmarried	347(0.81)
	Married	58(0.13)
	Separated	25(0.06)

For the 15 characteristics and the three components, Cronbach's alpha coefficients and test-retest were used to assess the scale's reliability. The findings are shown in Table 2. The range of alpha values for the 15 components was 0.7 to 0.83. In addition, the computed alpha values for neuroticism, extraversion, and hostility were 0.74, 0.74, and 0.72, respectively. In addition, component test-retest reliability coefficients varied from 0.7 to 0.86. Neuroticism, extraversion, and aggression had test-retest reliability values of 0.77, 0.74, and 0.8, respectively.

Following that, exploratory factor analysis was used to check the construct validity of the scale (EFA). Table 2 displays the averages, standard deviations, skewnesses, and kurtosis for the 15 variables and three factors that make up the FFNI-SF. The mean (standard deviation) score for neuroticism was 35.38 (8.219), and the mean (SD) score for extraversion and antagonistic tendencies was 55.32 (8.31), and the mean (SD) score for extroversion was 81.93 (12.22). Component and factor distributions are shown by the Skewness and Kurtosis values.

Correlations among the 15 FFNI-SF components and factors are presented in Table 3. The correlations ranged from -0.46 (indifference and need for admiration) to 0.59 (shame and need for admiration).

Table 2. Cronbach's Alpha, Reliability Tests, and Descriptive Statistics Indices for the Five-Factor Narcissism Inventory-Short Form

Components	Cronbach alpha	Test-retest reliability	M	SD	skewness	Kurtosis
Reactive anger	0.7	0.71	13.47	3.22	-0.23	-0.47
Shame	0.78	0.7	13.27	3.41	-0.19	0.23
Need for admiration	0.7	0.72	12.71	3.15	0.05	0.23
Distrust	0.77	0.7	11.9	2.83	0.09	-0.08
Indifference	0.71	0.8	10.6	3.67	0.36	-0.1
Exhibitionism	0.81	0.7	13.53	3.28	-0.07	-0.42
Authoritativeness	0.77	0.75	12.78	2.92	-0.14	-0.13
grandiose fantasies	0.74	0.74	13.8	3.18	-.06	-0.57
Manipulativeness	0.77	0.7	8.98	2.89	0.48	-0.25
Exploitativeness	0.73	0.68	7.65	3.11	0.64	-0.36
Entitlement	0.76	0.77	11.26	3.04	-0.07	-0.25
lack of empathy	0.78	0.76	7.62	2.67	0.47	-0.51
Arrogance	0.71	0.8	9.45	2.6	0.15	-0.55
acclaim-seeking	0.83	0.81	15.19	2.68	-0.26	-0.39
thrill-seeking	0.77	0.79	11.56	4.02	0.05	-0.63
Neuroticism	0.77	0.77	35.38	8.21	0.02	-0.4
Extraversion	0.74	0.74	55.32	8.31	0.03	-0.39
Antagonism	0.72	0.8	81.93	12.22	-0.05	-0.43
Total of FFNI-SF	10.77	0.79				

Table 3. Factor Inter-Correlations among the Five-Factor Narcissism Inventory-Short Form Components and Factors

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	neuroticism	extraversion	antagonism
15 components	1.Acclaim Seeking	1																	
	2.Authoritativeness	0.4**	1																
	3.Grandiose Fantasies	0.45**	0.17**	1															
	4.Arrogance	0.11**	0.1*	0.1*	1														
	5.Exhibitionism	0.28**	0.15**	0.32**	0.02	1													
	6.Entitlement	0.25**	0.17**	0.27**	0.38**	0.4**	1												
	7.Manipulativeness	-0.02	0.24**	0.08	0.17**	0.08	0.22**	1											
	8.Thrill Seeking	0.15**	0.16**	0.14**	0.01	0.22**	0.11*	0.16**	1										
	9.Exploitativeness	-0.06	0.07	0.13**	0.39**	0.03	0.39**	0.19**		1									
	10.Shame	0.03	-0.14**	0.09*	0.04	0.26**	0.15**	-0.07	0.07	-0.008	1								
	11.Need For Admiration	-0.07	-0/19**	0.07	0.07	0.35**	0.19**	-0.1*	-0.06	-0.03	0.59**	1							
	12.Indifference	0.43	0.10*	0.05	0.08	-0.18**	-0.001	0.2**	0.15**	0.08	-0.35**	-0.46**	1						
	13.Reactive Anger	0.17**	0.005	0.13**	0.11*	0.32**	0.27**	-0.02	0.03	-0.03	0.6**	0.49**	0.31**	1					
	14.Distrust	-0/.41	-0.112*	0.13*	0.09	-0.03	0.07	-0.03	-0.03	0.05	0.16**	0.19**	0.01	0.13**	1				
	15.Lack of Empathy	-0.23**	-0.09**	0.002	0.22**	-0.11**	0.14**	0.2**	0.04	0.36**	0.02	-0.03	-0.16**	0.007	0.12**	1			
3 Factors	Neuroticism	-0.03	-0.18**	0.04	0.006	0.32**	0.13**	-0.16**	-0.12**	-0.05	0.8**	0.83**	-0.77**	0.58**	0.15**	-0.07	1		
	Extraversion	0.75**	0.61**	0.72**	0.12**	0.66**	0.4**	0.14**	0.25**	0.06	0.1*	0.07	0.00	0.23**	-0.01	-0.15**	0.07	1	
	Antagonism	0.1*	0.14**	0.25**	0.55**	0.26**	0.62**	0.51**	0.45**	0.65**	0.2**	0.17**	0.08	0.38**	0.32**	0.49**	0.11*	0.28**	1

The EFA was carried out by subjecting the 15 FFNI-SF components to a main axis factor analysis using a direct oblimin rotation. Analysis of factors was possible, according to Bartler's sphericity test and the Kaiser-Meyer-Olkin statistic of X2 = 1553.901 and KMO = 0.72 ($P \leq 0.001$).

Horn's Parallel Analysis (PA) was used to analyze the scree plot using the 95th percentile of random eigenvalues as the criteria. This analysis revealed a three-factor solution that explained 49.01% of the variation. The correlation matrix of FFNI-SF components had three eigenvalues: 2.95, 2.51, and 1.88. The EFA pattern matrices are provided in Table 4.

Factor 1, dubbed FFNI-SF Neuroticism, was distinguished by scales derived from the FFM Neuroticism domain, such as reactive anger, shame, need for admiration, and inverted indifference scores. Factor 2, also known as FFNI-SF Extraversion, was made up mostly of scales that were taken from the FFM Extraversion domain. These scales included acclaim seeking, authoritativeness, and grandiose fantasies, among others. Factor 3, dubbed FFNI-SF Antagonism, was made up mostly of scales taken from the FFM Antagonism domain, such as exploitativeness, arrogance, entitlement, manipulation, lack of empathy, thrill-seeking, and mistrust.

Table 4. Principal Component Analyses of the Five-Factor Narcissism Inventory-Short Form Subscales

Components	Factor1 = neuroticism	Factor2 = extraversion	Factor3 = antagonism
Need for admiration	0.77	-0.14	0.00
Shame	0.7	0.00	0.04
Reactive anger	0.66	0.14	0.11
Indifference	-0.58	0.07	0.11
Exhibitionism	0.01	0.56	-0.06
Acclaim seeking	-0.02	0.93	-0.08
Authoritativeness	-0.1	0.39	0.16
Grandiose fantasy	-0.03	0.38	-0.01
Exploitativeness	-0.04	-0.12	0.67
Arrogance	0.08	0.16	0.6
Entitlement	0.25	0.19	0.46
Manipulativeness	-0.1	-0.07	0.45
Lack of empathy	-0.1	-0.24	0.44
Thrill seeking	-0.1	0.03	0.37
Distrust	0.07	-0.00	0.33

The convergence validity of the scale was explored by computing correlations between FFNI-SF, NEO-FFI, and PNI scores. Table 5 presents the mean and standard deviation values for the subscales. According to table 6, there was a significant positive correlation between FFNI-SF Extraversion and NEO-FFI Extraversion ($r = 0.51$, $P \leq 0.001$) as well as between FFNI-SF Neuroticism and NEO-FFI Neuroticism ($r = 0.54$, $P \leq 0.001$). A significant negative correlation was observed between FFNI-SF Antagonism and NEO-FFI Agreeableness ($r = -0.59$, $P \leq 0.001$).

Table 5. Descriptive Statistics for the Five-Factor Narcissism Inventory-Short Form, Pathological Narcissism Inventory, and NEO Five-Factor Inventory Subscales

		Mean	Std. Deviation
FFNI-SF	Grandiose narcissism	122.48	16.18
	Vulnerable narcissism	51.37	9.24
	Neuroticism	35.38	8.21
	Extraversion	55.32	8.31
	Antagonism	81.93	12.22
NEO-FFI	Neuroticism	33.35	8.1
	Extraversion	51.22	9.23
	Openness	64.23	9.18
	Agreeableness	73.7	11.4
	Conscientiousness	67.98	9.86
PNI	Grandiose narcissism	30.06	7.53
	Vulnerable narcissism	55.53	14.99

Table 6. Correlations between the Five-Factor Narcissism Inventory-Short Form and NEO Five-Factor Inventory, as well as the Pathological Narcissism Inventory

	FFNI-SF Conflict	Neuroticism of the FFNI-SF	Extraversion of the FFNI	FFNI-SF Grandiose narcissism	FFNI-SF Vulnerable narcissism
neuroticism	0.04	0.54**	-0.18**		
extraversion	0.03	-0.14	0.51**		
openness	-0.06	-0.05	0.32**		
agreeableness	-0.59**	-0.25**	0.06		
conscientiousness	-0.15	-0.14	0.27**		
PNI Grandiose narcissism	0.33**	0.17**	0.34**	0.37**	
PNI Vulnerable narcissism	0.31**	0.46**	-0.02		0.48**

** At P < 0.01 the correlation is significant (2-tailed).

PNI grandiose narcissism was shown to be significantly correlated with FFNI-SF grandiose narcissism (r = 0.37, P ≤ 0.001), as was PNI vulnerable narcissism correlated with FFNI-SF vulnerable narcissism (r = 0.48, P ≤ 0.001).

Discussion

Iranian students were recruited for the purpose of evaluating the validity and reliability of the Persian translation of the FFNI – SF. Particularly, we evaluated the construct validity and reliability of the Persian FFNI-SF. In general, the findings extend the current evidence about the reliability and construct validity of the FFNI – SF. Cronbach's alphas and test–retest correlations indicated a high level of reliability for the Persian version of the FFNI-SF questionnaire. The majority of components and factors had alpha values that were more than 0.70, as shown in Table 2. In line with Sherman's (20) conclusions regarding the U.S. version of the FFNI-SF, Fossati and colleagues' (22) conclusions regarding the Italian form of the FFNI-SF, and Papageorgiou and colleagues' (24) conclusions regarding the Russian form of the FFNI-SF, sufficient Cronbach's alpha values were found for the components and factors of the Iranian form of the questionnaire in our investigation. The FFNI-SF demonstrated strong internal consistency. In addition to this, the test–retest correlations demonstrated an adequate degree of consistency over the course of time (27).

In addition, Exploratory Factor Analysis was used to examine the construct validity of the measure. The findings supported the use of a model for the scale that included three components: neuroticism, extraversion, and antagonism. This investigation reproduced the three-component model, with all characteristics loading reasonably well on their addressed variables, which is in agreement with the studies by Sherman *et al.* (20), Fossati *et al.* (22), Papageorgiou *et al.* (24), and Dai *et al.* (28). As a matter of fact, the fact or structural findings revealed that the three components of antagonism (including manipulation, exploitation, entitlement, lack of empathy, arrogance, reactive anger, mistrust, and thrill-seeking), neuroticism (including indifference, desire for admiration, and humiliation), and extraversion (including extroversion) underlie the FFNI-SF (including acclaim seeking, authoritativeness, grandiose fantasies, and exhibitionism). This degree of consistency in grouping of the FFN -SF into four separate, quite unlike cultural groups suggests that the questionnaire accurately analyzes the many constitutional causes of narcissistic diversity. This finding expands empirical evidence on the trait's complexity and the viability of utilizing the FFNI-SF to measure it.

This conclusion implies that more than two dimensions, namely grandiose and vulnerable narcissism, may be useful in assessing psychological functioning in pathological narcissism. The consistency of the FFNI-SF three-factor construct across independent groups from various cultures and based on various versions of the scale demonstrates that the FFNI-SF consistently assesses more than two separate sources of phenotypic variation in the narcissistic domain.

Similar to current requests to utilize constrained, more unidimensional dimensions in research endeavors, this three-dimensional attitude gives researchers more flexibility in knowing which components of the narcissistic structure are accountable for key narcissism-related consequences (29). Indeed, at the FFNI–SF component level, these relations become clear in that narcissistic neuroticism was the strongest positive correlate of the failure to adequately and successfully cope with life's myriad challenges, whereas narcissistic antagonism was unrelated to these difficulties, and narcissistic extraversion was significantly negatively related to this type of impairment. Conversely, narcissistic antagonism was related to interpersonal difficulties, as the other two FFNI–SF structures (i.e. narcissistic extraversion and neuroticism) were unrelated to this specific, externalizing-based form of impairment (22).

In order to investigate the convergent validity of the FFNI-SF, the correlations between its components and other variables are shown in Table 6. The results showed

a positive connection between FFNI-SF neuroticism and NEO-FFI neuroticism, as well as a positive correlation between FFNI-SF extraversion and NEO-FFI extraversion. This conclusion is comparable to that reached by Miller *et al.* (23). On the other hand, NEO-FFI agreeability and FFNI-SF antagonism had a negative association together. Since the FFNI-SF and NEO-FFI are based on the FFM, it is appropriate for them to have a considerable relationship. The relationships between FFM aspects and personality disorder syndromes correspond to the FFM personality disorder prototypes, indicating that the FFM facets may be used as a precise indication of personality disorders (23).

Additionally, the findings showed a positive association between grandiose and vulnerable narcissism in FFNI-SF and PNI, which is consistent with earlier research by Wink and colleagues (6), Miller and colleagues (23), and Sherman and colleagues (20) who claimed that narcissism is not a monolithic trait, but rather has two expressions: grandiose and vulnerable narcissism (6).

Limitation

In the beginning, we relied on the students to look at the psychometric features of the Persian version of the FFNI-SF. Despite the fact that the sample size was enough, the participants in our research should only be considered as a useful study sample, since they did not reflect Iran's general population. Our findings should not be applied to clinical populations, even if it may be acceptable to investigate clinically relevant personality characteristics in nonclinical groups. Future studies might benefit from analyzing this structure with bigger and more varied samples and testing the FFNI-SF factors about relevant behavioral outcomes (e.g., aggression, self-promotion), including clinically relevant outcomes such as treatment utilization, therapeutic alliance, and suicidal ideation and behavior.

Conclusion

The findings of this research provide consistent evidence for the validity of a three-factor structure for the FFNI-SF and for the relationship between these factors and certain personality characteristics. There are several possible benefits for this equipment. One may start by precisely mapping narcissistic traits to the actions that go along with them. Second, one might research how the fundamental components of narcissism interact with one another. Finally, narcissism and personality studies may be bridged by measuring narcissism using fundamental personality qualities. This can assist in understanding the causes, progression, and management of disordered personalities. The Persian FFNI-SF has adequate reliability and validity levels and, according to the psychometric results, is prepared for usage among Persian non-clinical samples.

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Conflict of Interest

None.

References

1. Muris P, Merckelbach H, Otgaar H, Meijer E. The malevolent side of human nature: A meta-analysis and critical review of the literature on the dark triad (narcissism, Machiavellianism, and psychopathy). Perspect Psychol Sci. 2017;12(2):183-204.
2. Miller JD, Campbell WK, Pilkonis PA. Narcissistic personality disorder: relations with distress and functional impairment. Compr Psychiatry. 2007;48(2):170-7.
3. Papageorgiou KA, Malanchini M, Denovan A, Clough PJ, Shakeshaft N, Schofield K, et al. Longitudinal associations between narcissism, mental toughness and school achievement. Pers Individ Dif. 2018;131:105-10.
4. Papageorgiou KA, Wong B, Clough PJ. Beyond good and evil: Exploring the mediating role of mental toughness on the Dark Triad of personality traits. Pers Individ Differ. 2017;119:19-23.
5. Papageorgiou KA, Gianniou F-M, Wilson P, Moneta GB, Bilello D, Clough PJ. The bright side of dark: Exploring the positive effect of narcissism on perceived stress through mental toughness. Pers Individ Dif. 2019;139:116-24.
6. Wink P. Two faces of narcissism. J Pers Soc Psychol. 1991;61(4):590-7.
7. Miller JD, Hoffman BJ, Gaughan ET, Gentile B, Maples J, Keith Campbell W. Grandiose and vulnerable narcissism: a nomological network analysis. J Pers. 2011;79(5):1013-42.
8. Papageorgiou KA, Denovan A, Dagnall N. The positive effect of narcissism on depressive symptoms through mental toughness: Narcissism may be a dark trait but it does help with seeing the world less grey. Eur Psychiatry. 2019;55:74-9.
9. Crowe ML, Lynam DR, Campbell WK, Miller JD. Exploring the structure of narcissism: Toward an integrated solution. J Pers. 2019;87(6):1151-69.
10. Miller JD, Vize C, Crowe ML, Lynam DR. A Critical Appraisal of the Dark-Triad Literature and Suggestions for Moving Forward. Curr Dir Psychol Sci. 2019;28(4):353-60.
11. Jones DN, Paulhus DL. Introducing the short Dark Triad (SD3): a brief measure of dark personality traits. Assessment. 2014;21(1):28-41.
12. Raskin R, Terry H. A principal-components analysis of the Narcissistic Personality Inventory

and further evidence of its construct validity. J Pers Soc Psychol. 1988;54(5):890-902.
13. Hendin HM, Cheek JM. Assessing Hypersensitive Narcissism: A Reexamination of Murray's Narcism Scale. J Res Pers. 1997;31(4):588-99.
14. Pincus AL, Ansell EB, Pimentel CA, Cain NM, Wright AGC, Levy KN. Initial construction and validation of the Pathological Narcissism Inventory. Psychol Assess. 2009;21(3):365-79.
15. Diguer,L., Turmel,V., Luis,R.D.S., Mathieu, V., Marcoux, L.A.,& Lapointe , T. Development and initial structure analysis of a french version of the pathological narcissism inventory. J Europ Psych. 2014 ;29,1-17.
16. Jakšić N, Milas G, Ivezić E, Wertag A, Jokić-Begić N, Pincus AL. The Pathological Narcissism Inventory (PNI) in Transitional Post-War Croatia: Psychometric and Cultural Considerations. J Psychopathol Behav Assess. 2014;36(4):640-52.
17. Glover N, Miller JD, Lynam DR, Crego C, Widiger TA. The five-factor narcissism inventory: a five-factor measure of narcissistic personality traits. J Pers Assess. 2012;94(5):500-12.
18. McCrae, R. R, Zonderman, A.B., Costa, P.T., Bond, M.H., & Paunonen, S.V.Evaluating replicability of factors in the revised NEO Personality Inventory:confirmatory factor analysis versus procrustes rotation. J per & soci psychol. 1996; 70,552-66.
19. Ackerman, R.A., Witt, E.A., Donnellan, M.B., Trzeniewski,K.H., Robins,R.W., & Kashy, D.A.what does the narcissistic personlity inventory really measure?J assess.2011;18,67-87.
20. Sherman ED, Miller JD, Few LR, Campbell WK, Widiger TA, Crego C, et al. Development of a Short Form of the Five-Factor Narcissism Inventory: the FFNI-SF. Psychol Assess. 2015;27(3):1110-6.
21. EKŞİ F. The short form of the Five-Factor Narcissism Inventory: Psychometric equivalence of the Turkish version. Educ Pract Theory. 2016;16(4).
22. Fossati A, Somma A, Borroni S, Miller JD. Assessing Dimensions of Pathological Narcissism: Psychometric Properties of the Short Form of the Five-Factor Narcissism Inventory in a Sample of Italian University Students. J Pers Assess. 2018;100(3):250-8.
23. Miller JD, Lynam DR, McCain JL, Few LR, Crego C, Widiger TA, et al. Thinking Structurally About Narcissism: An Examination of the Five-Factor Narcissism Inventory and Its Components. J Pers Disord. 2016;30(1):1-18.
24. Papageorgiou KA, Denovan A, Dagnall N, Artamonova E. A. Cross-Cultural Investigation of the Five-Factor Narcissism Inventory Short Form: Narcissism as a Multidimensional Trait in the United Kingdom and Russia. J Pers Assess. 2022;104(3):359-67.
25. Anisi J. Validity and reliability of NEO Five-Factor Inventory (NEO-FFI) on university students. International Journal of Behavioral Sciences. 2012;5(4):351-5.
26. Soleimani M, Past N, Molaie M, Mohammadi A, Dashtipoor M, Safa Y, & Pincus AL. A Validation Study of the Pathological Narcissism Inventory in a Sample of Iranian's Students. J Contemp psychol. 2015;10(1):95-110.
27. Miller, J. D., McCain, J. L., Few, L. R., & Campbell, W. K. Thinking structurally about narcissm:An examination of the five-factor narcissm inventory and its components. J Per Dis.2016;29, 177-94.
28. Dai Q, Shimotsukasa T, Oshio A. Short form of the five-factor narcissism inventory: A Japanese adaptation. Cogent Psychol. 2021;8(1):1935533.
29. Smith GT, McCarthy DM, Zapolski TC. On the value of homogeneous constructs for construct validation, theory testing, and the description of psychopathology. Psychol Assess. 2009;21(3):272-84.