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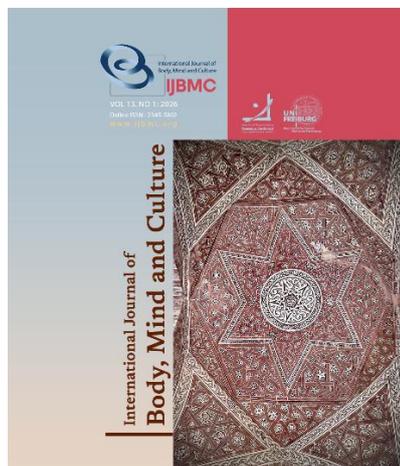
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Predicting Grandiose and Vulnerable Narcissism in Medical Students: The Roles of Fear of Compassion and Inferiority Avoidance

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ABSTRACT

Objective: Grandiose and vulnerable narcissism are linked to emotion regulation difficulties and interpersonal dysfunction. Identifying psychological correlates of these traits in medical students may inform early intervention. This study examined whether fear of compassion (FC) and striving to avoid inferiority (SAI) are associated with narcissistic traits in this population.

Methods and Materials: In a cross-sectional design, 319 medical science students (59.6% female; age range: 18–32 years, $M = 23.75$, $SD = 2.75$) at Kermanshah University of Medical Sciences completed the Pathological Narcissism Inventory, the Fear of Compassion Scale, and the Striving to Avoid Inferiority Scale. Data were analyzed using Pearson correlations and multiple linear regression. Assumptions of normality were met.

Findings: Both FC and SAI were positively correlated with grandiose narcissism ($r = .66$ and $.62$, respectively; $p < .01$) and vulnerable narcissism ($r = .75$ and $.70$, respectively; $p < .01$). Regression analyses indicated that FC ($\beta = .477$) and SAI ($\beta = .235$) jointly explained 46.6% of the variance in grandiose narcissism ($R^2 = .466$, $F(2, 316) = 137.64$, $p < .001$). For vulnerable narcissism, FC ($\beta = .544$) and SAI ($\beta = .237$) accounted for 56.2% of the variance ($R^2 = .562$, $F(2, 316) = 202.61$, $p < .001$).

Conclusion: Fear of compassion and inferiority avoidance were positively associated with both grandiose and vulnerable narcissism in medical students. These findings underscore the relevance of affective and motivational processes in understanding narcissistic traits in high-pressure academic environments.

Keywords: Grandiose narcissism, Vulnerable narcissism, Fear of compassion, Inferiority avoidance, Medical students.

Introduction

Narcissism has gained increasing attention in recent years as a multidimensional construct with relevance to both personality functioning and psychopathology. Contrary to popular perceptions that equate narcissism solely with self-importance and arrogance, research distinguishes between two empirically supported subtypes: grandiose narcissism (Marino et al. 2021) and vulnerable narcissism (VN) (Jauk et al., 2022; Koepernik et al., 2022). GN is typically associated with traits such as self-confidence, social dominance, and a sense of entitlement, whereas VN involves emotional insecurity, hypersensitivity to criticism, and interpersonal withdrawal (Kampe et al., 2021). While GN may appear adaptive in competitive contexts like medical schools, it can be linked to poor empathy and interpersonal conflict under stress. VN, on the other hand, is consistently related to anxiety, depression, and low self-worth (Khalid et al., 2022).

From a theoretical standpoint, narcissism reflects how individuals regulate self-worth and cope with psychological threat. According to emotion regulation theory, individuals with narcissistic traits rely on maladaptive regulatory strategies to protect their fragile self-image—through dominance and externalization in GN, or through avoidance and rumination in VN (Kramer et al., 2018; Ponzoni et al., 2021). This aligns with self-evaluative motivational frameworks, which suggest that underlying drives to maintain or protect one's social status and sense of worth shape both dimensions of narcissism (Blay et al., 2024).

Within this framework, two emotional-motivational processes have gained empirical interest: fear of compassion (FC) and striving to avoid inferiority (SAI). FC refers to the tendency to feel uncomfortable or threatened by giving, receiving, or even experiencing compassion—particularly self-compassion. Individuals high in FC may interpret compassion as a sign of weakness or vulnerability, which makes it emotionally threatening (Zhang & McEwan, 2023). This aversion can lead to emotional detachment, heightened self-criticism, and difficulty forming healthy interpersonal connections (Sajadian et al., 2024).

SAI, on the other hand, reflects a persistent drive to avoid perceived inferiority in social contexts. It is characterized by heightened sensitivity to rejection,

criticism, and being overlooked, often leading to compulsive efforts to maintain a favorable self-image (Şen-Pakyürek & Barışkın, 2022; To et al., 2021). Individuals high in SAI tend to experience chronic social comparison, pressure to excel, and psychological distress when facing evaluation or competition (Stoyanova & Ivantchev, 2025).

Despite accumulating evidence on these constructs, few studies have examined FC and SAI together as predictors of narcissistic traits, and even fewer have done so in non-Western cultural or academic contexts. This is particularly relevant in medical education in countries like Iran, where students face intense academic pressure, hierarchical evaluation systems, and high social expectations. Such environments may amplify the emotional vulnerabilities and defensive mechanisms associated with narcissistic traits.

The present study explores a predictive framework based on affective and motivational regulation, examining how fear of compassion and inferiority avoidance relate to narcissistic traits.

Hypotheses

- H1: Fear of compassion and striving to avoid inferiority are positively associated with grandiose narcissism.
- H2: Fear of compassion and striving to avoid inferiority are positively associated with vulnerable narcissism.

Methods and Materials

Design and Participants

This study employed a cross-sectional, descriptive-correlational design with an applied purpose. The target population consisted of students enrolled at Kermanshah University of Medical Sciences during the first semester of the 2023–2024 academic year. A total of 319 students participated, selected via non-probability convenience sampling, which limits generalizability. This limitation is acknowledged in the discussion.

A power analysis was conducted using GPower (version 3.1) to determine the minimum required sample size for a multiple regression with two predictors (effect size $f^2 = 0.10$, $\alpha = .05$, power = .95). The estimated minimum sample size was 199; the final sample ($N = 319$) exceeded this threshold, accounting for potential attrition and exclusion criteria.

Inclusion criteria were: (1) being a currently enrolled medical sciences student, (2) age ≥ 18 years, and (3) providing informed consent. No formal screening was conducted for psychiatric diagnoses or treatment history, which is noted as a potential confounding factor.

Sampling Rationale

Medical students were selected due to the high academic pressure and competitive environment they experience, which may intensify self-evaluative tendencies and narcissistic traits (Eley et al., 2016). This population provides a theoretically relevant context for examining emotion-regulation-based predictors such as fear of compassion (FC) and striving to avoid inferiority (SAI).

Ethical Considerations

This study was approved by the Ethics Committee of Kermanshah University of Medical Sciences under protocol number IR.KUMS.MED.REC.1403.016. Participation was voluntary, and written informed consent was obtained from all respondents prior to data collection. Participants were assured that their responses would remain anonymous and confidential, and they had the right to withdraw from the study at any time without penalty. The study complied with the ethical principles outlined in the Declaration of Helsinki.

Instruments

Pathological Narcissism Inventory (PNI): The PNI Pincus (2016) is a 52-item self-report instrument assessing narcissistic traits across seven subscales (e.g., entitlement rage, exploitativeness, contingent self-esteem), grouped into two higher-order dimensions: grandiose and vulnerable narcissism. Responses are rated on a 6-point Likert scale ranging from 0 ("Not at all like me") to 5 ("Very much like me"). Previous studies have supported its construct validity and internal consistency. In the current sample, Cronbach's alpha was .91, indicating strong reliability and it showed high internal consistency in Iranian student samples, with Cronbach's alpha reported at .91 (Bahrami & Safarloo, 2023).

Fear of Compassion Scale (FCS): The FCS Gilbert et al. (2007) consists of 38 items covering three domains: fear of compassion for self, from others, and for others. Items are rated on a 5-point scale from 0 ("Completely disagree") to 4 ("Completely agree"). The Persian version of the Fear of Compassion Scale has shown good reliability ($\alpha = .85-.96$) and test-retest stability ($r = .79-$

.88), with a confirmed three-factor structure in Iranian samples (Khanjani et al., 2020). In this study, the FCS showed excellent reliability (Cronbach's alpha =.91).

Striving to Avoid Inferiority Scale (SAIS): Developed by Gilbert et al. (2007), the SAIS comprises 31 items assessing social rank-based motivation through two subscales: insecure striving and secure non-striving. Respondents rate each item on a 5-point Likert scale (0 = "Never" to 4 = "Always"). The Persian version of the Striving to Avoid Inferiority Scale (SAIS) showed good internal consistency ($\alpha = .87-.92$) and acceptable test-retest reliability (.69-.84). Exploratory factor analysis supported its two-factor structure, and the scale demonstrated convergent validity with fear of rejection and interpersonal inferiority (Ghaniei et al., 2022). In this study, the SAIS reliability was good, with Cronbach's alpha of .89.

Note: Although all instruments demonstrated acceptable internal consistency, no confirmatory factor analysis (CFA) was conducted to assess factorial validity within the current sample of Iranian medical students. This is acknowledged as a limitation of the study's measurement approach.

Procedure

Data were collected between March and September 2024 through both paper-based and online surveys. Paper forms were distributed in common areas on campus, while the online version was shared via official student Telegram groups and university-affiliated platforms. Of the 340 initial responses, 21 were excluded due to incomplete data or extreme outliers.

The final sample consisted of 319 participants, with 211 responses (66%) collected online and 108 (34%) via paper-based forms. No significant differences were found in key demographic or study variables across the two data collection modes.

Data Analysis

All analyses were performed using SPSS version 26. Descriptive statistics (means, SDs, skewness, and kurtosis) were calculated. Normality of distributions was confirmed using the Kolmogorov-Smirnov test. Pearson's correlation coefficients assessed bivariate relationships among variables, and multiple linear regression analyses were used to examine the predictive roles of FC and SAI in grandiose and vulnerable narcissism.

To address potential common method bias due to the use of self-report questionnaires, procedural remedies were applied (e.g., ensuring anonymity and psychological separation of measures). However, statistical controls such as Harman's single-factor test were not applied, which is acknowledged as a limitation.

Transparency Statement

The authors declare no conflicts of interest. The data supporting the findings of this study are available upon reasonable request from the corresponding author.

Findings and Results

Participants' Demographic Characteristics

A total of 319 individuals participated in the study. Of these, 190 (59.6%) identified as female and 129 (40.4%)

as male. Most participants were unmarried ($n = 289$, 90.6%), while 30 (9.4%) reported being married. Regarding educational level, 177 participants (55.5%) were enrolled in bachelor's programs, whereas only 7 (2.2%) were pursuing professional doctorate degrees. Participants' ages ranged from 18 to 32 years ($M = 23.75$, $SD = 2.75$).

Descriptive Statistics and Normality Testing

Descriptive statistics and normality assessments for the main study variables are presented in Table 1. No significant deviations from normality were observed based on Kolmogorov–Smirnov test results (all $p > .05$). Furthermore, skewness and kurtosis values for all variables were within acceptable limits (± 2), confirming that the data distribution was sufficiently normal for parametric analysis.

Table 1

Descriptive Statistics and Normality Assessment of Study Variables (N = 319)

Variable	Mean	SD	Skewness	Kurtosis	K-S Statistic	p-value
GN	61.31	14.47	0.18	-0.63	0.31	.200
VN	108.84	27.63	0.24	-0.51	0.29	.200
SAI	57.46	11.67	0.05	-0.29	0.43	.067
FC	74.75	18.72	0.15	-0.42	0.40	.093

Note. GN = Grandiose Narcissism; VN = Vulnerable Narcissism; SAI = Striving to Avoid Inferiority; FC = Fear of Compassion.

Correlation Analysis

Pearson correlation coefficients between study variables are presented in Table 2. GN was positively correlated with both SAI ($r = .62$, $p < .01$) and FC ($r = .66$,

$p < .01$). Similarly, VN was significantly correlated with SAI ($r = .70$, $p < .01$) and FC ($r = .75$, $p < .01$). These results support the hypothesized positive associations among the variables.

Table 2

Pearson Correlation Coefficients Between Study Variables

Criterion Variable	Predictor Variable	r	p-value
GN	SAI	.62	< .01
GN	FC	.66	< .01
VN	SAI	.70	< .01
VN	FC	.75	< .01

Note. All correlations are significant at the 0.01 level (2-tailed).

H1: FC and SAI were significant predictors of GN, explaining 46.6% of the variance.

A multiple regression analysis was conducted with GN as the dependent variable and FC and SAI as predictors. As shown in Table 3, the overall model was statistically

significant, $F(2, 316) = 137.64$, $p < .001$, with an R^2 of .466. VIF values for both predictors were below 2, indicating no multicollinearity concerns. The calculated effect size was large (Cohen's $f^2 = .87$). Both FC and SAI contributed significantly to the prediction of GN.

Table 3*Multiple Regression Predicting Grandiose Narcissism*

Predictor	<i>b</i>	β	<i>t</i>	<i>p</i> -value	VIF
FC	.369	.477	6.77	<.001	1.78
SAI	.292	.235	3.34	.001	1.92

Model Summary: $R^2 = .466$, $F(2, 316) = 137.64$, $p < .001$; $f^2 = .87$ (large effect) Note. FC = Fear of Compassion; SAI = Striving to Avoid Inferiority.

H2: FC and SAI also significantly predicted VN, accounting for 56.2% of the variance.

As shown in Table 4, a second multiple regression analysis was conducted with VN as the outcome. The model was statistically significant, $F(2, 316) = 202.61$,

$p < .001$, with an R^2 of .562. Both predictors contributed positively and significantly to VN. VIF values were again within acceptable limits. The effect size was very large (Cohen's $f^2 = 1.28$).

Table 4*Multiple Regression Predicting Vulnerable Narcissism (VN)*

Predictor	<i>b</i>	β	<i>t</i>	<i>p</i> -value	VIF
FC	.804	.544	8.53	<.001	1.82
SAI	.561	.237	3.71	<.001	1.88

Model Summary: $R^2 = .562$, $F(2, 316) = 202.61$, $p < .001$; $f^2 = 1.28$ (very large effect) Note. FC = Fear of Compassion; SAI = Striving to Avoid Inferiority.

Discussion and Conclusion

This study aimed to examine whether fear of compassion (FC) and striving to avoid inferiority (SAI) are associated with grandiose and vulnerable narcissism among Iranian medical students. Previous research has shown that narcissistic traits are closely related to emotional regulation difficulties, experiences of shame and inferiority, and fears related to compassion towards self and others. This finding is consistent with the results of researchers such as Amirbeigi et al. (2021), Reis et al. (2021), and Naismith et al. (2019).

Consistent with our hypotheses, both FC and SAI were positively associated with grandiose narcissism (Marino et al., 2021). Individuals higher in GN may adopt exaggerated self-presentations and dominance as compensatory strategies to avoid perceived weakness or rejection. Their discomfort with receiving compassion and preoccupation with avoiding inferiority may reflect defensive mechanisms aimed at protecting self-worth, particularly in achievement-focused environments such as medical school. These results align with earlier studies suggesting that GN is maintained through emotional distancing and status preservation (Naismith et al., 2019; Reis et al., 2021).

Similarly, FC and SAI were also meaningfully associated with vulnerable narcissism (VN). Individuals

high in VN often report heightened sensitivity to criticism and low self-esteem. Their avoidance of compassion may stem from internalized shame or earlier emotional injuries, although trauma history was not assessed in the current study. FC may contribute to interpersonal withdrawal and defensiveness, further reinforcing VN tendencies (Kramer et al., 2018; Şen-Pakyürek & Barışkın, 2022).

The strong associations observed in both models suggest that FC and SAI may function as general psychological vulnerabilities across narcissism subtypes. However, the underlying mechanisms could differ: GN appears to involve more externally oriented self-enhancement, whereas VN may reflect inward insecurity and fear of rejection (Kampe et al., 2021). These findings extend previous literature by highlighting the relevance of emotion regulation and social comparison processes in narcissistic functioning among non-Western student populations.

An important cultural consideration is that in collectivist societies such as Iran—where values like modesty, social harmony, and respect for hierarchy are emphasized—compassion can be psychologically complex (Sedikides et al., 2024). Students who fear compassion may view it as a sign of weakness or a threat to social standing, especially in competitive or hierarchical academic environments. Emotional

openness may conflict with perceived social expectations, potentially intensifying self-protective behaviors and emotional distancing. Future research should further explore how cultural norms shape experiences of shame, inferiority, and compassion in such settings.

This study has several limitations. First, the use of non-probability convenience sampling restricts the generalizability of the findings. Second, reliance on self-report measures may introduce response biases due to social desirability or limited self-awareness, particularly in participants with narcissistic traits. Third, the cross-sectional design prevents causal interpretation. Finally, subscale-level analyses of FC and SAI were not conducted, which could have provided more nuanced insights.

Future studies could address these limitations by employing longitudinal or experimental designs, integrating multi-method assessments, and analyzing specific components of compassion-related fears. Additionally, exploring how cultural and contextual factors interact with emotional regulation processes may offer deeper insight into narcissistic development in non-Western populations. Intervention studies focusing on compassion-based approaches, such as compassion-focused therapy, may also be valuable for addressing maladaptive narcissistic patterns in academic and clinical contexts.

This study found that striving to avoid inferiority (SAI) and fear of compassion (FC) were statistically associated with both grandiose and vulnerable narcissism among university students. These psychological processes may contribute to how narcissistic traits are maintained and expressed, particularly in competitive academic environments. While the findings cannot support causal interpretations due to the cross-sectional design, they highlight the relevance of emotion regulation difficulties and compassion-related fears in understanding narcissistic tendencies.

Rather than suggesting direct interventions, the results underscore the importance of further research on contextual and individual factors—such as gender, academic stress, or cultural values—that may moderate or mediate the links between FC, SAI, and narcissism. Future studies employing longitudinal or experimental designs could clarify causal pathways and test the

effectiveness of compassion-based interventions in educational settings.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contribute to this study.

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