



# Prevalence of Adaptive Narcissism and Its Demographic Correlations Among the Interns of Guilani University of Medical Sciences, Medical Faculty: A Cross-sectional Study

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## Abstract

**Background:** Adaptive narcissism is the presence of narcissistic personality traits in otherwise normal individuals. Considering the potential effects of narcissism on the medical profession.

**Objectives:** The aim of the present study was to investigate the prevalence of adaptive narcissism and its demographic correlations among a medical student population using self-assessment tools.

**Methods:** Participants were selected through cluster sampling among students spending their internship in the Medical School of Guilani University of Medical Sciences in 2019 (N = 138). The 40-item Narcissistic Personality Inventory (NPI-40) was used to assess the prevalence of adaptive narcissism. Next, the demographic correlations of narcissism were studied.

**Results:** The prevalence of adaptive narcissism was 18.1%, with the NPI-40 mean score of 14.43. The self-sufficiency subscale of NPI-40 was correlated with the male gender (P = 0.01).

**Conclusions:** Among medical interns, the whole constructs of adaptive narcissism are as high as found in a normal population and are not correlated with demographic characteristics of the given sample. The self-sufficiency subscale is positively correlated with the male gender.

**Keywords:** Medical Students, Narcissism, Personality Disorders

## 1. Background

Narcissism has been conceptualized as “one’s capacity to maintain a positive self-image through a variety of self-, emotional-, and field-regulatory processes (1). ‘Adaptive’ narcissism presents as self-preservation, self-regard, healthy entitlement, empathy, and commitment in interpersonal relations (2, 3). It has potential effects on the social and professional fields, including medical profession (3-5): adaptive narcissistic has aspects, such as authority, self-sufficiency, and superiority that confer advantages in workplace. These aspects are “often evident in individuals occupying positions of power”, such as physicians and males. On the other hand, it is not precisely clear that all ‘male physicians’ with high level of narcissistic traits do actually better in comparison with ‘less narcissistic female’ ones (4, 6-8), because narcissism has effects on emergent (though not necessarily successful) decision-making (1, 6, 9) and can even lead to aggression and violent behavior in

the presence of an “ego threat” (10). Moreover, narcissism has been shown to be more prevalent among men, single individuals, (8, 11), and in some reports, firstborn children (12).

Regarding the importance of the topic in the medical profession, we measured adaptive narcissism among medical interns who are about to start their professional life as physicians.

## 2. Objectives

### 2.1. Primary Objectives

1) To determine the prevalence and severity of adaptive narcissism among medical interns of the Medical School of Guilani University of Medical Sciences.

2) To determine the correlation between adaptive narcissism and the demographic characteristics of the given population, consisting of gender, ethnicity, father’s and mother’s educational level, birth order, and marital status.

## 2.2. Secondary Objectives

1) To measure all seven narcissism sub-constructs according to the Narcissistic Personality Inventory (NPI-40).

2) To determine if there is a correlation between adaptive narcissism and the demographic characteristics of the given population at the subscale level (i.e. authority, exhibitionism, superiority, exploitativeness, entitlement, self-sufficiency, and vanity).

## 2.3. Hypotheses

1) Medical students score higher in the NPI-40 in comparison with the normal population.

2) Males, single individuals, and firstborn cases score higher in NPI-40 in comparison with females, married individuals, and non-first born cases.

## 3. Methods

### 3.1. Procedure

The statistical population of this cross-sectional study was all medical interns spending their internship course at academic hospitals of Rasht, Guilan. The population size during the academic year 2018 - 2019 was a total of 177 cases. Using Cochran's sample size formula with a confidence level of 0.95, marginal error of 0.07, and Z-value of 1.96 ( $P=q=0.5$ ), the minimum sample size of 138 was found to be appropriate.

The sampling was done through cluster sampling for one week in the first half of April 2019. Informed consent was obtained from all interns orally and individually, and all participants were provided a written description of the study. A two-part questionnaire consisted of demographic questions (i.e., gender, ethnicity, birth order, father's and mother's educational level, and marital status), and a validated Persian translation of NPI-40 in paper form was distributed. All questions other than ethnicity were marked as 'required'. The questionnaires with no complete answers were excluded from analysis, and recruitment was continued to provide the minimum sample size of 138. Ethical approval was obtained from the Research Ethics Committee of Guilan University of Medical Sciences (Ethics code: IR.GUMS.REC.1398.042).

### 3.2. NPI-40 (Raskin & Terry 1988)

The NPI-40 was used to measure adaptive narcissism. NPI-40 is a 40-item forced-choice self-report instrument to measure narcissistic personality traits in non-clinical populations, composed of seven principal factors as following: authority (having either attributes that facilitate the achievement of a group's goals or an attractive and authoritative personality serving to enhance the individual's

credibility), exhibitionism (the disposition or tendency to draw attention to oneself, particularly through conspicuous behavior), superiority (an exaggerated opinion of one's abilities and accomplishments), exploitativeness (use of stealth, deceit, power, or violence to obtain what the individual wants), entitlement (unreasonable claims to special consideration, especially as a disturbance of self-concept), self-sufficiency (being able to maintain oneself without aid), and vanity (inflated pride in oneself or one's appearance). Each item is a paired self-attitude statement. The reliability of the NPI-40 has been previously demonstrated (13-17).

## 3.3. Data Analysis

All data were analyzed by SPSS software version 25 using descriptive statistics, the Independent samples t-test, Pearson's correlation coefficient, Kendall's tau-b correlation coefficient, and one-way analysis of variance (ANOVA) F-test.

## 4. Results

The participants were 59 men (42.8%) and 79 women (57.2%) aged 23 to 27 years (total: mean = 25.24 years, SD = 1.3 years; men: mean = 25.64 years, SD = 1.214 years; women: mean = 24.94 years, SD = 1.304 years). Eleven participants had incompletely filled out the questionnaire and were excluded prior to analysis. Tables 1 and 2 present the descriptive data for demographic characteristics and NPI-40 scores, respectively. Data of total NPI-40 scores and NPI-40 subscales were normally distributed, with skewness of < 1 and kurtosis of > -1. The one-sample Kolmogorov-Smirnov test showed the same result. Data obtained from the whole NPI-40 and its subscale according to gender, marital status, and birth order also showed a normal distribution as revealed by the two-sample Kolmogorov-Smirnov test (18).

According to Raskin & Terry (1988), NPI-40 total scores of 10 to 15 are generally found in the normal population, scores ranging from 15 to 20 are considered as borderline, and scores higher than 20 indicate a person with narcissistic personality disorder (NPD) (13). Table 3 presents that the majority of respondents scored less than 20 on NPI-40, indicating low to moderate adaptive narcissistic tendencies in the samples.

An Independent samples t-test indicated that there was not a significant difference in NPI-40 mean scores between men ( $M = 15.47$ ,  $SD = 6.63$ ) and women ( $M = 13.65$ ,  $SD = 5.82$ ) ( $t(136) = 1.72$ ,  $P = 0.09$ ,  $d = 0.291$ ). At subscale level, scores in self-sufficiency were significantly higher for men ( $M = 2.27$ ,  $SD = 1.29$ ) than for women ( $M = 1.70$ ,  $SD = 1.33$ ) ( $t(136) = 2.53$ ,  $P = 0.01$ ,  $d = 0.435$ ). An Independent samples t-test indicated

**Table 1.** Descriptive Statistics for Demographic Indices<sup>a</sup>

	Frequency	Percent
<b>Marital status*</b>		
Unmarried	114	82.6
Married	24	17.5
<b>Birth order*</b>		
Firstborn	78	56.5
Non-firstborn	60	43.5
<b>Father's educational level</b>		
Less than a high school diploma	7	5.1
diploma	34	24.6
Bachelor's degree	50	36.2
Master's degree	24	17.4
PhD or higher	23	16.7
<b>Mother's educational level</b>		
Less than a high school diploma	5	3.6
diploma	53	38.4
Bachelor's degree	57	41.3
Master's degree	13	9.4
PhD or higher	10	7.2
<b>Ethnicity (N = 130)</b>		
Gilak	84	64.6
Non-Gilak	46	35.4
Azari	6	4.6
Fars	15	11.5
Isfahani	1	0.8
Tabari	8	6.2
Talesh	10	7.7
Not belonging to any ethnic groups	6	4.6

<sup>a</sup> \* required question, N = 138**Table 2.** Descriptive Statistics for the 40-Item Narcissistic Personality Inventory (NPI-40) Scores

N = 138	Total (Mean $\pm$ SD)	Female (Mean $\pm$ SD)	Male (Mean $\pm$ SD)
<b>NPI-40</b>	14.43 $\pm$ 6.22	13.65 $\pm$ 5.820	15.47 $\pm$ 6.637
<b>Authority</b>	3.97 $\pm$ 2.00	3.75 $\pm$ 2.009	4.27 $\pm$ 1.964
<b>Exhibitionism</b>	1.75 $\pm$ 1.33	1.75 $\pm$ 1.400	1.75 $\pm$ 1.254
<b>Superiority</b>	1.80 $\pm$ 1.46	1.63 $\pm$ 1.341	2.03 $\pm$ 1.608
<b>Entitlement</b>	2.55 $\pm$ 1.45	2.44 $\pm$ 1.268	2.69 $\pm$ 1.664
<b>Exploitativeness</b>	1.54 $\pm$ 1.54	1.39 $\pm$ .980	1.75 $\pm$ 1.254
<b>Self-sufficiency</b>	1.94 $\pm$ 1.34	1.70 $\pm$ 1.334	2.27 $\pm$ 1.298
<b>Vanity</b>	0.87 $\pm$ 0.88	0.99 $\pm$ 0.884	0.71 $\pm$ 0.872

**Table 3.** Descriptive Statistics for 40-Item Narcissistic Personality Inventory (NPI-40) Total Scores with Respect to the Three Defined Ranges

NPI-40 total score (N = 138)	Frequency	Percentage
≤ 15	85	61.6
16 - 19	28	20.3
≥ 20	25	18.1

that there was not a significant difference in NPI-40 mean scores between married ( $M = 15.50$ ,  $SD = 7.15$ ) and unmarried ( $M = 14.20$ ,  $SD = 6.02$ ) respondents ( $t(136) = -0.928$ ,  $P = 0.35$ ,  $d = 0.196$ ). Firstborn and non-firstborn cases scored almost equally on NPI-40 (means: 14.38 and 14.48; SDs = 6.72 and 5.56, respectively). NPI-40 total scores did not correlate with father's and mother's educational level, based on Kendall's tau-b correlations (father's education:  $\pi = -0.106$ ,  $P = .104$ ; mother's education:  $\pi = .022$ ,  $P = .738$ ).

The one-way ANOVA F-test was conducted to compare the effects of ethnicity on NPI-40 total scores in the following conditions: Talesh, Azari, Tabari, Fars, Gilak, and "Not belonging to any ethnic groups." Isfahani ethnicity was excluded from the analysis ( $N = 1$ ). Ethnicity showed no significant effect on NPI-40 total scores at  $P < .05$  level for the six above conditions ( $F(5, 123) = 1.27$ ,  $P = .28$ ,  $Ps = 1.00$  with a Bonferroni adjusted alpha level of .008 per test). NPI-40 total scores were then recategorized with respect to ethnicity into Gilak, and non-Gilak groups since the majority of respondents were Gilak people. An Independent samples *t*-test indicated that there was not a significant difference in NPI-40 mean scores between Gilak ( $M = 13.95$ ,  $SD = 6.180$ ) and non-Gilak ( $M = 15.35$ ,  $SD = 6.012$ ) respondents ( $t(128) = 1.25$ ,  $P = .21$ ,  $r = .229674$ ).

## 5. Discussion

The NPI tool assesses "nondistressed adaptive expressions of narcissism"; thus, the higher frequency of adaptive narcissism in our sample (14.43%) in comparison with that of NPD in the general population (from 0% to 5.3%) (19) was expectable (1, 20). This comparison of frequencies can be made with respect to the following considerations: first, the whole NPI scale positively correlates with clinical measures of narcissism (21), and "the NPI assesses general personality traits consistent with NPD" (20), which means that the NPI can be used as an equivalent to clinical measures in a non-clinical general population; and second, the mixed adaptive / maladaptive content of the NPI (22), indicates that it cannot be used to 'differentiate' between a group diagnosed with NPD and a control group.

NPI-40 total scores in our sample lie within the normal range for non-clinical populations. The latter is consistent

with a previous study on a similar population of medical professionals (23), considering that the NPI measures narcissism as a continuous variable, and there is no specific cut-off score that differentiates adaptive / pathologic narcissism (24).

Our findings regarding gender differences in narcissism are inconsistent with the majority of previous studies conducted mostly in Western societies (11, 14); however, there are examples of not finding such a correlation between gender and narcissism (25-27), as reviewed by Grjälva et al. (10). On the other hand, related studies on narcissism are 'gender-neutral' (28). Our male participants scored higher in the self-sufficiency subscale of the NPI-40. This subscale consists of items concerning assertiveness and courage, which are positively valued for men and also give them advantage in the workplace. Additionally, this system of values addresses how gender roles are defined in society (29). Regarding the change in gender roles over time and the generational change in narcissism, it is possible that gender difference in narcissism was not detected in our sample due to the "generational increase in agentic traits and assertiveness [that had been] stronger for women" (9-11).

The NPI-40 total scores were not significantly higher in firstborn than non-firstborn cases, which cannot support theories on the development of a "narcissistic defense" in firstborn children following the birth of a second sibling (30, 31). However, it must be noted that considering birth-order simply as 'a number ascribed to an individual', seems to be a reductionistic point of view, leading us to ignore contextual factors related to personality (32).

No relationship was found between adaptive narcissism and current marital status, as well as father's and mother's educational level. These variables can correlate with personality disorders, including narcissism, through 'social causation' and 'social selection' (8, 25, 30, 33); however, a longitudinal study is needed to determine which are the causes and which are the consequences.

### 5.1. General Considerations

The precise interpretation of the similarities and differences in narcissism between Iranian and Western populations is not completely possible by simply comparing the NPI mean scores, since first, the construct of narcissism is multifaceted, and second, Iranian and Western populations have been influenced by different social changes through history. It has been postulated that the "rise of individualism" serves as the reason for the rise in narcissism in Western societies (9). Iranian culture "lies in the middle of the collectivism-individualism spectrum", and these two extremes are "integrated within the personality" (26,

34); so, it may be the reason for lower NPI scores in our sample in comparison with samples of the Western societies.

It is speculated that parenting (a variable not considered directly in our study), based on children's gender, reflects the type of socialization "designed by parents" that would later define their gender roles (11, 30). These qualities can be influenced by children's birth order, which lies beyond their ordinal position in the family.

Results of the NPI-40 total scores lying in the range considered normal for the general population do not predict the participants' situational-contextual behaviors. Regarding contextual factors, our reported NPI scores may be partly influenced by a restricted sense of personal agency and self-esteem in medical students who are spending their internship course under rather tough working disciplines and under the supervision of their senior colleagues. However, the results may also partially oppose the general belief that physicians are 'self-centered' and narcissistic.

### 5.2. Conclusions

Narcissistic personality traits - which are partially adaptive - among medical interns are as high as found in a normal population, as revealed by the total NPI-40 scores. The whole construct of adaptive narcissism is not related to the demographic characteristics of the given sample. At the subscale level, self-sufficiency is positively related to the male gender.

### 5.3. Limitations

Our study had a limited potential to reflect the correlation between narcissism and sociodemographic characteristics among participants; this was mostly due to the limitations of cross-sectional study design and the homogeneity of the sample in respect of environmental factors.

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### Footnotes

**Authors' Contribution:** Study concept and design: A. P; Acquisition of data: E. M; Analysis and interpretation of data: E. M; Drafting of the manuscript: E. M; Critical revision of the manuscript for important intellectual content: A. P; Statistical analysis: E. M; Study supervision: A. P.

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**Informed Consent:** Informed consent was obtained from all interns orally and individually, and all participants were provided a written description of the study.

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