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# Investigating the Relationship between Attitudes towards Drug Addiction and Personality Traits in Abadan University of Medical Sciences Students in 2019

**Mehdi Otbeh [1], Atefeh Zahedi [2], Babak Rastegarimehr [3,*], Mohammad Mahboubi [3]**

[1] Student Research Committee, Abadan University of Medical Sciences, Abadan, Iran

[2] Department of Public Health, Asadabad School of Medical Sciences, Asadabad, Iran

[3] Department of Public Health, Abadan University of Medical Sciences, Abadan, Iran

**Corresponding author: Babak Rastegarimehr, Department of Public Health, Abadan University of Medical Sciences, Abadan, Iran. E-mail: b.rastegarimehr@abadanums.ac.ir*

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**Abstract**

**Introduction:** Different personality traits have different positive or negative attitudes towards addiction. This study examines the association between the attitude towards drug addiction and the personality characteristics of Abadan University of Medical Sciences students and highlights the social issue of drug addiction due to its ability to undermine social beliefs.

**Methods:** In this cross-sectional study, 324 students were included in the research using the random sampling method. The target population was students, and the research sample was students of Abadan University of Medical Sciences. The data collection tools were two questionnaires: "attitude towards drug addiction" and questionnaire of the "five-factor model of personality". Tests of Student -t test, one way ANOVA and linear regression were used to analyze the data.

**Results:** The study participants included 107 men and 217 women. Most of the participants (93.2%) were single. The average age of the participants was 22.25 ± 6.35 years. The mean and standard deviation of attitude towards addiction in students were 59.08±17.34 which was lower than the median value of the questionnaire (96), and this difference was statistically significant. (P value<0.001). Addiction attitude was positively correlated with neuroticism domain (r=0.13, P < 0.05) and negatively correlated with openness to experience (r=-0.31, P < 0.01). According to the results of the regression test, 14% of the changes in attitudes towards addiction were predicted by personality domains. Also, neuroticism and openness to experience were the most important predictors for attitude towards addiction.

**Conclusions:** Personality traits, especially neuroticism, are predictors for attitudes toward drug addiction and drug abuse. Counseling centers should collect student personality traits to predict drug addiction attitudes, identify vulnerable individuals, offer counseling and educational services, and organize events. Participating in sports, attending lectures, and social skills training can reduce drug abuse. Authorities should adapt educational programs to student characteristics.

## INTRODUCTION

The World Health Organization (WHO) has defined drug abuse as the continuous or occasional excessive use of drugs that is inconsistent with or unrelated to appropriate medical practice. It is excessive consumption of any addictive chemical. WHO currently classifies addiction as a form of dependence that can manifest in different levels of intensity, leading to detrimental effects on academic and social aspects, as well as producing health issues [1, 2]. Addiction is classified as a social issue due to its potential to

undermine the fundamental principles of a society, its widespread occurrence and associated issues, and its deviant nature that contributes to behavioral disorders[3]. Drug addiction among young people, educated elites and students, despite the lack of acceptance by society, affects human capital and increases social problems [4].

An additional issue in Iran is to the declining age at which substance usage begins. The research findings indicate that substance abuse typically begins at the age of 9[5, 6]. Communicating with addicts has an impact on a person's beliefs and attitudes about drug use. As to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders, substance use disorder is characterized by a combination of cognitive, behavioral, and physiological symptoms[7].

At the onset of the academic year, students face problems such as proper management of study time and solving communication problems, and sometimes they may turn to drugs to maintain alertness and energy[8]. Studies have shown that personality traits play an important role in influencing the likelihood of engaging in risky behaviors such as drug use, smoking, alcohol consumption, and unsafe sex. Personality is an aspect of human existence that enables us to predict how a person will act in certain situations. In fact, personality consists of stable behavioral patterns that define the characteristics of a person[9, 10].

This question is raised: which personality traits have a greater impact on people's attitude towards drug addiction?[8] The Five Factor Model (FFM) is a significant classification in the field of personality, which was developed by McCrae and Costa. They identified five main dimensions or factors for personality: neuroticism, agreeableness, conscientiousness, openness to experience, and extraversion[11]. In their study, Ebrahimzadeh and Sohrabi found that certain personality factors contribute to substance abuse[12]. Another study verified the association between personality traits and addiction[13]. Some researchers have stated that people have positive attitudes towards addiction, such as the ability to gain greatness, to gain peace, and to use drugs without becoming addicted. The probability of their use and addiction is mostly that of people who have a negative attitude[14].

Elsewhere, the issue of prevalence of addiction and underlying factors has been similarly investigated. Özge Buran and his colleague, in a study they did in 2018, determined that there is a substantial association between the predisposition to addiction and social media, and both have a major impact on self-esteem[15]. A study conducted at the University of the Philippines showed that increasing the knowledge and understanding of some personality traits increases the moral behavior of students in the social environment[16]. In a study conducted in Brazil, the primary finding was the strong correlation between cocaine use and trait impulsivity among university students. This highlights the significance of trait impulsivity as a potential marker for vulnerability to cocaine use and other substance abuse[17]. Do factors such as residence in a student dormitory, age, and gender affect students' views on drug addiction?

According to what was mentioned, people's personality is effective in their behavior and decisions. Therefore, it is possible to take a step towards controlling such behaviors by identifying aspects of personality that are more related to the individual's motivations for tending to high-risk behaviors such as drug use. The research team conducted a study to determine the relationship between drug addiction tendencies and personality characteristics in students of Abadan University of Medical Sciences. This is important because identifying the degree of students' addiction tendencies is crucial for human resource development, and promoting principles, values, and moral behavior in academic centers is of particular significance.

## METHODS

This cross-sectional analytical study was conducted on 324 students at Abadan University of Medical Sciences in 2020. In this study, the target population was students, and the research sample was students of Abadan University of Medical Sciences. The criteria for inclusion in the study was the student's explicit agreement to take part in the research. The incomplete responses to the questions served as the exclusion criterion. Sampling was conducted via convenience sampling across all disciplines. The tools of data collection were the questionnaire of attitude towards addiction and drugs and the questionnaire of 5 personality factors. The attitude towards addiction and drugs questionnaire comprises 32 questions that are evaluated using a Likert scale. For questions related to favorable substances or a positive attitude towards addiction, respondents are asked to choose from the following options: "I completely agree, I agree, I have no opinion, I disagree, I completely disagree." These options are assigned grades of 1, 2, 3, 4, and 5, respectively. Conversely, for questions concerning adverse substances or negative attitudes towards addiction, the scoring is reversed. The scores in this questionnaire vary between 32 to 160, with a higher score indicating a positive attitude towards addiction and drug usage. This questionnaire was translated into Persian by Nazari and its reliability (Cronbach's alpha: 0.89) and content validity were checked and confirmed[18]. In this study, the reliability of the questionnaire was checked using Cronbach's alpha and the value was 0.82.

The personality factor questionnaire, developed by Khormai and Farmani, consists of 21 questions. The questions are graded using a 5-point Likert scale. For

positive items, a score of 5 is given to a completely correct answer, while an incorrect alternative receives a score of 1. Items with negative values are evaluated in an opposite manner. This questionnaire comprises five distinct subscales. The dimensions being assessed in this study include neuroticism (questions 18, 13, 9, and 4), agreeableness (questions 2, 16, 21, and 2), conscientiousness (questions 17, 12, 8, and 3), openness to experience (questions 19, 14, 10, and 5), and extraversion (questions 20, 15, 11, 6, and 1). The maximum score obtained in each factor is 20, while the minimum score obtained is 4, for neuroticism, agreeableness, conscientiousness and openness to experience and for extraversion domain is 25 and 5 respectively. The questionnaire's validity was assessed by factor analysis employing the principal components approach, while its reliability was assessed using Cronbach's alpha coefficient. The results of factor analysis showed the independence of five main personality variables and Cronbach's alpha coefficients were from 0.69 to 0.83 [19].

Questionnaires were filled out online. The link of the questionnaire was provided to the students by the representatives of the classes through social networks and email for completion. Thus, the students were given the link to the questions, and those who were interested in taking part in the study responded to the questions. Before completing the questionnaire, the informed consent form was confirmed by the participants electronically. The gathered data was encoded and inputted into the SPSS software version 20. The data analysis involved the application of descriptive statistics, such as frequency (percentage) and mean (standard deviation). Student- t test and one way ANOVA tests were used to compare the average variable of attitude towards addiction and drugs based on two and more than two level categorical variables, respectively, Pearson's correlation test was used to investigate the relationship between personality domains and attitude towards addiction and multiple linear regression models were used to predict attitudes towards addiction by personality domains.

## RESULTS

A total of 324 students were subjected to examination in this research. Out of the total, 33% (107) were male, while 67% (217) were female. Most of the participants (93.2%) were single. The average of the age of the participants were 22.25±6.35 (Table 1). The mean and standard deviation of attitude towards addiction in students were 59.08±17.34 which was lower than the median value of the questionnaire (96), and this difference was statistically significant. (p value<0.001). Male students exhibited a greater degree of attitude towards addiction compared to female students (65.52±18.87 vs. 56.01±15.71, p<0.0001), and unmarried students displayed a higher level of attitude than married students (59.82±17.47 vs. 49.23±11.98, p=0.007), this difference was also found to be statistically significant. According to the educational field, students in the surgical technologist, laboratory sciences, and medicine had the highest attitude towards addiction (68.51±19.80, 66.32±20.46 and 62.11±17.21 respectively). On the other hand, students in the medical library and information science, public health, and anesthesiology had the lowest attitude towards addiction (50.84±13.73, 51.34±9.41 and 52.41±8.64 respectively). This information can be found in Table 3.

**Table 1.** Demographic characteristics of the participants (n=324)

| | Frequency | Percent |
|---|---|---|
| **Sex** | | |
| Male | 107 | 33 |
| Female | 217 | 67 |
| **Marital Status** | | |
| Single | 302 | 93.2 |
| Married | 22 | 6.8 |
| **Educational Field** | | |
| Medicine | 60 | 18.5 |
| Nursing | 40 | 12.3 |
| Laboratory Sciences | 40 | 12.3 |
| Surgical Technologist | 31 | 9.6 |
| Public Health | 25 | 7.7 |
| Environmental Health Engineer | 27 | 8.3 |
| Occupational Health Engineer | 13 | 4 |
| Anesthesiology | 18 | 5.6 |
| Medical Library and Information Science | 28 | 8.6 |
| Health Information Technology | 24 | 7.4 |
| Emergency Medical Technician | 13 | 4 |

**Table 2.** Mean and standard deviation of personality domains

| Variable | Mean (SD) |
|---|---|
| **Neuroticism** | 11.86 (3.22) |
| **Agreeableness** | 16.53 (2.50) |
| **Conscientiousness** | 15.21 (2.66) |
| **Openness to Experience** | 15.21 (2.55) |
| **Extraversion** | 15.98 (3.36) |

The average of different areas of personality is shown in Table 2. Neuroticism had the lowest average (11.86±3.22), while agreeableness had the greatest average (16.53±2.50). The Pearson correlation test revealed a statistically significant association between the personality domains (except the openness domain) and the attitude towards addiction (p<0.05). The attitude towards addiction had a positive correlation with neuroticism and a negative correlation with other domains (Table 4). The multiple linear regression test results indicate that 14% of the variance in attitude towards addiction predicted by the fields related to personality. The variables of neuroticism, agreeableness, conscientiousness and openness to experience were predictors of attitude towards addiction and drugs. Variables agreeableness (β=-0.28, p<0.001) and conscientiousness (β=-0.14, p=0.02) were respectively the most important predictors of attitude towards addiction and drugs, these factors were negative

predictors of attitude towards addiction and drugs. Neuroticism (β=0.11, p=0.05) and openness to experience (β=0.11, p=0.05) were positive predictors of attitudes towards addiction and drugs. Extraversion was not a significant predictor for attitudes towards addiction and drugs (β=-0.06, p=0.33).

**Table 3.** Mean and standard deviation of attitude towards addiction based on demographic variables of students

| Variable | Mean (SD) | T / F | P |
|---|---|---|---|
| **Sex** | | 20.83 | 0.000* |
| Male | 65.52 (18.87) | | |
| Female | 56.01 (15.71) | | |
| **Marital Status** | | 7.43 | 0.007* |
| Single | 59.82 (17.47) | | |
| Married | 49.23 (11.98) | | |
| **Educational Field** | | 3.62 | 0.000** |
| Medicine | 62.11 (17.21) | | |
| Nursing | 59.83 (17.03) | | |
| Laboratory Sciences | 66.32 (20.46) | | |
| Surgical Technologist | 68.51 (19.80) | | |
| Public Health | 51.34 (9.41) | | |
| Environmental Health Engineer | 56.04 (16.34) | | |
| Occupational Health Engineer | 55.5 (16.31) | | |
| Anesthesiology | 52.41 (8.64) | | |
| Medical Library and Information Science | 50.84 (13.73) | | |
| Health Information Technology | 54.35 (15.09) | | |
| Emergency Medical Technician | 56.58 (18.27) | | |

*Calculated by student-t test

**Calculated by ANOVA model

**Table 4.** Examining the relationship between attitudes towards addiction and personality domains

| | Neuroticism | Agreeableness | Conscientiousness | Openness to Experience | Extraversion |
|---|---|---|---|---|---|
| **Attitude to Addiction** | | | | | |
| Pearson correlation | 0.13* | -0.31** | -0.21 | -0.02 | -0.14 |

*. Correlation is significant at the 0.05 level (2-tailed)

**. Correlation is significant at the 0.01 level (2-tailed)

**Table 5.** Prediction of attitude towards addiction and drugs by personality domains using linear regression

| | Standardized Coefficients Beta | P | R | R2 | F | P |
|---|---|---|---|---|---|---|
| **personality domains** | | | 0.37 | 0.14 | 9.17 | 0.000 |
| **Neuroticism** | 0.11 | 0.05 | | | | |
| **Agreeableness** | -0.28 | 0.000 | | | | |
| **Conscientiousness** | -0.14 | 0.02 | | | | |
| **Openness to Experience** | 0.11 | 0.05 | | | | |
| **Extraversion** | -0.06 | 0.33 | | | | |

## DISCUSSION

This research showed that personality domains (except extraversion) were predictors of attitude towards addiction. The attitude towards addiction has a positive relationship with neuroticism and a negative relationship with other categories.

The research findings revealed that the mean and standard deviation of students' attitude towards addiction was 59.08±17.34. These results show a predominantly negative stance among students at this university towards drugs. Marjaei et al. found that the level of attitude towards addiction was 21.44% among native students of Tehran universities and 22.75% among non-native students[20]. Furthermore, Rezakhani Moghadam et al. documented the prevalence of substance misuse among students at Tehran University of Medical Sciences to be 33%, while the rate among students at Tehran University was found to be 37.5%[21]. Both studies data indicating the students' unfavorable disposition towards drugs, so corroborating the findings of this study. Nevertheless, Ahmed et al.'s study revealed a significant surge in drug cravings and a favorable disposition towards drug usage among university students[22]. The disparity in the findings of this study, as opposed to previous studies, may be attributed to the distinct cultural attributes of Pakistan and the convenient availability of narcotics.

Male students exhibited a more favorable disposition towards drugs compared to their female counterparts in this study. This finding has been corroborated in numerous investigations [22-26]. In their study, Roncero et al. found that among the 336 samples of medical students from the Autonomous University of Barcelona, men used a greater quantity of alcohol and other substances compared to women[27]. One possible explanation for the lesser inclination towards addiction among women in this study and in Iran is the

influence of cultural factors, such as the prevalence of social shame among women. In addition, women may face challenges in obtaining and accessing drugs, which further helps to reduce their tendency to addiction and negative attitudes towards drug use. Also, the understanding of stress and anxiety and its impact is different in men and women, and the type of reaction to it may also be different.

The survey found that students in the surgical technologist, laboratory sciences, and medicine groups had the highest inclination to use drugs. The findings of Kurdestani et al.'s study were congruent with those of medical students, however these findings were not found in the context of surgical technologist and laboratory sciences[28]. Based on the performed studies, it can be inferred that possessing knowledge about the negative consequences of drug use does not inevitably result in adopting healthy habits, abstaining from drug use, or developing a resistance to drugs. Conversely, medical and clinical students may experience higher levels of stress and anxiety compared to students in other areas. This is mostly due to the demanding nature of their coursework and the clinical setting they are exposed to. This can lead to a positive attitude towards drug abuse. The variation in the complexity and intensity of courses of study across different disciplines may influence the likelihood of drug usage.

In this study, in accordance with the findings of Dehghani et al.'s study, the positive attitude towards drugs was higher among single students compared to married students[24]. However, Rezakhani et al.'s study shows that married people have a positive attitude towards drug abuse compared to their single counterparts. [21]. Barry and his colleagues documented that a greater number of participants expressed reluctance to marry or collaborate closely with a family member who is addicted to drugs[29].

Personality traits, including neuroticism, agreeableness, conscientiousness, openness to experience, and extraversion, are recognized as significant cognitive elements contributing to the inclination towards addiction and engaging in risky behaviors, such as drug use and risky sexual encounters[30]. conscientiousness in the domain of personality is defined by qualities such as a strong drive for achievement, meticulousness, self-discipline, and similar attributes[8]. Individuals who possess elevated scores in this domain demonstrate a propensity for achieving success in their professional endeavors and academic pursuits[31]. The findings of this study revealed a negative correlation between conscientiousness and addiction propensity among students, consistent with previous research [8, 14, 32]. Typically, those with lower scores in this personality feature tend to lack precision in applying moral concepts and exhibit little motivation in pursuing their goals. These individuals exhibit strong hedonistic tendencies, and a deficiency in this aspect of their personality predisposes them to engage in impulsive sensation-seeking behavior, which significantly increases their susceptibility to substance addiction[19].

The study found that there is a negative correlation between agreeableness in students and the likelihood of addiction. This means that when a person has lower levels of satisfaction, they have a positive attitude towards drug addiction. These findings align with previous studies conducted by Shafii[8], Baron-Oladi[33], and Franques[34]. Hence, the inclination of individuals towards addiction and drug abuse can be effectively elucidated by their low agreeableness. Research conducted by McCrae et al.[35] suggests that low scores in this trait are associated with narcissistic, antisocial, and psychotic personality disorders, thereby fostering the propensity for addiction.

The study found a negative correlation between openness to experience and propensity for addiction, consistent with the findings of Maghanlou et al.[31] and Glantz et al.[36]. The study conducted by Mohammadi Ahmadabadi and Golestani yielded results indicating the absence of any correlation between openness to experience and a proclivity towards addiction[37]. Typically, individuals who possess a natural inclination towards exploring and understanding their surroundings tend to encounter a wider range of both favorable and unfavorable events. When confronted with difficulties, individuals are inclined to address the problem and actively seek a resolution rather than engaging in an emotional confrontation[13].

The research findings indicate a meaningful correlation between neuroticism and the inclination towards addiction, consistent with the findings of Mohammadi AhmadAbadi[37] and Mughanlou's[31] studies. Typically, those who exhibit high scores in this personality trait are more prone to resorting to drug usage while experiencing fear, tension, anxiety, or when confronted with challenges in their everyday existence.

According to the results of the regression test, 14% of the changes in attitudes towards addiction were predicted by personality domains. Agreeableness and conscientiousness were the strongest predictors in the attitude towards drug addiction among the personality traits. Ebrahimzadeh and Sohrabi's study revealed that control, commitment, and challenge accounted for 18% of the variance in addiction inclination[12]. In Asghari's study, the variables of agreeableness, intimacy, neuroticism, and extraversion accounted for 39% of the observed changes in addiction readiness. In the examination of youngsters, the three factors of conformity, agreeableness, and conscientiousness were found to be capable of forecasting the propensity for addiction. Together, these factors accounted for 41% of the variability associated with addiction in the students under investigation[32]. Generally, by closely considering the personality qualities of students and

young individuals who are vulnerable to drug use, it is possible to greatly reduce the likelihood of this tragic occurrence.

## CONCLUSION

According to this research, personality traits, especially neuroticism, are predictors for attitudes toward drug addiction and drug abuse. The transition from school to university and dormitory surroundings can cause anxiety and mental distress as a result of joining a new environment and interacting with varied cultures and personalities. As a result, counseling centers must collect information on students' personality characteristics, which are predictors of their attitude towards drug addiction upon arrival, identify vulnerable people, provide counseling and educational services, and hold entertainment events and competitions to fill students' free time. Engaging in sports activities, attending educational lectures on drug prevention, and receiving training in social skills can all help reduce drug abuse. In addition, it is necessary for the authorities to accept and pay attention to the different nature of educational programs in different fields of study and, according to the personality characteristics that are predictors of drug attitudes, implement counseling programs and create effective communication channels with students' families.

### Strengths and Limitations

Due to university closures due to COVID-19, this research could not reach all students, especially first-year students (due to lack of contact information) due to electronic data collection. To account for the altered environment, future studies should examine all students, especially first-years. Medical sciences students were the only sample in this investigation. Use caution when applying the results to non-medical sciences students. Because medical science students have certain challenges and stresses that non-medical science students do not face due to their relationship with patients in the hospital and the different nature of the educational environment.

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## CONFLICT OF INTERESTS

The authors declared no conflict of interest.

## AUTHOR CONTRIBUTION

Authors had equal contribution to designing study, collecting data, revising the initial draft, and approving the final draft.

## ETHICAL CONSIDERATIONS

This study was approved by the Medical Ethics Committee of Abadan University of Medical Sciences under the code IR.ABADANUMS.REC.1399.092.

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