

## Relationship of Tendency towards Substance Abuse with Spiritual and Psychological Well-being in Students of Zanjan University of Medical Sciences

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### Abstract

**Background and Objectives:** Recognition of the factors associated with drug abuse in students can have a significant impact on the prevention of their tendency towards substance abuse. Therefore, the present study was conducted to determine the relationship of the tendency towards substance abuse with spiritual and psychological well-being in students of Zanjan University of Medical Sciences.

**Methods:** This descriptive-correlational study was performed on undergraduate and doctoral students (n=1759) of Zanjan University of Medical Sciences in the academic year of 2016-17. The sample size was calculated using the Cochran formula and was estimated at 315 subjects who were selected through the random sampling method. The data were collected using a substance abuse questionnaire which was based on Minnesota multiphasic personality inventory-2, psychological well-being questionnaire by Reef, and spiritual well-being questionnaire by Paloutzian and Ellison. Out of 315 distributed questionnaires, 295 questionnaires were completely filled and returned. The data analysis was performed using descriptive statistics, Pearson correlation, and multiple linear regression tests.

**Results:** According to the findings, there was a significant relationship between the variable of total spiritual well-being and the tendency towards substance abuse and the components of addiction potential and acknowledgment (P<0.05). Moreover, it was confirmed that there was a relationship between personal growth and addiction acknowledgment (P<0.05). Furthermore, the component of self-acceptance had a correlation with the tendency towards substance abuse and addiction acknowledgment (P<0.05). Besides, spiritual well-being, religious well-being, and the component of self-acceptance can predict and explain the variable of the tendency towards substance abuse to 26%, 19.9%, and 18%, respectively. In addition, the two components of personal growth and self-acceptance were able to explain the addiction acknowledgment to 19.6% and 18.4%.

**Conclusion:** Finally, it can be concluded that self-acceptance and spiritual well-being are predictors of the tendency towards substance abuse in students.

**Keywords:** Medical Students, Psychological Well-being, Spiritual Well-being, Tendency Towards Substance Abuse.

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### Introduction

University students comprise a substantial part of the young and qualified workforce of the society and their spiritual and mental health is of utmost importance (1). However, according to the review of related literature, this influential part

of the society is not immune from the dangers that threaten their lives, such as the tendency towards substance abuse, which is currently increasing among university students (2). According to the results of a study, the prevalence rates of substance abuse among the

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students of Tehran University and Tehran University of Medical Sciences were 37.5 and 33%, respectively (3). The substance abuse activates the brain reward system so much that it makes the students neglect their normal activities and finally leads to academic failure; therefore, its prevention is of great importance (4). Various psychological, social, familial, spiritual, and biological factors are involved in substance abuse, among which psychological and spiritual factors are more prominent (1).

According to the findings of previous research, psychological characteristics are among the factors that can lead to substance abuse (5). Psychological well-being is associated with physical and mental adjustment, stressful life events, performance, and life satisfaction. Therefore, in recent years, the pathological approaches to these behaviors have leaned towards the study of human well-being. An important psychological characteristic of any healthy person is the feeling of well-being and satisfaction (6). Moreover, life satisfaction, purposefulness, appropriate cultural and intellectual conditions, personal expectations and concerns, are the components of one's well-being (6). On the other hand, for a long time, health has been evaluated based on physical, mental, and social aspects. However, some experts have suggested the inclusion of spiritual well-being as one of the aspects of health, which has recently attracted the attention of health professionals in society (7). In fact, without spiritual well-being, the other aspects of health cannot have the expected functions, and achievement of a higher quality of life, as well as family and social efficiency, is not possible (8).

Based on the previous research, substance abuse among students has increased and become a major problem in universities. According to the results of a study performed by Larissa et al. (9), the incidence of substance abuse among the students was confirmed and it was emphasized that if not prevented, it can cause great harm to the students, universities, and ultimately societies (9). Based on the findings of a study performed by Reza Khani Moghaddam et al. (2), the prevalence of substance abuse was high among university

students in Tehran, Iran (2).

Other studies have also shown that spirituality and psychological health can contribute to the prevention of substance abuse. Based on the findings of a study conducted by Tate et al., poor self-efficacy lays the groundwork for cocaine abuse in adolescents (10). Moreover, based on the results of another study performed by Adong et al. (11), there is a statistically negative relationship between spirituality and alcohol abuse in male adolescents so that an increase in the components of spiritual health caused a decrease in alcohol abuse. Based on the findings of a research carried out by Silfee (12), spirituality had a statistically negative relationship with unstable behaviors in male and female adolescents (12). Furthermore, according to the results of a study performed by Watkins (13) the components of spiritual and religious health have a relationship with the consumption of narcotics, psychoactive drugs, alcohol, quitting drug, and HIV infection (13). Ghaferi (14) also reported that abandoning and ignoring religious behaviors stimulates the consumption of narcotics and psychoactive drugs (14).

Review of related literature has shown that in general, there is a statistically negative relationship between high-risk behaviors and psychological well-being in Iran (15). Based on the results of a study performed by Hooshyari (16), the mean score of spiritual and psychological well-being of students had a significant difference with those of theology students (16).

Similar studies have been performed on the tendency of students towards substance abuse. However, there is still a palpable niche in these studies, since no previous study has included all the variables that are incorporated in the present study. Therefore, considering the importance of the investigation of the individual, familial, and social aspects of the tendency towards substance abuse and the need to identify its predictive and preventive factors in individuals, especially students, and their development, the present study aimed to examine the relationship of spiritual and mental well-being with substance abuse among

students of Zanjan University of Medical Sciences in the academic year of 2016-17.

## Methods

The present descriptive-correlational study was performed on undergraduate and doctoral students of Zanjan University of Medical Sciences in the academic year of 2016-17. The sample size was calculated using Morgan's table and was estimated at 315 subjects. Since the sampling frame was specified, stratified random sampling was used for the selection of participants. First, the 3 faculties of medicine, dentistry, and nursing and midwifery were selected. Subsequently, the students of each faculty were randomly selected based on the list of names and the total number of students. Afterward, the questionnaires were distributed among the participants. Data collection tools were substance abuse questionnaires derived from Minnesota multiphasic personality inventory-2 (MMPI-2), psychological well-being scale by Reef, and Spiritual Well-Being Scale by Paloutzian and Ellison. The first questionnaire included demographic characteristics, such as gender, type of accommodation, age, and field of study. The second one included 52, 20, and 18 items which investigated the tendency towards substance abuse, spiritual well-being, and psychological well-being, respectively.

### *Spiritual Well-Being Scale by Paloutzian and Ellison*

This questionnaire, which includes 20 items and two subscales, was designed by Paloutzian and Ellison in 1982. The odd-numbered items are related to the subscale of religious well-being and measures the experience of a person's satisfying relationship with God. The even-numbered questions are related to the subscale of existential well-being that measures the sense of purpose and satisfaction in life. The items were scored based on a six-point Likert scale ranging from completely agree to disagree. However, this scoring method was reversed in items number 2, 4, 7, 8, 10, 11, 14, 15, 17, 19 and 20. In this questionnaire, a high total score indicates the individual's spiritual and existential health,

while a low total score indicates the opposite.

The test-retest reliability coefficient for religious and existential well-being scales and the overall scale were reported to be 91% and 93%, respectively. The reliability of this test was measured by Cronbach's alpha test and was estimated at 87%. This scale has been used for research purposes in various populations, such as the students, nurses, general public, and mentally and physically disabled people. The internal consistency and construct validity of this scale have been confirmed in several previous studies (17). The internal consistency reliability of the scale has been reported in the studies performed by Dehshiri, Sohrabi, Jafari, and Najafi in both male and female students for the whole scale and sub-scales of religious and existential well-being as 9%, 82%, and 87%, respectively. Moreover, the same values were also measured through the test-retest method and were calculated at 85%, 78%, and 81%, respectively. In the present study, the internal consistency was measured using Cronbach's alpha and was calculated at 0.82.

### *Psychological Well-being Scale by Reef*

Reef designed the shortened version of this scale in 1989 and which was revised in 2002. The shortened version of this questionnaire has 18 items and is derived from the original form which has 120 items. The shortened version is based on six factors, and its purpose is to assess the various aspects of psychological well-being, such as independence, environmental mastery, personal growth, positive relationship with others, purposefulness in life, and self-acceptance. It is scored based on a Likert scale from one to six. However, this scoring method is reversed for questions 1, 3, 4, 5, 9, 10, 13, and 17. To calculate the score for each aspect, its scores are added to each other, and the overall score of the scale was achieved by calculating the sum of the scores of the items. Higher scores indicate higher psychological well-being in the participants and vice versa.

The psychological well-being scale was initially performed on a sample of 321 people which included 130 males and 191 females. Consequently, the internal consistency

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coefficient of the scales was calculated at 86-93%. Moreover, the test-retest reliability coefficient for 117 people after six weeks was estimated at 81-86%. Furthermore, the correlation between subscales was reported to be 32-76% while the highest and lowest correlations were found between self-acceptance and environmental mastery (76%) and autonomy and positive relationships with others (32%), respectively. In a study conducted by Bayani, the test-retest reliability coefficient for psychological well-being scale by Reef, positive relationship with others, independence, environmental mastery, purposefulness in life, and personal growth were 82%, 71%, 77%, 77%, 77%, 70%, and 78% (18). In the present study, Cronbach's alpha method was used to confirm the reliability and the reliability coefficient was calculated at 75%.

### ***Substance Abuse Scale***

This questionnaire was first developed by Weed et al., based on MMPI-2 whose content was specifically related to substance abuse. This scale is in the form of yes (1) and no (0) questions and a high total score means high addiction potential and acknowledgment. This scale consists of two parts, namely the addiction potential scale (APS) and addiction acknowledgment scale (AAS) that contain 13 and 39 items, respectively. The AAS and APS scores are converted to linear T scores using MMPI-2 normative data. In the preparation and standardization of this questionnaire, substance abusers included people who abused one or jointly two different substances (e.g., people who only abused alcohol or abused alcohol and another substance). The key substances were selected according to the choices of substance abusers.

Weed et al. reported the internal validity coefficients of the sample consisting of substance abusers, people with mental disorders, and normal subjects as 0.74. Moreover, according to them, the reliability coefficients of men and women in the standardized version of MMPI-2 were 0.89 and 0.84, respectively (19). Mohammadkhani and Minoui have established the validity of

this scale in Iran and reported its validity coefficient to be 0.53 (20). In this study, the validity and reliability of the instruments were examined using face and content validity and internal consistency through Cronbach's alpha method. Finally, the internal consistency coefficient was calculated at 0.52 which was moderate.

Prior to the data collection stage, the researchers obtained the necessary permissions for the conduction of the present study which was approved by Zanjan University of Medical Sciences (ethics code: ZUMS.REC.1394.155). After obtaining the necessary licenses from the Research Deputy of the university, the researchers attended the related faculties and classrooms. In the beginning, they introduced the research, its goals, and methodology. They also answered the students' questions and resolved their ambiguities regarding the study. Subsequently, the questionnaires were distributed among the students who were asked to complete them carefully and return them to the researchers. After collection, the questionnaires were reviewed and the ones that were distorted were left out of the analysis. The exclusion criteria of the questionnaires were three or more unanswered items in each of the three scales. Finally, 315 questionnaires were distributed while 20 of them were not returned or were distorted; therefore, 295 questionnaires were analyzed. It should be mentioned that all the ethical considerations were respected in this study. In this regard, the participants were allowed to leave the study at any time, the research process was explained to them, and their information was kept confidential.

The collected data were analyzed in SPSS software (version 24). In the descriptive section, statistical analyses were used, such as frequency, percentages, tables, and graphs. In the inferential section, according to the level of measurement of variables, first, the Kolmogorov-Smirnov test was used to check the normal distribution of the data. Afterward, the Pearson correlation test and multiple linear regression tests were used.

### **Result**

As Table 1 shows Out of 295 students who

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Table 1. Frequency distribution (number) and percentage of the mental health status of participants based on gender, type of accommodation, and degree

Variable		Frequency	Percentage
Gender	Female	109	36.6
	Male	186	63.4
Total		295	100
Type of accommodation	Local	121	41
	Non-local	174	59
Total		295	100
Age	18-20	130	44
	21-23	118	40
	<24	47	16
Total		295	100
Field of study	Medicine	109	36.9
	Dentistry	66	22.3
	Nursing	82	27.7
	Operating room	38	13.1
Total		295	100

participated in this study, 186 (63.4%) cases were male and 109 (36.6%) cases were female. Furthermore, the majority of participants were

within the age range of 18-20 years. Moreover, the highest frequency was observed among medical students (n=109).

Table 2 shows the descriptive characteristics of the research variables. Based on this table, the mean values of total psychological well-being, total spiritual well-being, substance abuse, addiction potential, and addiction acknowledgment were 58.92, 57.76, 20.18, 17.49, and 5.38.

Regarding the results presented in Table 3, the total spiritual well-being has a significant relationship with substance abuse and the components of addiction potential and acknowledgment (P<0.05). Moreover, regarding psychological well-being, personal growth had a relationship with addiction acknowledgment and the component of self-acceptance was associated with substance abuse and addiction

Table 2. Descriptive characteristics of research variables

Column	Variable	Sample size	Lower limit	Upper limit	Mean	SD
1	Total psychological well-being	295	35	77	58.92	6.81
2	Independence	295	3	16	10.53	2.51
3	Environmental mastery	295	3	15	10.51	2.13
4	Personal growth	295	3	15	10.08	2.10
5	Positive relationship with others	295	3	15	9.11	2.34
6	Purposefulness in life	295	3	15	8.90	2.32
7	Self-acceptance	295	4	15	9.42	1.92
8	Total spiritual well-being	295	27	94	57.76	12.25
9	Religious well-being	295	14	60	25.68	7.32
10	Existential well-being	295	12	51	32.14	7.98
11	Addiction potential	295	9	36	17.49	4.34
12	Addiction acknowledgment	295	2	13	5.38	1.64
13	Substance abuse	295	13	46	20.18	5.06

Table 3. Pearson correlation coefficient test for predictor and criterion variables

Predictor variables	Index	Criterion variables		
		Substance abuse	Addiction potential	Addiction acknowledgment
Total spiritual well-being	Correlation coefficient	-0.286**	-0.203**	-0.296**
	Statistical significance	0.006	0.006	0.003
Religious well-being	Correlation coefficient	-0.240**	-0.231**	-0.221**
	Statistical significance	0.007	0.008	0.008
Existential well-being	Correlation coefficient	-0.123	-0.113	-0.152*
	Statistical significance	0.068	0.095	0.024
Total psychological well-being	Correlation coefficient	0.024	0.087	-0.046
	Statistical significance	0.720	0.197	0.496
Independence	Correlation coefficient	-0.019	-0.027	-0.069
	Statistical significance	0.778	0.693	0.306
Environmental Mastery	Correlation coefficient	-0.039	-0.082	-0.074
	Statistical significance	0.567	0.226	0.271
Personal growth	Correlation coefficient	-0.097	-0.052	-0.252**
	Statistical significance	0.153	0.447	0.007
Positive relationship with others	Correlation coefficient	-0.037	-0.058	-0.006
	Statistical significance	0.585	0.392	0.925
Purposefulness in life	Correlation coefficient	-0.039	-0.103	-0.034
	Statistical significance	0.560	0.129	0.617
Self-acceptance	Correlation coefficient	-0.267**	-0.107	-0.245**
	Statistical significance	0.007	0.112	0.008

Table 4. Multiple regression analysis of predictor and criterion variables

Predictor	Criterion	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Spiritual well-being (total)	Substance abuse	0.667	0.284	0.260	3.586	0.001
Religious well-being		0.928	0.472	0.199	2.968	0.006
Self-acceptance		3.199	1.175	0.180	2.723	0.007
Spiritual well-being (total)	Addiction potential	0.006	0.036	0.017	0.172	0.864
Religious well-being		0.129	0.060	0.217	2.133	0.034
Spiritual well-being (total)	Addiction acknowledgment	-0.491	0.630	-0.187	-0.779	0.437
Religious well-being		1.150	0.627	0.262	1.835	0.068
Existential well-being		0.979	0.682	0.243	1.436	0.153
Personal growth		-2.075	0.995	-0.196	-2.885	0.006
Self-acceptance		2.906	1.107	0.184	2.725	0.009

acknowledgment in this study ( $P < 0.05$ ). The relationship was statistically negative in all cases so that the increase of spiritual and psychological well-being led to a decrease in substance abuse.

Based on the results of the regression test, the predictor variables of spiritual well-being, religious well-being, and self-acceptance have the ability to predict and explain the variable of substance abuse tendency at 26%, 19.9%, and 18%, respectively. Furthermore, the two components of personal growth and self-acceptance were able to explain the addiction acknowledgment at 19.6% and 18.4%, respectively (Table 4).

## Discussion

In the present study, spiritual well-being had a relationship with substance abuse, addiction potential, and addiction acknowledgment in the students of Zanzan University of Medical Sciences. However, due to the negative correlation coefficient of spiritual well-being and the substance abuse in students, these two variables had a statistically negative relationship. Moreover, the results of the regression analysis indicated that spiritual well-being had the ability to predict the susceptibility of addiction to 26%. The findings of the present research were consistent with those of the studies performed by Adong (11), Watkins (12), Silfee (13), Ghaferi (14), Naghibi (21), Azizzadeh Foroozi (22), Faraghti (23), and Saberi (24). In all of the above-mentioned studies, there was a statistically negative relationship between spiritual health and the tendency towards substance and alcohol abuse.

Based on the findings of the study performed

by Adong, there was a negative and inverse relationship between spirituality and alcohol abuse in male participants. The results of the study conducted by Watkins, also indicated that spiritual and religious characteristics had a relationship with substance and psychoactive drug abuse, alcohol consumption, quitting drugs, and HIV infection. According to the study carried out by Silfee (13), spirituality had a statistically negative relationship with unstable behaviors in males and females. Based on the findings of the study conducted by Ghaferi (14), abandoning and ignoring religious behaviors tempted the participants to use narcotics and psychoactive drugs. Results of the study performed by Saberi (24) also indicated that spiritual intelligence can explain the addiction acknowledgment in students in Iran. Based on the results of the study carried out by Azizzadeh Foroozi, (22) spiritual health, religious performance, and religiosity had a statistically negative relationship with substance abuse. Faraghati has also reported that people who are successful at quitting drugs have a higher level of spiritual attitude, compared to those who are unsuccessful in this regard.

Over the past few decades, numerous studies have been performed on the influence of psychosocial factors as well as spirituality and religion on health, especially high-risk behaviors, such as substance abuse, which confirm the effectiveness of spirituality and religion. However, according to the findings of the present study, it can be said that health policymakers and decision-makers have failed to pay enough attention to the inclusion of spirituality and religion in their plans regarding prevention, treatment, rehabilitation, and

health promotion. In recent years, with the development policies of the health education system in the country, this trend has improved and appropriate studies have been conducted in this field in medical universities.

Furthermore, in this study, the relationship of personal growth and self-acceptance with the tendency towards substance abuse and addiction acknowledgment was confirmed in students. Regarding the relationship of some components of psychological well-being with substance abuse, the findings of this study were consistent with those of the study performed by Nowruzi (15) and Naghibi (21). The results of the study conducted by Naghibi (21) indicated that improvement of the spiritual well-being can reduce the tendency towards substance abuse by reduction of mental disorders and increase of psychological well-being. Similarly, the results of the studies carried out by Zamwalt (25), Lopez et al. (26), Dolan et al. (27), McKellar et al. (28), Sterling et al. (29), Abolghasemi et al. (30), and Eskandari (31) also indicated a statistically negative relationship between self-acceptance and substance abuse. According to the results of the study conducted by Sterling, (29) the tendency to smoke had a relationship with self-acceptance and self-efficacy. Furthermore, based on the findings of the study performed by Eskandari, (31) prejudices, as well as socialization, and self-acceptance were reported as the reasons for the tendency towards addiction in the young population in Tehran.

Addiction acknowledgment is defined as one's attitude towards addiction so that a higher level of pessimistic and conservative attitude indicates less addiction acknowledgment. Moreover, the concept of self-acceptance refers to the acceptance of one's strengths and abilities and the plans to use them according to one's logical and rational evaluation. The more one recognizes and accepts oneself, the more one will try to reduce one's weaknesses. These beliefs about the ability of individuals to organize their motivations and cognitive resources and gain control over a particular event are among the fundamental aspects of self-efficacy and the

belief that through control one can affect the outcomes of one's life. Besides, in the face of stressful events, having a sense of control over the situation is important in the adaptation to different situations. Personal growth is defined as the continuous ability to grow and develop one's potential, overall, and integrated growth. On the other hand, the addiction acknowledgment is much higher in people who are extroverted, passionate, adventurer, alienated, with self-doubt, and pessimistic towards others. Therefore, according to the results of the present study, an increase in this ability leads to a decrease in the tendency towards substance abuse.

Finally, it should be noted that despite the fact this study achieved significant results, it had limitations as well. Therefore, including the particular spatial range of the study and also the level of correlation that indicates a moderate rather than strong relationship between the variables, the results should be generalized with caution and precision. It is also suggested that the relevant authorities at the university level, including student counseling centers, use the findings of this study to design and implement appropriate medical and educational interventions to reduce the tendency of students towards substance abuse.

### **Conclusion**

Spiritual well-being and self-acceptance can be among the predictors of substance abuse, and addiction potential and acknowledgment in students. Therefore, by examination and identification of the level of spiritual well-being and self-acceptance in students, their tendency towards substance abuse and addiction potential and acknowledgment can be predicted to the extent that was revealed in the present study.

### **Conflict of interest**

The authors state that there was no conflict of interest in this article.

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