Evaluation of Meaning in Life and Cognitive Distortions among University Students

Mosalman, M., Hosseini, A., & Sadeghpour, M.

Abstract

Objective: The present study aimed at evaluating meaning of life and cognitive distortions among the students of Amol University in the academic year of 2017-18. **Method:** This research falls within the category of quantitative methodology approach in the form of a causal-comparative design. The statistical population of this study consisted of students of Amol University in the academic year of 2017-18. In the first stage, 141 bachelor's and master's students included in the research sample. Then, in the second stage, 100 patients were selected according to the addiction potential scores through convenience sampling method. These participants were eventuated in two groups, namely high addiction potential (45 cases) and low addiction potential (55 people). **Results:** The results showed that there was a significant difference between the two groups in terms of meaning of life, presence of meaning, and search for meaning in life ($P < 0.05$) and cognitive distortions ($P < 0.0001$). In other words, people with high addiction potential had lower degrees of meaning of life, presence of meaning, and search for meaning and higher cognitive distortions than those with low addiction potential. **Conclusion:** It can be argued that meaning in life and cognitive distortions are correlated with addiction potential in students, which should be considered in the prevention and treatment of addiction.

Keywords: meaning of life, cognitive distortion, addiction, students

Mosalman, M.
Ph.D. Student of Psychology and Visiting Instructor, Amol University, Amol, Iran, E-mail: mahsa.mosalman@yahoo.com
Hosseini, A.
M.A. in Sports Psychology, Visiting Instructor, Amol University, Amol, Iran
Sadeghpour, M.
M.A. in General Psychology, Visiting Instructor, Amol University, Amol, Iran

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Introduction

Addiction is a physical, psychological, and social illness in which an impulsive behavior that has destructive effects and consequences is constantly repeated (West, 2013). Conceptually, addiction is a severe, chronic, and neurological disease that develops due to genetic, physiological, and social factors in such a way that the characteristic of the disease is disorder in the person's practical control, or a sense of coercion in performing a specific activity, although s/he is aware of its dangerous consequences. Addiction is the physiological response of the body to the frequent consumption of addictive substances (Peter, 2013). Substance abuse in Iran is considered as one of the most important cultural, social, therapeutic, and health issues in such a way that more than 90% of people worry about this issue. The statistics indicate that 2.65% of adults are involved in drug abuse in Iran. A meta-analysis on 20-year studies on university students shows that the trend of substance abuse is steadily increasing (Saraami, Ghorbani, & Taghavi, 2013). All the individuals exposed to narcotic drugs do not become addicted, but a person becomes addicted who has addiction tendency (Hiroi, & Agatsuma, 2005). Before the person begins to substance use, the background of its emergence is provided during the growth stage concurrent with the formation of personal behavior, thoughts, beliefs, and characteristics (Dadkhah, Shalchi, & Yaghouti Azari, 2015).

There are various reasons for tendency to different drugs. Some people turn to drugs for being accepted in the society and others try to show themselves as more grown-up and mature, and some seek refuge in drug use to achieve relief (Abolghasemi, Mahmoudi, & Soleimani, 2009). Moreover, human beings show a tendency toward drug use for various reasons, such as failure, ineffective beliefs, irrational and distorted cognition, pleasure seeking, sensation seeking, weakness in recognizing emotional states, and social problems (Ranjbar Nousheri, Alilou, Asadi Mojreh, Ghodrati, & Najar Morbarki, 2013). Although societal factors are emphasized in drug use tendency, substance abuse and drug use are also associated with biological and psychological processes (Glantz, 1992). In addition, regarding the tendency to addiction, cognitive factors are among researchers' areas of interest. In this regard, the investigation of and attention to cognitive distortions are very important since one's important plans or beliefs are the subject of cognitive distortions (Mashmoul Haji Agha, & Abolghasemi, 2016). Cognitive distortions appear when information processing is false or ineffective. In other words, the analysis of information is sometimes distorted in individuals' minds (Mashmoul Haji Agha, & Abolghasemi, 2016). These distortions, if occurring alternately and frequently, can lead to discomfort or psychiatric disorders and abnormal behaviors, such as drug use (Goldin, Manber-ball, Werner, Heimberg, & Gross, 2009). Similarly, Ahmadi Tahour, & Najafi (2011) showed that impaired cognitive beliefs act as an important psychological factor in predicting individuals' tendency to drug use.

Research findings also show that there is a relationship between low quality of life and the physical and psychological consequences of addiction (Fernandez, Fernandez, & Lopez, 2016). In this domain, Mohammadkhani, & Behrouz (2017) and Ramsawh, & Chavira (2016) showed that there is an inverse relationship between quality of life and addiction potential. The results of the study carried out by Mehri Nejad, & Rajabi Moghadam (2012) indicated that logo therapy is effective in increasing life expectancy. Studies have shown that people whose lives are more meaningful can better cope with anxieties and life challenges; rocessing new information is easier for them, and hold a wider and more positive outlook towards their future life. Meaning in life is a useful coping skill that enables a person to enjoy his/her good times and endure bad times (Michael, & Steger, 2013, as cited in Shafiei, Basharpour, & Heidarirard, 2016).

In fact, drug use imposes heavy costs on the society by its devastating effects on individuals' health and it also increases crime and mortality in society; therefore, it has become a major threat to societies (Peter, & Alicia, 2010). The importance of this group of people's tendency to drugs and their vulnerability to addiction have converted student addiction prevention programs as one of major issues and challenges (Dick, & Hancock, 2015). There are many facilitators for university students' tendency to addiction, such as experiencing life with low family monitoring, peer impacts, easy access to drugs, stress, and future job concerns. The potential or willingness to drug use is considered as one of the most serious predictors of addiction; in fact, it can be maintained that the first step of addiction pertains to the tendency that results from the individual's mental evaluations of the issue (Ghaemi, Samsam Shariat, Asef Vaziri, & Balouchi, 2008). Unfortunately, the results obtained from models and therapies of clinical populations cannot be generalized to other people, especially students; therefore, the etiological theories as well as therapeutic and preventive theories in this group should be investigated independently (Ghazwani, Khalil, & Ahmed, 2016). Therefore, the present study was conducted with the aim of evaluating the meaning of life and cognitive distortions among Amol university students in 2017-18.

Method

Population, Sample, and Sampling Method

This research falls within the category of quantitative methodology approach and causal-comparative design. The statistical population of the study included all the students of Amol University in the academic year of 2017-18. The research sample consisted of 141 male and female university students (bachelor's and master's students) aged 17 to 37 years old. In in the second stage, 100 patients were selected according to the addiction potential scores through convenience sampling method. These participants were eventuated in two groups, namely high addiction potential (45 cases) and low addiction potential (55 people). In addition, after assessing the participants' scores in the addiction

potential questionnaire, according to the purpose of the study, the individuals (41 persons) who were not included in the two groups with high and low addiction potential were excluded from the study. Three questionnaires, namely Addiction Potential Scale, Meaning in Life Questionnaire, and Cognitive Distortions Scale were used as data collection tools in this study. The questionnaires were distributed by researchers among students at Amol Institute of Higher Education. The entry criteria of this research were willingness to participate in the research, being a student at Amol Institute of Higher Education, and lack of physical and psychological problems. Also, the exit criteria were lack of willingness to participate in the research, and incomplete filling of questionnaires. The participants' consent for participation in the study was received verbally and, according to the type of study, there was no need for official approval of the university ethics committee. Anonymous completion of the questionnaires, participants' awareness of the research goals, and voluntary participation in the study were among the criteria observed in this study. For data collection, demographic information, including age, gender, level of education, field of study, and academic status were self-reported.

Instruments

1. Addiction Potential Scale (APS): This scale was conducted by Weed & Butcher (1992. Efforts have been made to determine the validity of this scale in Iran (for example, Kordmirza, Azad, & Eskandari, 2003). The questionnaire used in this study was Iranian Addiction Potential Scale, which was constructed according to the psycho-social condition of Iranian society by Zargar (2006). This questionnaire consists of two factors and consists of 36 items and 5 lie detecting items. This questionnaire has been composed of two active and passive factors. Active potential is related to antisocial behaviors, desire to use drugs, positive attitude towards drugs, depression, and sensation seeking. In the second factor (passive potential), most of the items pertain to lack of expression and depression. Two methods were used to calculate the validity of this scale. In criterion-related validity, the APS well differentiated two groups of addicts and non-addicts from each other. The construct validity of the scale was obtained significant (0.45) by correlating it with the 25-item scale of the clinical symptoms (SCL-25) at the level of 0.001. The reliability of this scale was calculated via Cronbach's alpha where the coefficient of 0.91 was obtained for the scale (Zargar, 2006). The items were scored on a Likert scale from zero (strongly disagree) to 3 (strongly agree). Of course, this scoring method is reversed in questions numbered 12, 15, 21, and 33. This questionnaire has a lie detecting factor that includes questions numbered 12, 15, 21, and 33. In order to obtain the total score of the questionnaire, the total sum of the points for each single question (other than the lie detecting scale) should be added up. This score ranges from 0 to 108. Higher scores represent a higher level of addiction potential in respondents and vice versa (Zargar, 2006). Zargar et al. (2008)

observed a significant difference between the addiction potential scores of employees who had experienced drug use and the scores of those without such an experience. In that study, Cronbach's alpha coefficient of the scale was obtained equal to 0.90. The alpha coefficient for the first factor (active) was obtained 0.91 and for the second factor (passive) was 0.75 (Zargar, 2008). Cronbach's alpha coefficient of 0.95 was obtained in the present study.

2. Meaning in Life Questionnaire: This questionnaire was developed by Steger, Frazier, Oishi, & Kaler (2006) and contains ten items that are scored based on a 7-point Likert scale from 1 "completely incorrect" to 7 "completely correct". This scale measures two subscales, namely presence of meaning in life and search for meaning in life. Except for the item numbered 9, the other items are normally scored. The items numbered 1, 4, 5, 6, and 9 constitute the subscale of presence of meaning in life; and the other items are used to measure search for meaning in life. Research indicates the desired validity and stability of the questionnaire scores as well as its convergent and discriminant validity (Steger & Shin, 2010). According to Steger et al. (2006), Meaning in Life Questionnaire has a desired reliability and validity. The internal consistency of both scales has been reported high through Cronbach's alpha (value of 0.81 for presence of meaning and 0.84 for search for meaning in life). In addition, the retest reliability coefficients of 0.70 and 0.73 were obtained for presence of meaning and search for meaning in life within a one-month interval. Barati Sadeh (2009) also reported a high reliability coefficient for the subclasses. The construct and diagnostic validity of the whole scale in Iran has been studied by Mesrabadi, Ostvar, & Jafarian (2013) and acceptable constructive validity has been reported on Iranian students. However, its diagnostic validity in identifying healthy individuals is much more accurate than that in identifying people exposed to risk. With regard to construct validity, Mesrabadi et al. (2013) showed that this scale enjoys an acceptable factor structure. In this study, two dependent factors (five items for each) were considered and factor analysis was carried out and the results were exactly matched with the expected results reported by Steger et al. (2006). In other words, all items were loaded with a high load factor on the same factor as proposed by the questionnaire's designers. Based on these results, as well as the comments made by Steger et al. (2006), in short, this questionnaire has advantages such as more accurate measurement indices, a more powerful factor structure, and is good at evaluating search for meaning in life in comparison with other scales in this domain. Its Cronbach's alpha was obtained equal to 0.90 in the current study.

3. Cognitive Distortion Questionnaire: To measure cognitive distortions, Abdollahzadeh, & Salar's Cognitive Distortion Questionnaire (2010, as cited in Jelokhanian, & Khademi, 2013) was used. This scale includes 20 statements that measure the cognitive distortions posed by Ellis, where each irrational thought contains the number of two items. For each cognitive distortion, an index was considered and the mean and standard deviation of ten indices were calculated

in men and women. The standard alpha coefficient was obtained equal to 0.8, which can be concluded that the questionnaire has a proper internal consistency. Based on the scoring, each respondent who earns a higher score enjoys more appropriate thoughts, and everyone who obtains a lower score will use more cognitive distortions. The scores of the whole questionnaire ranges from 20 to 100. The Cronbach's alpha reliability of the scale was obtained equal to 0.91 in this study.

Results

The descriptive statistics for each group as well as the results of the Kolmogorov-Smirnov test are presented in Table 1.

Table 1: Descriptive Statistics of Variables for Each Group and the Results of the Kolmogorov-Smirnov Test

Variable	*Group*	*Mean*	*SD*	*Skewness*	*Sig.*
Meaning in Life	High Addiction Potential	48.77	13.16	-0.82	0.129
	Low Addiction Potential	54.14	10.67	-1.49	0.502
Presence of	High Addiction Potential	23.75	6.45	-0.67	0.152
Meaning	Low Addiction Potential	26.25	5.88	-1.13	0.416
Search for	High Addiction Potential	25.13	7.61	-0.70	0.298
Meaning	Low Addiction Potential	27.94	6.42	-1.83	0.108
Cognitive	High Addiction Potential	56.84	13.70	-0.76	0.465
Distortions	Low Addiction Potential	70.63	13.46	-0.33	0.901

Multivariate analysis of variance should be used to compare the scores of the two groups. One of the assumptions of this analysis is the equality of variance-covariance matrix. The results of Box test showed that this assumption has been observed ($P > 0.05$, $F = 0.66$, $M = 6.99$). Another assumption of this analysis is the equality of error variances. The results of Levene's test showed that this assumption has been met in Meaning in Life ($P > 0.05$, $F = 2.42$), Presence of Meaning ($P > 0.05$, $F = 0.98$), Search for Meaning ($P > 0.05$, $F = 3.32$), and Cognitive Distortions ($P > 0.05$, $F = 0.03$). Therefore, multivariate analysis of variance was run and the results showed there was a significant difference between the linear composition of the variables in the two groups (Effect size = 0.24, $P < 0.001$, $F = 7.50$, Wilks' lambda = 0.76). To examine the patterns of difference, univariate analysis of variance was used where the results are presented in Table 2.

Table 2: Univariate Analysis of Variance for Examining Patterns of Difference in Groups

Variable	*Sum of squares*	*Df*	*Mean Square*	*F*	*Sig.*	*Effect Size*
Meaning in Life	713.09	1	713.09	5.07	0.027	0.049
Presence of Meaning	154.56	1	154.56	4.08	0.046	0.040
Search for Meaning	195.72	1	195.72	4.01	0.048	0.039
Cognitive Distortions	4707.87	1	4707.87	25.54	0.0005	0.207

Discussion and Conclusion

The aim of this study was to evaluate meaning in life and cognitive distortions in university students with high and low addiction potential. The results showed that there is a difference between the two groups, i.e. with high and low addiction potential, in terms of meaning in life and its subscales as well as cognitive distortions. The mean value of cognitive distortions in students with high addiction potential was lower. It is noteworthy that according to the questionnaire employed in this research, any person who obtains a higher score enjoys a more appropriate thinking and everyone gains a lower score makes use of more cognitive distortions. Mean scores of meaning in life, presence of meaning, search for meaning were lower in students with high addiction potential than those in students with low addiction potential.

Given that few studies have been conducted on the relationship between cognitive distortions and addiction, what has been drawn from the review of the related literature suggests existence of a relationship between cognitive distortions and addiction (Hejazi, Aghayari, & Jarchi, 2016). The current findings are in line with the research findings reported by Haji-Agha, & Abolghasemi (2016). Ahmadi Taher, & Najafi (2011) showed that impaired cognitive beliefs act as an important psychological factor in predicting people's tendency to drug use. Miller, Adam, & Chrstianne (2013) showed that children who gained high scores in cognitive distortions were more susceptible to drug abuse. Also, the results of research conducted by Hejazi et al. (2016); Haji Alizadeh, Bahrainiam, Naziri, & Modarres Gharavi (2009); Hedayatfar, & Mahboub (2015); Zainah, Rohany, Asmawati, Rozainee, & Fatimah (2014) showed that the percentage of individuals suffering from cognitive distortions is higher among substance abusers than healthy groups. Aharonovich et al. (2006) found cognitive distortions and impairments significant in cocaine and cannabis abusers. Issues, such as cognitive distortions, impaired cognitive and attributional styles, and such defense mechanisms as denial, rationalization, and blame have been observed among addicts. Based on cognitive theories, the most basic reason for drug use is the expectations and perceptions existing about narcotics.

In general, it can be argued that cognition is an important mediator in drug abuse. The existence of cognitive distortion can disrupt self-regulating behaviors

and create a variety of psychological consequences, such as stress, anxiety, and so on. Hence, one turns to drug use to relieve this pressure and disruptive cognitive beliefs, his/her coping skills weaken, special cognitive (irrational combatative beliefs) and behavioral interactions (ineffective behaviors) are formed, and the basis for drug use is provided (Mashmoul Haji-Agha, & Abolqasemi, 2016). Based on self-regulation models, the person's problems in thought control and utilization of wrong thinking strategies lead to his/her entrapment in addiction (Sa'ed, Yaghoobi, Roshan, & Soltani, 2011). On the whole, disruptive meta-cognitive beliefs weaken coping skills, form specific cognitive (irrational combatative beliefs) and behavioral interactions (ineffective behaviors), and provide the ground for the use of narcotics (Haji Alizadeh et al., 2009).

On the other hand, another finding of this study is that it was indicated that mean scores of meaning in life, presence of meaning, and search for meaning are smaller in students with high levels of addiction potential. This finding is in line with the studies carried out by Divsalar, Aghayousefi, Roudbari, & Sa'eadi (2015), and Mohammadnia, & Mashhadi (2018) where it was reported that there is a negative relationship between meaning in life and addiction, and meaning in life acts as a protective shield against addiction tendencies. Frankl (1978) argued that the lack of meaning and existential vacuum along with the stable conflicts of life could lead to substance abuse as a source of relief. Substance abusers are the ones who experience dissatisfaction because of an existential vacuum, and turn to drug use in order to deal with this dissatisfaction and reach relief of emotional pain. This tendency is substance use is manifested at three levels, namely cognitive level (change in people's attitude towards substance use), emotional level (changing people's feelings about situations related to drug use), and behavioral level (involvement in drug-related activities). However, this form of behavior is non-adaptive because the material required for coping is short-term and does not show the root of dissatisfaction, i.e. the lack of meaning in life (Reker & Wong, 1988). According to Melton & Schulenberg (2007), the absence of meaning in life increases the likelihood of substance abuse through increased sensitivity and susceptibility to social pressures. Confusion and reduced meaning in life indicate a decline in the perception of life value and expresses the notion that life is a negative experience. In this situation, there is no incentive to pursue important goals, and people are even confused about themselves and their lives. In this state, the tendency to substance abuse can be the choice to relieve negative emotions or can be a coercion as a result of environmental pressures.

Adolescents and young people constitute a high percentage of Iranian population and this generation is on the verge of entering the university, various occupations, and marriage, and they are considered as the most important capital for the growth and development of a country. Therefore, the need to identify the preventive and predictive factors of addiction in this stratum and the need for the preservation of human and social capital of the country are felt more than ever

(Besharat, 2008, as cited in Ahmadian, & Rostami, 2016). In this research, like other scientific studies, the researchers had to face some limitations in implementation based on scientific reasons and conditions. This study was conducted on a sample of students available in Amol; hence, the generalization of its results to other population should be done cautiously. According to the findings of this study, it is suggested that different training sessions and workshops in terms of addiction prevention be held for university students so that their level of knowledge and awareness about the causes of the addiction tendency can increase. In the field of treatment, therapists and counselors can also take better counseling and treatment methods through the evaluation of the cognitive distortions and meaning of life among patients, and these methods can be also used for the eradication of relapse after treatment. It is suggested that this issue be studied in other areas on a larger number of students, both among students and other populations. Using the structural equation model, we can consider the role of intermediary variables that can improve the prevention and treatment of addiction.

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