



Satisfaction of Basic Psychological Needs in Patients with Substance Use Disorder and Normal Persons: A Research Based on Self-Determination Theory

Behzad Shalchi ¹ and Maryam Parnian Khooy ^{1,*}

¹Azərbaycan Şahid Madani University, Tabriz, Iran

*Corresponding author: Department of Psychology, Faculty of Educational Sciences and Psychology, Azarbaijan Shahid Madani University, Tabriz, Iran. Email: m.parnian391@yahoo.com

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Abstract

Background: Motivation is an important factor in the substance use field. Self-determination theory is one of the theories that focuses specifically on the issue of motivation in substance use disorder and basic psychological needs issue.

Objectives: The present study aims to evaluate the satisfaction of basic psychological needs in addict persons in comparison to normal persons.

Methods: In this case-control study, 93 drug addicts and 91 normal people were selected through available sampling method by matching age, gender, educational level, and socioeconomic status, and evaluated using a basic psychological needs scale.

Results: The results of multivariate analysis of variances showed a significant difference between two groups in the three basic psychological needs of autonomy, competence, and relationship ($P < 0.001$). Also, drug abusers received far fewer scores in three basic psychological needs.

Conclusions: The results of this study highlight the weakness in satisfying the basic psychological needs of drug addicts that play an important role in the majority of aspects of each person's life. Considering this problem, constructive suggestions may be provided for prevention and interventions based on this theory in the field of addiction.

Keywords: Self-Determinism Theory, Basic Psychological Needs, Substance Use Disorder

1. Background

Addiction is known as a destructive phenomenon, a social, health, economic, and cultural damage in many countries that has caused many serious concerns (1). Statistics show that the amount of substance use in various societies, especially among teens and young people, was noticeably increased in recent decades (2). For instance, in 2014, in a poll done by The Substance Abuse and Mental Health Services Administration (SAMHSA), 21.2 million 12-year-old and older Americans were recognized who had the required diagnostic factors for curing alcohol and illegal drug abuse. More horrible, 2.5 million people, one out of nine individuals during the last 12 months, were trying to cure it (3). Iranian society is also seriously considered to be faced with the menace of addiction as a biological, psychological, and social ill, and this phenomenon is changed to an immense challenge and problem with warning dimensions (1).

Although there are numerous approaches to preventing and curing the substance use disorder, motivation is

a key variable in curing these people (4). One of the theories that particularly focuses on motivation in drug use is the self-determinism theory (SDT) (5). SDT is a developing psychological meta-theory related to human self-regulation, motivation, personal evolution, and psychological well-being (6). Ryan and Deci in 1985 promoted this theory and early research on extrinsic and intrinsic motivation. In their study, they evaluated intrinsic and extrinsic motivation and suggested a model of the dominant role of intrinsic and extrinsic motivation, which has an important effect on a person's behavior (7-9). The SDT is interrelated with intrinsic motivation hidden in the choices people make when being affected by external events (10).

Deci and Vansteenkiste described three basic principles of SDT as (9-11):

1) Humankind is basically active and stable through their potentials and domination on their inner powers (emotions, feelings, and drives).

2) Humans have an inner inclination to the develop-

ment and integrated operation.

3) Optimal change and activities are inherent in human, but do not take place automatically.

Considering these three basic principles, the SDT focuses on the changes in intrinsic motivation that are affected by external motivational factors. The SDT assumes that people are naturally curious about their surroundings and are naturally motivated in order to discover it, additionally to improve and change themselves if it is necessary.

Different researchers have suggested that needs are the basic determining factors in human behaviors (12), thus Maslow introduced five hierarchical needs, from psychological stability to self-actualization (13). The SDT (14, 15) also introduces three natural psychological needs as autonomy, competence, and relationship (16). In this theory, it is considered that the basic psychological needs are the person's motivation in life, the satisfaction of each one is very pivotal to health (14). Autonomy, as the first basic need, necessitates understanding the issue that whatever one does, is the result of his/her own choice (17). The second need, the need for competence, is not an accessible skill, but a sense of self-confidence based on the awareness of one's abilities for learning and development (9, 10). Eventually, the need for relationship is a natural tendency to be related to others and social relationships (16), and as a member of a group, to be loved by others (18).

As the need for food, water, and heat is necessary for physical development, the SDT claims that psychological needs, competence, autonomy, and relationship are common and pivotal to psychological evolution (10, 16). Furthermore, since the needs are inherent and natural, and people have a natural tendency towards them, they try to fulfill them either consciously or unconsciously (10). As these psychological needs are satisfied, people have effective functions, and experience healthy growth, whereas threatening these needs will result in weak psychological function and illness (19).

The SDT, in summary, provides a framework for understanding internal and external sources of motivation for substance use disorder and the effect of the type of motivation on the results of the treatment (5). Self-Determinism is very important in substance use disorder and vulnerability to the substance because the person's responsibility can be interrupted as a result of mental changes, thus for a long time, SDT has been paid attention as a favorable therapeutic topic (20). The results of a meta-analysis showed that higher levels of autonomy and competence, higher levels of behaviors related to health (such as healthy nutrition and sport) predict more energy and higher flexibility and improve quality of life and are related to life satisfaction, less unhealthy behavior (smoking cigarette, alcohol, etc.)

and lower levels of depression and anxiety (21).

Neighbors et al. studied the difference between SD in students who were less autonomous and more controlled, and showed that these people more deal with problems about alcohol consumption (22). Parker et al. showed that inability to create an emotional relationship with others results in substance use disorder (23). Hardy et al. study, which used SD to research on teenagers' motivation to avoid marijuana and having risky sexual behaviors, indicated that the level of autonomy motivation was an integral factor in separation of groups in levels of behavior, and also autonomy motivation in comparison to controlled motivation had an important role in predicting the previously mentioned behaviors (marijuana consumption, and risky sexual behaviors) (24).

As mentioned in the above researches, low levels of autonomy, motivation, competence, and relationship can be predictors of drug use. Furthermore, given the basic psychological needs in various aspects are paid little attention in our country; in addition, identification of the underlying causes of attention can pave the way for treatment, and providing new medical treatments and more importantly prevention.

2. Objectives

The present study aims to answer the following question: is there any difference between satisfaction of 3 basic psychological needs of autonomy, competence, and relationship in patients with substance use disorder and normal persons?

3. Methods

This study is a case-control study. Here, 93 patients with substance use disorder (the men whose common drugs were often Heroin or Opium and were under treatment in two accommodation centers in Tabriz from April to June in 2016), and 91 normal subjects were selected through available sampling methods and after obtaining written informed consent from the participants, some explanations were given on the purpose of the study and the way of answering the questionnaires. Both groups were matched according to age, gender, educational levels, and socioeconomic status. Exclusion criteria were an educational level lower than Diploma and having serious medical or psychological disorders. It is worth mentioning that the age of the patients with substance use disorder and normal persons are 27.70 and 28.23, respectively. Regarding the level of education, which was considered three levels (Diploma, associate, and bachelor degrees) the majority

of the participants had Diploma degrees (58% of the normal group and 60% of the group with substance use disorder) and the rest had associate degrees (22% of the normal group and 21% of the group with substance use disorder) and bachelor degrees (20% of the normal group and 19% of the group with substance use disorder). Furthermore, the majority of the participants were from the average socioeconomic status (65% of the normal group and 68% of the group with substance use disorder).

3.1. Basic Psychological Need Scale

Basic psychological need scale is among the group of needs that the satisfaction of general life needs is a part of it and another part is satisfaction needs on a special domain. Accordingly, in this research, general life needs were examined and measured. The main part of this scale includes 21 phrases and measures 3 needs of competence, autonomy, and relationship. The answers of each part are in a 7-degree continuum from completely wrong to completely correct, and the answerer chooses one of the numbers 1 to 7 based on his/her condition. Some of the questions on this scale are inversely numbered. Autonomy consisted of 7 points, competence consisted of 6 points, and the relationship consisted of 8 points. The mean of the scores of each subscale and the mean of the total questionnaire were separately compared and interpreted. Cronbach alpha for the total scale was 0.89 and for the subscales of competence, relationship, and autonomy were 0.81, 0.57, and 0.62, respectively (14). In Besharat and Ranjbar's study, also the Cronbach's alpha was calculated and the correlation coefficient from 0.83 to 0.91 was accepted (25). Convergent and diagnostic validity of the scales of satisfaction of general basic needs were scrutinized through measuring the correlation coefficient of its subscales with extraversion and neurotic dimensions of personality, positive and negative emotions, and the indicators of mental health. The results of Pearson correlation coefficient showed that there is a positive and significant correlation between the scores of participants in subscales of satisfaction of basic psychological needs and there was an extrovert, positive emotion, and psychological well-being; and a negative and significant correlation between neuroticism, negative emotion, and psychological helplessness. These findings conform to the convergent and diagnostic validity of the scales related to the satisfaction of general basic psychological needs (25).

4. Results

The results of the descriptive analysis of the information are summarized in Table 1. Here, the mean of three

basic psychological needs of autonomy, competence, and relationship in the patients with substance use disorder is less than the mean of the normal group.

Table 1. Basic Psychological Need Scores in Patients with Substance Use Disorder and Normal Persons^a

Variables	Addict (n = 93)	Normal (n = 91)	Total (n = 184)
Autonomy	3.97 ± 0.77	4.79 ± 0.77	4.37 ± 0.87
Competence	3.90 ± 1.18	4.65 ± 0.89	4.27 ± 1.11
Relationship	4.01 ± 1.03	4.91 ± 0.84	4.46 ± 1.04

^aValues are expressed as mean ± SD.

The results of all of multivariate analysis of variances (MANOVA) tests were positively significant and as a result, it can be concluded that the difference between the two groups of patients with substance use disorder and the normal group is significant in 3 basic psychological needs (Table 2).

Table 3 summarizes the results of comparing the mean of three basic psychological need scores in the two groups. These results show that all three basic psychological needs (autonomy, competence, and relationship) are statistically significant in both groups of patients with substance use disorder and normal people.

5. Discussion

The present study showed that there is a significant difference between the 2 groups of patients with substance use disorder and normal persons in the three basic psychological needs (autonomy, competence, and relationship), and the patients with substance use disorder have weaker performance than their normal counterparts in meeting these three needs. Although there was no available research exactly about it, by studying the theoretical foundations and research having a thematic relationship, this finding can be in line with the results of research by Neighbors et al. (22), Parker et al. (23), Ng et al. (21), Hardy et al. (24), and Crano and Donaldson (26). Moreover, they concluded that the low level of satisfaction from three basic psychological needs can predict the incidence of high-risk behaviors such as addiction, and these three needs can determine the levels of individuals' behaviors.

In general, the theory of the three basic needs of autonomy, competence, and relationship indicates that the success and achievement of individuals underlie in their desirable satisfaction. If any of the basic needs are not met, the psychological well-being of the person is faced with difficulty and the person is put on the slope of a psychological traumatic disorder. The lack of satisfaction of basic needs also manifests in the individual's lack of self-esteem and

Table 2. The Results of MANOVA on Basic Psychological Needs in Patients with Substance Use Disorder and Normal Persons

Test	Value	Hypothesis df	Error df	F	P Value
Pillai's Trace	0.242	3	180	19.20	0.0001
Wilk's Lambda	0.758	3	180	19.20	0.0001
Hotelling's Trace	0.320	3	180	19.20	0.0001
Roy's Largest root	0.320	3	180	19.20	0.0001

Abbreviation: MANOVA, multivariate analysis of variances.

Table 3. The Effects of Basic Psychological Need Scores on Patients with Substance Use Disorder and Normal Persons

Variables	Sum of Squares	df	Mean of Square	F	P Value
Autonomy	30.843	1	30.843	51.160	0.0001
Competence	25.417	1	25.417	22.985	0.0001
Relationship	36.924	1	36.924	41.393	0.0001

causes him to have a weak understanding of his own values. Obviously, the sense of worthlessness and lack of self-esteem as a result of self-observation, the feeling of weakness, and weak interpersonal relationships make a person have false choices to compensate for the inadequacies of these shortcomings. Addiction is one of the most unpleasant choices of a person in the absence of psychological well-being.

As mentioned above, the need for autonomy is linked with the willingness to adjust one's actions and behaviors that are voluntary (27). People need to understand themselves independently and an autonomous person is fully responsible for his/her behavior and consistent with his/her values and beliefs (28). Unfortunately, due to various reasons, children and adolescents learn to refrain from performing independent acts to prevent being punished at home and being rejected by their parents (29). In other words, parents do not teach the right way of independence to their children and their sense of independence is not satisfied. But this problem is aggravated when children and adolescents are more likely to enter society and consider the independence of their peers; since they are unaware of the proper ways of achieving autonomy, thus they were in the wrong and trapped in addiction. This is why they consider drugs the only means they can decide to use so as to be under control.

People also need to have a sense of competence and believe they can achieve their goals and work better on what they do (28). The sense of competence is considered the main component of the motivational activity. In fact, this need refers to our basic need for a sense of effectiveness and mastery (16). However, in the absence of appropriate feedback, this need loses its sense of self-control and effectiveness under certain conditions such as self-criticism

and social comparison (16). Vulnerable people, whose ability to resist is low, may escape from them instead of tackling problems and solving them and thus they try to solve the problems by adopting inappropriate strategies such as addiction. People with normal mental function, in case of not receiving proper feedback in any way be affected, do not relate it to stable conditions and substitute suitable solutions for them.

The need for communication is an inner tendency to feel like a companion to others, as a member of a group and a popular person (18), in other words, people are inherently social and need to have a sense of communication with the acceptance and care of others for being motivated. As this need is not met appropriately and healthily, the path toward many healthy social and family links will be closed to the individual. In this situation, the person's communication system is based on an inefficient and changes its supportive and secure situation. One of the negative consequences of this psychological vacuum is the negative attitude and the tendency to use irresponsible and dangerous mechanisms to deal with them.

5.1. Conclusions

The results of this study highlight the relevance of two groups of the patients with substance use disorder and normal individuals in satisfaction of their autonomy, competence, and relationship. In addition, the weakness in the satisfaction of the basic psychological needs of the patients with substance use disorder plays a significant role in most aspects of the life of each individual. In this regard, there are possible suggestions and programs for preventing substance use disorder, because families, teens, and young people can be aware of these needs and learn the right way to satisfy them. Such solutions may be used for

the interventions based on this approach, and help drug addicts to appropriately meet their psychological needs.

Supplementary Material

Supplementary material(s) is available [here](#) [To read supplementary materials, please refer to the journal website and open PDF/HTML].

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Footnotes

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