

Research Paper

Predicting Risk-Taking Behaviors Based on the Role of Perceived Social Support Components, Emotional Expression and Brain- Behavioral Systems in Addicts



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Risk-taking behaviors, Social support, Expressed emotion, Addiction

ABSTRACT

Aims The prevalence of risk-taking behaviors is a severe health threat. According to rapid social changes, it has recently been considered by health organizations, law enforcement, and social policymakers. The present study aimed to predict risk-taking behaviors based on the role of perceived social support components, emotional expression, and brain-behavioral systems in substance-dependent patients.

Methods & Materials This was a descriptive correlational study. The statistical population of the study included all substance-dependent patients referring to substance dependence treatment centers in Ardabil City, Iran, in 2018. In total, 113 substance-dependent patients were selected by convenience sampling method. The study instruments included Rajaei and Shafiee's Risk-Taking Behaviors Questionnaire, Zimet's Multiple Scale of Perceived Social Support (MSPSS), King, and Emmons's Emotional Expressiveness Questionnaire (EEQ), and Carver and White's Brain-Behavioral Systems Questionnaire (BIS/BAS). The obtained data were analyzed using Pearson correlation coefficient and simultaneous-entry multiple regression analysis in SPSS.

Findings The achieved results suggested a significant negative correlation between perceived social support from family, friends, and others, with the risk-taking behaviors of substance-dependent patients ($P < 0.01$). There was a significant positive correlation between negative emotional expression and the risk-taking behaviors of substance-dependent patients among emotional expressiveness components ($P < 0.01$). Moreover, among the components of brain-behavioral systems, there was a significant positive correlation between behavioral activation system and risk-taking behaviors ($P < 0.01$). Additionally, the regression analysis results revealed that approximately 49% of the total variance of risk-taking behaviors of patients with substance dependence was predicted based on perceived social support components, emotional expression, and brain-behavioral systems ($P < 0.001$).

Conclusion In general, perceived social support from family and friends, negative emotional expression, and behavioral activation system can predict risk-taking behaviors in substance-dependent patients.

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Extended Abstract

1. Introduction

One of the most important problems of this era is addiction, which is spreading throughout the world, with more and more victims being killed every day [1]. Previous studies have shown that, as a personality trait, risk-taking provides the basis for drug abuse disorders [2, 3]. Drug abuse is also effective in increasing risk-taking behaviors [4]. The prevalence of risk-taking behaviors in societies is one of the most serious threats to health, and in recent years rapid social change has brought these behaviors to the attention of health organizations and law enforcement authorities and social policy makers [5].

Drug injections and unsafe sex are among the risk-taking behaviors associated with addicts, which are important risk factors for the transmission of infectious diseases such as hepatitis B, hepatitis C, and AIDS [8]. Also, risk-taking behaviors while driving and decrease of traffic safety level and prevalence of aggressive behaviors are among other risk-taking behaviors of addicts [9, 10]. A review of the research literature shows that no definitive attitude has been provided on the causes of risk-taking behaviors [11]. For this reason, various studies provide a variety of causes for risk-taking behaviors including: inadequate family and parental support for youth; social factors and insecure community; school and dropout problems; genetic factors; hormonal effects and puberty events; individual and psychological factors [12].

Evidence based on psychological and neuroscience research emphasizes the influence of emotions on risk-taking behaviors [19]. A number of studies have found that negative emotions such as anxiety and depression have significant relationship with risk-taking behaviors [20]. The results of a number of studies indicate that inability to regulate emotions leads to a wide range of maladaptive and risky behaviors including drug abuse, self-harm, suicidal desire, aggression, eating disorders and risk-taking sexual behaviors [21]. A number of studies have also investigated the relationship between emotional expressiveness styles and a number of variables, including comparing runaway and normal girls and D personality traits [22, 23]. As one of the main components of emotion, emotional expressiveness refers to the external expression of emotion, regardless of its value (positive or negative) or its manifestation (facial, verbal, physical or behavioral) [23]. King and Ammons have proposed three basic dimensions of emotional expressiveness. These three dimensions include positive emotion express, negative emotion express, and expressing intimacy [24].

When examining personality factors that influence risk-taking behaviors, it is important to consider the bio-neurotic dimension of personality, which can underlie emotion and behavior. Gary's theory is a personality theory based on biology, which assumes many of the individual differences observed in personality are because of three subsystems of the brain. These three systems are: behavioral inhibition system, behavioral activation system, and fight or flight system [25]. A number of studies have investigated the relationship between brain-behavioral systems and risk-taking behaviors. In these studies we can point to a case where the direct effect of brain-behavioral systems on adolescents' risk-taking behaviors has been confirmed [26]. Based on another research, the comparison of brain-behavioral systems in women who smoke cigarettes and hookah and those who don't, showed a significant difference between the two groups [27]. Another study revealed that components of brain-behavioral systems have a significant relationship with aggression in Iranian students [28].

Finding out more about the relationship between perceived social support, emotional expressiveness, and brain-behavioral systems in predicting addicts' risk-taking behaviors can improve the treatments used to reduce addicts' risk-taking behaviors. Therefore, the purpose of the present study was to predict risk-taking behaviors based on the role of perceived social support, emotional expressiveness and brain-behavioral systems in addicts.

2. Methods

This study was a descriptive correlational study. In this study, brain-behavioral systems, emotional expressiveness and perceived social support are considered as predictors and, on the other hand, risk-taking behaviors are considered as the criterion variables. The statistical population of the study included addicts who were under treatment in "Azadi" and "Hamyaran-e Salamat" camps in Ardabil city in 2018. The total population of these two camps was 160 people. Based on Cochran formula, 113 people were estimated and selected.

3. Results

In this study the mean age and standard deviation of the sample were 30.15 ± 5.84 , respectively. The highest age was 48 years and the lowest age was 22 years. Out of 113 participants in this study, 50 (44.2%) had a degree under diploma, 56 (49.6%) had a diploma, 4 (3.5%) had a bachelor's degree, and 3 (2.7%) had master's degree. Out of 113 participants, 100 (88.5%) were single and 13 (11.5%) were married. In this section, first, descriptive findings (including mean and standard deviation of the mentioned variables)

Table 1. Correlation coefficients of perceived social support components, emotion expressing, and Brain-Behavioral Systems

Variables	1	2	3	4	5	6	7	8	9
High-risk	1								
Perceived support of family	-0.57*	1							
Perceived support of friends	-0.50*	0.34*	1						
Perceived support of others	-0.30*	0.66*	0.56*	1					
Express positive emotions	-0.09	0.25*	0.14	0.30*	1				
Expressing intimacy	-0.17	0.14	0.15	0.18	0.18	1			
Expressing negative emotions	0.35*	-0.29*	-0.13	-0.29*	-0.001	-0.02	1		
BIS (Behavioral Inhibition System)	-0.05	0.18	0.16	0.14	0.05	-0.30	-0.13	1	
BAS (Behavioral Activation System)	0.37*	0.04	-0.26*	-0.07	0.80	-0.10	0.21**	0.006	1

*P<0.05, **P<0.01

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Table 2. Summary of regression analysis model for predicting high-risk behaviors of addicts

Model	R	R ²	Balenced R	F	Sig.
1	0.70	0.49	0.45	12.47	0.001

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and then inferential findings (such as correlation matrices and multiple regression analysis) are discussed.

According to the results of the descriptive findings, mean and standard deviation of the research components were: Perceived family support with 9.97±3.86 had the highest mean and standard deviation. Mean and standard deviation of perceived friends support was 9.66±3.83 and support of perceived others was 9.37±2.42 respectively. In the emotional expressiveness variable, negative emotional expressiveness with 17.79±1.35 had the highest mean and standard deviation and then the highest mean and standard

deviation were 16±4.19 for positive emotional expressiveness and 15.30±3.17 for expressing intimacy, respectively. In brain-behavioral systems, behavioral activation system had mean and standard deviation of 46.36±2.38 and behavioral inhibition system had mean and standard deviation of 15.66±2.42 and risk-taking behaviors had mean and standard deviation of 150.83±21.66.

As shown in Table 1, components of perceived social support including perceived family support (r=-0.57), perceived friends support (r=-0.50), and perceived support for others (r=-0.30) have the highest (P<0.01) level of negative

Table 3. Analysis of regression variance model to predict addicts' high-risk behaviors

Changes Ref	Total Changes	df	Mean Score	F	P
Regression	257446.843	8	3218.355	12.47	0.001
Remainder	26822.345	401	257.907	-	-
Total	52569/189	211	-	-	-

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correlation with risk-taking behaviors. In the components of emotional expressiveness, only negative emotional expressiveness had a positive significant relationship with risk-taking behaviors ($r=0.35$, $P<0.01$). In brain-behavioral systems (behavioral activation system), there was a significant positive correlation with risk-taking behaviors ($r=0.37$, $P<0.01$).

As shown in Table 2, approximately 49% of variance of high-risk behaviors is predictable based on perceived social support, negative emotional expression, and brain-behavioral systems.

As shown in Table 3, the F ratio indicates that regression of risk-taking behaviors of addicts is significant on the basis of perceived social support, emotional expression, and brain-behavioral systems variables.

4. Discussion

The purpose of this study was to predict risk-taking behaviors based on the role of brain-behavioral systems, emotional expressiveness, and perceived social support in addicts. The results indicate that among the components of perceived social support, there is a significant negative relationship between perceived family social support and perceived friends' social support, and these two components are able to predict addicts' risk-taking behaviors. This finding is consistent with four other studies: first, Mohammadi et al. who confirmed the mediating role of perceived social support in the relationship between cognitive emotion regulation strategies and risk-taking behaviors [12]; second, Nayak et al. who showed that perceived social support plays an important role in coping with risk-taking behaviors such as smoking, alcohol and drug abuse, and risk-taking sexual behaviors [13]; third, Spore et al., who acknowledged the role of perceived social support in reducing participation in offenders' risk-taking behaviors [16]; fourth, Rinninger et al, who found that the relationship between perceived social support and risk-taking behaviors was significant in both male and female high school students [18].

To explain the finding that perceived social support from family is effective in predicting risk-taking behaviors of addicts, it can be stated that lack of perceived social support by family leads to feelings of emptiness and weakness in addicts in a way that they try to fill that gap by doing risk-taking behaviors. Furthermore, challenges in the family drive the addict into risk-taking behaviors, leading to inadequate individual and personal support. In explaining the role of perceived social support by friends in predicting risk-taking behaviors of addicts, it can be stated that perceived social support by friends influences the risk-taking behaviors of

the addict in two ways. Social support from friends can both present unhealthy patterns and encourage individuals to engage in risk-taking behaviors, and can act as a source of support and motivation by introducing healthy models and leading them to healthy behaviors and not letting them to join the networks of awkward friends [12].

5. Conclusion

Overall, it can be concluded that perceived social support from family and friends, negative emotions, and behavioral activation system are among the variables related to risk-taking behaviors of addicts and can predict those behaviors. According to the results of this study, perceived social support of family and friends, expressing negative emotion and behavioral activation system are important in risk-taking behaviors of addicts.

Ethical Considerations

Compliance with ethical guidelines

Participants were not obliged to complete the questionnaires, and they were assured of the confidentiality of their information.

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Authors' contributions

All authors contributed in preparing this article.

Conflicts of interest

The authors declared no conflict of interest.

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