

Research Paper:

Predicting Impulsive Behavior Based on Responsibility and Resilience Among Qom Municipality Employees, Qom City, Iran

Mohammad Amreh¹ , Nasser Sobhi Gharamaleki^{2*} *1. Department of Psychology, Qom Branch, Islamic Azad University, Qom, Iran.**2. Department of Psychology, Faculty of Literature and Humanities, University of Mohaghegh Ardabili, Ardabili, Iran.*

Please cite this article as Amreh M, Gharamaleki S. Predicting Impulsive Behavior Based on Responsibility and Resilience Among Qom Municipality Employees, Qom City, Iran. Archives of Hygiene Sciences. 2021; 10(2):171-178. <http://dx.doi.org/10.52547/ArchHygSci.10.2.171>

doi: <http://dx.doi.org/10.52547/ArchHygSci.10.2.171>

**Article info:**

Received: 06 Nov 2020

Accepted: 9 Feb 2021

Publish: 01 Apr 2021

Keywords:

Impulsive behavior,
Responsibility,
Resilience, Municipality,
Social responsibility,
Psychological resilience,
Municipal

ABSTRACT

Background & Aims of the Study: This study aimed to predict impulsive behavior based on responsibility and resilience in employees of Qom Municipality, Qom City, Iran.

Materials and Methods: The present study was cross-sectional and applied and was in the category of descriptive-correlational research. The study population comprised all employees of Qom Municipality in 2019-20, which was 3300 people. Among them, 250 people were selected using the available sampling method and the Cochran formula. The study data were collected using impulsive behavior, responsibility, and resilience questionnaires. The obtained data were analyzed using multiple regression analysis (stepwise method).

Results: The results of stepwise multiple regression analysis showed that by increasing one unit in Responsibility and Resilience, 0.767 and 0.105 units, respectively, reduce impulsive behavior in employees. Also, the results of the Pearson correlation analysis showed a negative and significant relationship between responsibility and impulsive behavior ($P < 0.01$, $r = -0.793$) and a negative and significant relationship between resilience and impulsive behavior ($P < 0.01$, $r = -0.291$).

Conclusion: It is concluded that impulsive behavior is predicted based on responsibility and resilience in municipal employees.

*** Corresponding Author:**

Nasser Sobhi Gharamaleki, PhD.

Address: Department of Psychology, Faculty of Literature and Humanities, University of Mohaghegh Ardabili, Ardabili, Iran.

Phone: +98 (914) 1529565

E-mail: aidasobhi@yahoo.com

1. Introduction

Impulsivity refers to a range of behaviors that are less thought about and develop immaturity to achieve a reward or pleasure. They are high-risk behaviors and have significant unintended consequences [1]. Impulsive behaviors, which in some approaches are called risky behaviors, are actions that, although to some extent associated with possible harm or loss, also provide the possibility of achieving some form of reward [2].

Three characteristics of impulsive behaviors include choosing one option from two or more options with a possible reward, associating one option with the possibility of adverse consequences, and not knowing the possibility of an adverse outcome at the time of the event [2]. Impulsive behaviors involve a wide range of poor thought-out actions that occur immaturity, rapidly, and instantly without the ability to focus on a particular task and in the absence of proper planning. They are highly risky, too [3]. One of the variables that can predict impulsive behavior in individuals is responsibility [4].

Responsibility is a personality trait that is usually formed as an attitude in the psychological and behavioral structure of the individual and is a major and fundamental variable in social behaviors. Therefore, it has an interesting place in teaching social behaviors [5]. Responsibility in the individual and social dimensions is a concept and an excellent tool to maintain social cohesion while respecting and understanding existing differences. A human being is an independent being and, at the same time, a responsible being. That is, he enjoys as much power and authority as he has been given, and he must act as much as he takes responsibility. Responsible people have a moral conscience and spontaneously and voluntarily do their best to perform their tasks and duties [6].

In a study entitled “The Study of the Mediating Role of Resilience in the Relationship between Personality Traits and Religious Attitude”, it was shown that responsibility has a negative and significant effect on a positive attitude toward delinquency and impulsive behaviors [7]. Another study entitled “The Meta-diagnostic and Diagnostic-Dependent Role of the Five Major Personality Factors in Adolescent High-Risk Behaviors” showed a significant relationship between responsibility and high-risk behaviors [8].

Resilience is another variable that can predict impulsive behavior [9]. Resilience is the ability of a human being to successfully overcome and adapt to adverse

conditions and achieve academic, emotional, and social objectives despite facing problems [10].

A study entitled “Predicting High-Risk Behaviors Based on Resilience and Spiritual Intelligence Among Drug-Related Prisoners in Marvdasht Prison” showed a significant relationship between resilience and high-risk behaviors in prisoners [11, 12]. One study found a significant relationship between resilience and high-risk behaviors. To emphasize the present issue, we can argue that impulsivity is the basis of many social problems and psychological disorders, including substance abuse, personality disorders, sexual restraint, delinquency, aggressive behavior, and self-harm [1]. These individuals are prone to high-risk sexual behaviors, impulsive behaviors, poor executive function, high aggression, and inability to cope with stress [13]. Impulsivity is of clinical importance because it is associated with underlying diseases, family, occupational and social problems, accidents, and violence [14]. Research in this field can pave the way for the emergence of preventive measures. The resulting economic losses can be a burden on families as well as organizations and centers. Of course, the emotional damage caused by impulsive behaviors should not be forgotten because it can have subsequent consequences such as subsequent fractures, job problems, behavioral disorders, and so on. According to what was said, the present study seeks to find an answer to the question of whether impulsive behavior based on responsibility and resilience is predicted in the employees of Qom Municipality.

2. Materials and Methods

The present study was cross-sectional and applied and was in the category of descriptive-correlational research. In this study, responsibility and resilience were considered predictor variables and impulsive behavior as the criterion variable. The study population was all employees of Qom Municipality in 2019-2020. According to the nature of the research subject and the study population, the available sampling method was used. Based on the study population, the appropriate sample size was determined at a significance level of 95% and a sampling error of 5% using the Cochran formula. According to the Cochran formula, 250 people were selected from a statistical population of 3300 people working in the municipality of Qom. In this study, the descriptive part of the data was presented using frequency distribution tables, central and dispersion indices. The data were analyzed using multivariate regression analysis and Pearson correlation.

Data collection tools

Impulsivity questionnaire

Professor Ernst Barrett developed the Barrett impulsivity questionnaire, the 11th edition in 2004. The Barrett Impulsivity Scale correlates very well with the Eysenck impulsivity questionnaire, and the structure of the questions from both questionnaires indicates dimensions of hasty decision-making and lack of foresight. This questionnaire has 30 questions that include cognitive impulsivity, motor impulsivity, and lack of planning. The items that evaluate the three factors of this scale are cognitive impulsivity, motor impulsivity, and lack of planning. The questions of this questionnaire are scored on a 4-point Likert scale, from 1 (none) to 4 (very high). The non-clinical control group scores are within the 50-60 range. Items 30 and 8 were removed due to their inconsistencies. In this questionnaire, 11 items are scored in reverse. This questionnaire has been standardized in different countries and has had good reliability and validity in both clinical and non-clinical groups. Validity and validity of the Persian form of this questionnaire, which was conducted by Ekhtiari et al. showed three factors: lack of planning (9 items), motor impulsivity (10 items), and cognitive impulsivity (5 items). The reliability of Barrett's impulsivity scale was determined by the internal consistency method, and the Cronbach α coefficient was used for this purpose. Based on the obtained results, the Cronbach α coefficient was 0.81 for the first-factor questions, 0.67 for the second-factor questions, and 0.70 for the third-factor questions. The retest reliability of the total score was obtained 0.77 [2]. The reported Cronbach α for the questionnaire mentioned in the present study is 0.965.

California psychological responsibility questionnaire

To measure responsibility, we used the responsibility subscale taken from the California Psychology Inventory (CPI). This scale is a 42-item questionnaire designed to measure the responsiveness of normal individuals aged 12 years and older, and respondents will answer both yes and no questions. The questionnaire was developed to assess the characteristics of a stable interpersonal personality in a normal society. Harrison Goff published his first scale in 1948. Research on CPI validity is comparable to research on other personality questionnaires. The range of retest coefficients for each of the scales has been reported from the median of 0.53 to the median of 0.80. The internal consistency coefficients indicate that the overall structure of the scales is appropriate and its validity is appropriate for research purposes. Another study

used the split-half method, the Cronbach α , and Guttman, to calculate the scale's validity, and the obtained values were 0.69, 0.79, and 0.69, respectively [15]. The Cronbach α reported for the questionnaire mentioned in the present study is 0.861.

Resilience questionnaire

Connor and Davidson developed the resilience questionnaire in 2003. This scale has 25 5-option items (never, rarely, sometimes, often, and always). On this scale, a higher score indicates higher resilience. Connor and Davidson evaluated the validity and reliability of the scale using five experimental groups, including patients with post-traumatic stress disorder, patients with generalized anxiety disorder, outpatients with psychiatric disorders, outpatients in primary care, and the disease-free group. Besides, scale sensitivity was achieved for appropriate clinical groups. The results of factor analysis also indicated the existence of five factors on the scale. Mohammadi has adapted the Connor and Davidson resilience scale for use in Iran. Samani, Jokar, and Sahragard achieved the validity and reliability of the scale for optimal student use. In addition, in Qamrani and Kajbaf research, the validity and reliability of the Connor and Davidson resilience scale for the use of Iranian adolescents were found to be desirable. According to Mohammadi, the Cronbach α method was used to determine the resilience scale of Connor and Davidson, and the reliability coefficient was 0.89. In Jokar's study, the Cronbach α of the Connor and Davidson questionnaire was reported to be 0.93, and by factor analysis method, the main components of the existence of a factor in this scale were confirmed [16]. The reported Cronbach α value in the present study is 0.791.

3. Results

In this study, 250 employees of Qom Municipality were surveyed. A total of 29 women (11.6%) and 221 men (88.6%) participated in this study. Also, 71 samples (28.4%) were under 30 years old, 104 (41.6%) between 30 and 40 years old, 38 (15.2%) between 40 and 50 years old, and 37 (14.8%) over 50 years old. Besides, 34 samples (13.6%) had a diploma, 57 (22.8%) associate degree, 79 (31.6%) a Bachelor's degree, 77 (30.8%) a Master's degree, and 3 (1.2.2%) a doctorate. Examination of the service history of the subjects showed that 48 people (19.2%) had under 5 years of work experience, 96 people (38.4%) 5 to 10 years, and 26 people (10.4) 15 to 20.

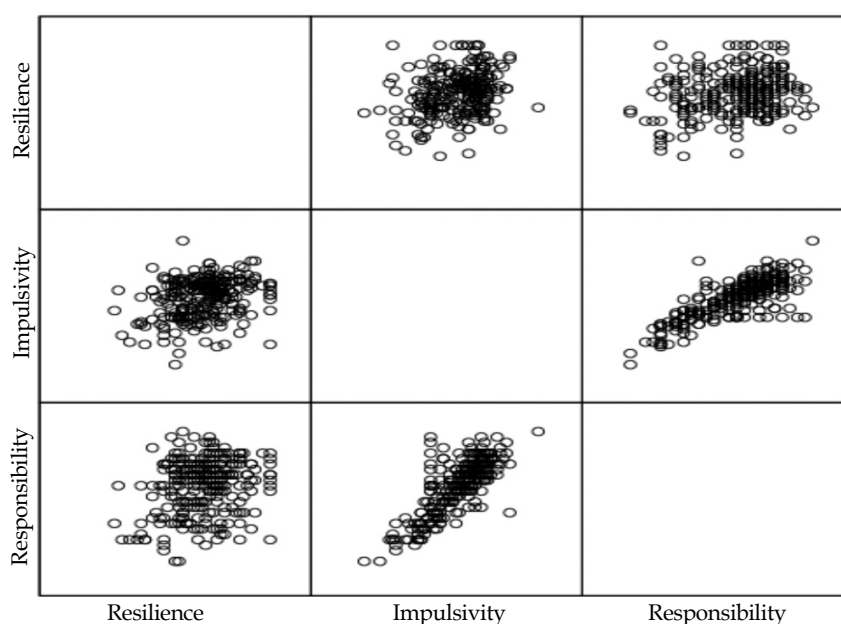


Figure 1. Distribution diagram of research variables

In the study of employees' marital status, the findings showed that 70 employees (28%) and 180(72%) were married.

The main hypothesis was tested by multiple regression analysis stepwise. To evaluate the predictability of impulsive behavior by responsibility and resilience, a multivariate regression test was used. Before performing the calculations, the assumptions of this test must be examined. The independence of the errors was checked

using the Durbin-Watson statistic, which was calculated to be 1.54, which was between 1.5 and 2.5 and thus acceptable.

Distribution diagram

As seen in [Figure 1](#), the relationship between predictor variables and "impulsive behavior" is pretty linear.

Error expression normal

This hypothesis was investigated using a residual histogram.

Normal P-P Plot of Regression Standardized Residual

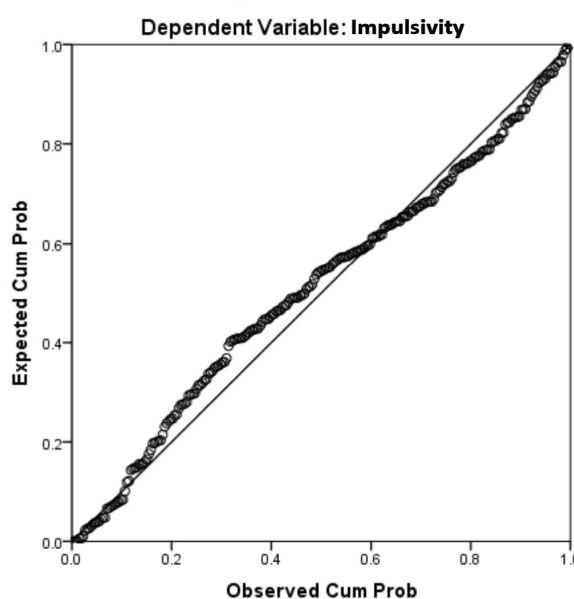


Figure 3 . Residues in figure P-P

As shown in [Figure 2](#), the shape of the distribution is almost normal. Also, the mean value presented on the right side of the graph is minimal (close to zero), and the standard deviation is close to 1. Therefore, there is no reason to believe that these samples were obtained from an abnormal distribution.

Residual is the difference between the observed and the predicted model values of the dependent variable. The residual of a variable is the error statement for that variable. The residual histogram or P-P chart is used to test the assumption that the error expression is normal. The shape of the histogram almost follows the shape of a normal curve. Also, the residuals in the P-P diagram are a function of the 45-degree line and show that the observed cumulative probability is the same as the expected cumulative probability ([Figure 3](#)). The greater the

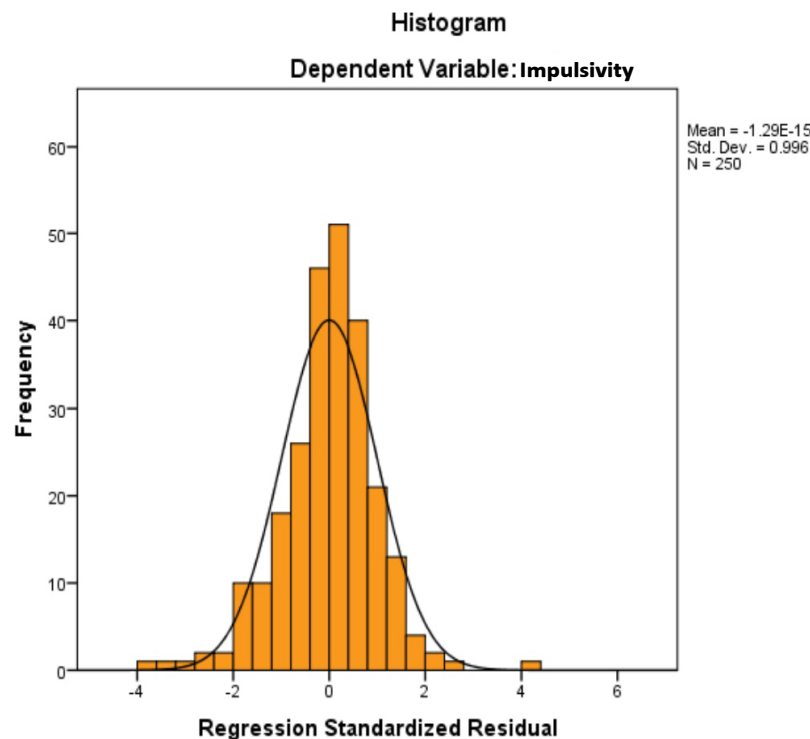


Figure 2. Histogram diagram checking the assumption that the error expression is normal.

accumulation of points around the 45-degree line, the more accurately the dependent variable can be predicted.

Based on Table 1, the predictor variables, i.e., responsibility and resilience, have been included in the regression model. As can be seen, the correlation between “responsibility” and “impulsive behavior” is 0.629. In other words, “responsibility” alone explains approximately 62.9% of the changes in employee “resilience” ($R=0.629$). In the second model, when resilience enters the equation, the value of R^2 is added to 0.636, i.e., about 63.6% of the variable “impulsive behavior” is explained by a linear relationship with the variables of “responsibility” and “resilience” that the share of “resilience” is approximately equal to 10%. The calculations related to F statistic also showed that the regression model consisting of responsibility and resilience could explain the criterion variable ($P=0.0001$; 249 and $df=2$, $F=218.6$). The subsequent output shows the analysis of the model regression coefficients.

Based on the data in Table 2, the regression equation can be written as follows: (Resilience) -0.105 (Responsibility) -0.767 (Y) The state of impulsive behavior based on the above regression model can be said: A decrease of one unit in “responsibility and resilience” adds 0.767 and 0.105 units to the score of “impulsive behavior” of employees, respectively.

4. Discussion

This study aimed to predict impulsive behavior based on responsibility and resilience among Qom municipal employees. The regression analysis results showed that by decreasing one unit in “responsibility and resilience” by 0.767 and 0.105 units, respectively, the score of “impulsive behavior” of employees is increased. Also, the results of Pearson correlation analysis showed a negative and significant relationship ($P<0.01$, $r=-0.793$) between responsibility and impulsive behavior and a negative and significant relationship ($P<0.01$, $r=-0.291$) between resilience and impulsive behavior. Testing the research hypothesis showed that responsibility and resilience could predict impulsive behavior in Qom municipal employees. The present result is consistent with the results of other studies [8, 12, 16-18]. To explain this finding, we can argue that responsible people have characteristics such as order, prudence, a tendency to progress, and self-control. People who score high on these factors show less risky behaviors and more social success [17]. Also, according to Goff theory, responsibility, reliability, acting according to rules and regulations and believing that reason must dominate life is a relatively stable interpersonal and intrapersonal personality trait. Goff believes that although responsibility is correlated with publicity and self-control, it is essential to emphasize the values and controls specific and vital factors in people’s lives. A

Table 1. Correlation model of variables and beta coefficients of regression analysis with stepwise method

Models	Predictive Variables Included in the Model	Correlation Coefficient	Squared Correlation Coefficient	Modified Correlation	ΔR^2	Significance Level
1	Responsibility	0.793	0.629	0.627	0.627	0.0001
2	Responsibility	0.799	0.639	0.636	0.010	0.008
3	Resilience					

Criterion variable: Impulsive behavior



person who has a high sense of responsibility sacrifices his needs for the needs of the community. Such people accept the consequences of their behaviors and are trustworthy. They feel committed to social structures, and although they are not necessarily leaders, they are honest and keep their word. According to Goff, anti-social people are not responsible because they are not constantly aware of their needs. However, people who have jobs that require responsible and conscientious behavior are responsible people. Goff believes that a person in charge adheres to social, moral, and civic values [19].

To explain the relationship between resilience and impulsive behavior, people with high resilience can cope with stress because they strengthen their innate ability, increase their resistance to impulsive behaviors [7]. Resilient people are more inclined to use problem-based coping strategies [5]. Another study [8] entitled "Study of the Mediating Role of Resilience in the Relationship Between Personality Traits and Religious Attitudes" showed that responsibility has a negative and significant effect on a positive attitude to delinquency and impulsive behaviors. Another study entitled "Predicting High-Risk Behaviors Based on Resilience and Spiritual Intelligence Among Drug-Related Prisoners in Marvdasht Prison" showed a significant relationship between resilience and high-risk behaviors in prisoners. Also [12], in a study reported a significant relationship between resilience and high-risk behaviors.

One of the limitations of this research lies in the sample selection. The sample of the present study comprised employees of Qom Municipality, which makes it impossible

to generalize the results to other people and other places. To improve the research results, other methods of data collection such as interviews and observations should be used, too. It is suggested that in future research, intervention variables such as the effect of subcultures and social and economic conditions be considered, too. We suggest that future studies should recruit other age groups and from other communities and social environments. In future research, comparative and even experimental causal studies, as well as longitudinal research, should be used.

5. Conclusion

The results of this study showed a negative and significant relationship between responsibility and impulsive behavior. Therefore, the more responsible people are, their impulsive behavior will be negative. Also, by examining resilience and impulsive behavior, the results showed a negative and significant relationship between resilience and impulsive behavior. Accordingly, the more resilient employees express less impulsive behavior. According to the obtained findings, the responsibility and resilience in employees can be increased by rewarding based on employee merit and avoiding the exercise of taste in awarding and promoting and welcoming management to constructive criticism and suggestions of employees and providing a basis for freedom of action for fair criticism as well as to increase resilience in municipal employees can increase resilience skills including spirituality, meaning in life, hope, optimism, moral reasoning, self-esteem, problem-solving skills, and emotional management skills, through cognitive workshops and resilience training in the formal and informal train-

Table 2. Responsibility and resilience coefficients in predicting impulsive behavior

Variables entered in the model	Model	B	SD	Standardized Coefficients of Variables (Beta)	t	Sig.
Responsibility Resilience	1. Width of origin	7.7	3.48		2.21	0.028
	2. Variable coefficient	-1.32	0.068	-0.767	-19.4	0.000
	2. Variable coefficient	0.115	0.043	-0.105	-2.67	0.008

Criterion variable: Impulsive behavior.



ing of municipal employees of the city of Qom should be included.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles are considered in this article. The participants were informed about the purpose of the research and its implementation stages. They were also assured about the confidentiality of their information and were free to leave the study whenever they wished, and if desired, the research results would be available to them.

Funding

This article was extracted from the MA. thesis of the first author at the Department of Psychology, Faculty of Literature and Humanities, University of Mohaghegh Ardabili, Ardabili.

Authors' contributions

Both authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

References

- [1] Masoudi N, Kalantar Hormozi A, Farahbakhsh K. [The effectiveness of child-centered play therapy on self-control and improvement of impulsive behavior in single-parent children (Persian)]. *Journal of Child Mental Health*. 2019; 5(4):67-79. <http://childmentalhealth.ir/article-1-494-en.html&sw=The+Effectiveness+of+Child-Cente>
- [2] Semple SJ, Zians J, Grant I, Patterson TL. Impulsivity and methamphetamine use. *Journal of Substance Abuse Treatment*. 2005; 29(2):85-93. [DOI:10.1016/j.jsat.2005.05.001] [PMID]
- [3] Ge Y, Qu W, Zhou M, Özkan T, Bıçaksız P, Zhang K. Psychometric adaption of the impulsive driver behavior scale in a Chinese sample. *Transportation Research Part F: Traffic Psychology and Behaviour*. 2020; 68:218-30. [DOI:10.1016/j.trf.2019.11.004]
- [4] Rodríguez-Cifuentes F, Segura-Camacho A, García-Ael C, Topa G. The mediating role of psychological capital between motivational orientations and their organizational consequences. *International Journal of Environmental Research and Public Health*. 2020; 17(13):4864. [DOI:10.3390/ijerph17134864] [PMID] [PMCID]
- [5] Rezaee Jamalooi H, Hassani J, Moradi AR, Fathi Ashtiani A. [Transdiagnostic and diagnosis-related role of big five personality factors in predicting adolescents' risky behaviors (Persian)]. *Quarterly Journal of Family and Research*. 2019; 15(4):121-44. [DOI: 20.1001.1.26766728.1397.15.4.7.1]
- [6] Behzadpoor S, Sadat Motahary Z, Godarzi P. [The relationship between problem solving and resilience and high risk behavior in the students with high and low educational achievement (Persian)]. *Journal of School Psychology and Institutions*. 2014; 2(4/25-42):25-42. http://jssp.uma.ac.ir/article_2.html?lang=en
- [7] Backmann J, Weiss M, Schippers MC, Hoegl M. Personality factors, student resiliency, and the moderating role of achievement values in study progress. *Learning and Individual Differences*. 2019; 72:39-48. [DOI:10.1016/j.lindif.2019.04.004]
- [8] Akbarabadi A. Predicting high-risk behaviors based on resilience and spiritual intelligence among drug-related prisoners in Marvdasht prison [MSc. thesis]. Marvdasht: Islamic Azad University; 2016.
- [9] Yongping Z, Yufang Z, Yueh-Ting L, Li C. Cumulative interpersonal relationship risk and resilience models for bullying victimization and depression in adolescents. *Personality and Individual Differences*. 2020; 155:109706. [DOI:10.1016/j.paid.2019.109706]
- [10] Harvanko AM, Strickland JC, Slone SA, Shelton BJ, Reynolds BA. Dimensions of impulsive behavior: Predicting contingency management treatment outcomes for adolescent smokers. *Addictive Behaviors*. 2019; 90:334-40. [DOI:10.1016/j.addbeh.2018.11.031] [PMID] [PMCID]
- [11] Haeny AM, Littlefield AK, Wood PK, Sher KJ. Method effects of the relation between family history of alcoholism and parent reports of offspring impulsive behavior. *Addictive Behaviors*. 2018; 87:251-9. [DOI:10.1016/j.addbeh.2018.07.022] [PMID] [PMCID]
- [12] Khakbazan N. [The relationship between responsibility and Islamic lifestyle (Persian)]. *Rooyesh-e-Ravanshenasi*. 2019; 7(11):153-68. [DOI:20.1001.1.2383353.1397.7.11.1.0]
- [13] Radovanović V, Šestić MR, Kovačević J, Dimoski S. Factors related to personal resiliency in deaf and hard-of-hearing adolescents. *Journal of Deaf Studies and Deaf Education*. 2020; 25(4):430-7. [DOI:10.1093/deafed/ena012] [PMID]
- [14] Khakpour I. [The role of spiritual health, emotion regulation and metacognitive beliefs in adolescents' substance abuse (Persian)]. *Medical Ethics Journal*. 2019; 12(43):1-10. [DOI:10.22037/mej.v12i43.16610]
- [15] Bluth K, Mullarkey M, Lathren C. Self-compassion: A potential path to adolescent resilience and positive exploration. *Journal of Child and Family Studies*. 2018; 27(9):3037-47. [DOI:10.1007/s10826-018-1125-1]
- [16] Prince-Embury S. Risk behavior and personal resiliency in adolescents. *Canadian Journal of School Psychology*. 2015; 30(3):209-17. [DOI:10.1177/0829573515577601]
- [17] Fisher LA, Elias JW, Ritz K. Predicting relapse to substance abuse as a function of personality dimensions. *Alcoholism, Clinical and Experimental Research*. 1998; 22(5):1041-7. [DOI:10.1111/j.1530-0277.1998.tb03696.x] [PMID]
- [18] Sünbül ZA, Güneri OY. The relationship between mindfulness and resilience: The mediating role of self compassion and emotion regulation in a sample of underprivileged Turk-

ish adolescents. *Personality and Individual Differences*. 2019; 139:337-42. [DOI:10.1016/j.paid.2018.12.009]

- [19] Mansouri Z, Mousavi-Nasab H, Shamsodini Lori L. A study of the mediating role of resilience in personality characteristics and attitudes toward delinquency. *Journal of Fundamentals of Mental Health*. 2015; 17(2):103-10. [DOI:10.22038/JFMH.2015.4033]