Vol. 2, No. 3, (2021), 13-24
© 2021, Autumn
***Published online* October, 2021**

Journal of Preventive Counselling (JPC)

Predicting High-Risk Behaviors Based on Early Maladaptive Schemas among University Students

Asadi, Masoud[1*], Nazarifar, Mohsen[2], Jamshidi, Alireza[3] & Akhavan-Bitaghsir, Zahra[4]

1. Assistant Professor, Department of Psychology and Educational Sciences, Faculty of Humanities, Arak University, Arak, Iran. (m-asadi@araku.ac.ir) (Corresponding Author).
2. Assistant Professor, Department of Psychology and Educational Sciences, Faculty of Humanities, Arak University, Arak, Iran.
3. Ph.D. Candidate in Clinical Psychology, Department of Medicine, Faculty of Medicine, Islamic Azad University, Roodehen Branch, Iran.
4. Ph.D. in counseling, Department of Counseling, School of Psychology and Educational Sciences, Kharazmi University, Tehran, Iran.

Abstract

Early maladaptive schemas are the basis of many high-risk behaviors and psychological disorders. The objective of this study was to predict high-risk behaviors based on early maladaptive schemas among university students. The statistical population of this study included all male and female students at Sari University. The sample included 182 college students) 88 males and94 females) who were chosen via the convenience sampling method? The instruments included the Schema Questionnaire (Young, 1991) and Risk Behaviors Questionnaire (Zadeh Mohammadi & Ahmadabadi 2009). Data were analyzed through stepwise multiple regression. It showed that dependence could explain 13%of the variance of violence. Shame, perfectionism, entitlement, ment, and failure (in four steps) could explain 21% of the variance of drug abuse. In addition, shame and perfectionism (in two steps) could explain 9.3%of the variance of alcohol consumption. Moreover, dependency and emotional inhibition (in two steps) could explain 6.4% of the variance of involvement the romantic activity. According to the findings of this study considering the predictability of students' high-risk behaviors based on some early maladaptive schemas in order to prevent the spread of high-risk behaviors, the factors affecting the formation of early maladaptive schemas among students should be considered. Also, the results, have important implications for the pathology, prediction, prevention, and treatment of high-risk behaviors among university students.

Keywords: Early maladaptive schema, High-risk behaviors, University Student.

Introduction

There is an increased interest for studying risk behavior among adolescents and youth due to its high correlation with morbidity and mortality. These behaviors may also directly affect an individual's human capital, i.e., the set of educational and cultural assets that determine his or her well-being over time. Thus, a better understanding of the factors in their risk behavior is important for interventions to prevent this pattern of behavior in adult life. (Bozzini & et al., 2021).

High-risk behaviors are defined as actions that increase the risk of illness or injury. They may lead to disability, death, or psychological and social problems (Carr Gregg & Grover, 2003; Tariq & Gupta, 2020). They have adverse effects on overall growth and health through interrupting growth (Gusman, 2007). The broad concept of high-risk behavior encompasses a range of behaviors wthat not only cause serious harm to the person involved in the behavior and the important people in his life, but also cause unintentional harm to other innocent people. The most common high-risk behaviors include excessive alcohol consumption, drug abuse, unsafe sex, high-risk driving, dangerous sports, gambling, and illegal acts (Boyer, 2006). Research has shown that these behaviors are most common in university campus. In addition, high-risk behaviors such as alcohol consumption, drug abuse, and unsafe sexual behaviors can lead to high morbidity and mortality among students (Buelow, 2005; Lichner et al., 2021). High-risk behaviors expose an individual to mental health problems, sexually transmitted diseases, school dropout, or suicide attempts (Anderson & et al., 2009).

There are different perspectives on the causes of high-risk behaviors, including biological, individual, family, environmental, social and cultural factors (Bozzini & et al., 2021). Each of these factors plays a role in high-risk behaviors. Research has shown that personality traits and psychiatric factors are among the important cognitive factors in the tendency to high-risk behaviors such as smoking, alcohol consumption, drug abuse and unsafe sexual activities (Ghoreishi Rad & PourjabarAkhundi, 2017). One of these psychological factors which are effective in the tendency to high-risk behaviors is early maladaptive schemas.

Early maladaptive schemas are considered the main elements of behavioral and personality problems. They are selfish emotional and cognitive patterns that develop in childhood and are repeated throughout life (Khasho & et al., 2019). They are cognitive constructs used by individuals to encode, screen, and interpret contextual data (Young & et al., 2003). Since schemas form the core of people's self-concept, if they have inconsistent content, they will make people vulnerable to problems (videler & et al., 2018). Young (2005) proposed early maladaptive schemas following Piaget's point of view and cognitive theories. He argues that these schemas, which he refers to as a reference structure or a framework (Young, 1994), are stable structures which act as lenses and affect a person's perception of the world, himself and others.Early maladaptive schemas are close to the concept of a person's core beliefs; they guide him to interpret and respond to the stimuli in the environment. Early maladaptive schemas are defined as rigid and pervasive contexts in relation to oneself, others, and the world (Ball, 2007).

Early maladaptive schémas are believed to be formed during traumatic childhood experiences, especially those in which the family and the caregivers play a prominentrole (Young, 2003). The origin of theseschemasis the coreemotionalneeds (Young, 1994) and they appear in relation to five fundamentaltransformationaltasks. These five tasksincludedisconnection and rejection (i.e.,negativebeliefs on therelationships ; itmay affect a person's expectations of the relationships and their conceptualization),impaired autonomy and performance (i.e., beliefs about oneself; onconsiders himself weakak, ineffective and helpless; theseschemas have important effects on one's self-confidence in various areas of lifimpaired limitsmits (i.e., appreciation, evaluation and attention to daily life limitatioother-directednessdness (ibelieving that onlyonly the needs, the desires and the feelings of oneself are important, rejecting othersover vigilancegilance and inhibition (i.e., unrealistic standards which rethe tendencytendency to focus on negative situations, outputs, behaviors rather than positive ones). Sinceearlymaladaptiveschemas cause significantemotionaldisturbances, a numb of coping responses have been hypothesized to help individualsreducetheirdisturbances (Young, 2003). Most of these coping responses are ineffective and lead to a high level of avoidance. Theyeven lead to drug abuse as a key mechanism (Ball, 2007).

Research studies have been examined and supported the relationship between variables related to early maladaptive schemas and high-risk behaviors. Marengo et al. (2019) examined the multivariate relationship between early maladaptive schemas (i.e., disconnection and rejection, impaired autonomy and performance, impaired limits, otherother-directednessr vigilance and inhibition) and five indicators of high-risk behaviors. The results showed that early maladaptive schemas accounted for 24% of the variance in predicting high-risk sexual behaviors in men (versus 9% in women). Early maladaptive schemas accounted for 20% of the variance in predicting women's involvement in high-risk academic, professional, illegal and aggressive activities (versus 9% of men). In addition, early maladaptive schemas predicted different variances of high-risk sexual behaviors, drug abuse, alcohol consumption, and dangerous and illegal behavior for each sex. Furthermore, other studies have been examined the relationship between early maladaptive schemas and drug abuse and alcohol. They have shown that there was a significant relationship between early maladaptive schemas and drug abuse (e.g., Ball & Young, 2001; Brotchie et al., 2004; Roper et al., 2010; Shoreyetal., 2012; Aghili & et al., 2017; Abdzadeh & et al., 2020). (Abdzadeh & et al., 2020) showed that early maladaptive schemas and negative emotion regulation could increase psychological distress and caused a tendency to high-risk behaviors (especially drug abuse and alcohol consumption) in adolescents.

(Brotchie & et al., 2007) found that cognitive and behavioral avoidance of early maladaptive schemas was associated with increased drug abuse. (Kazemi & Dideh Roshani., 2010) (Razavi & et al., 2012) showed that maladaptive schemas in drug abusers were more than normal people. In a study entitled ‘The Comparison of Early Maladaptive Schemas and Avoidance Coping Behaviors in Opioid-dependent Men and Normal Individuals”, (Zargar & et al., 2011) showed that the difference between early maladaptive schemas in drug-dependent individuals and that of normal individuals was significant. In addition, avoidance styles in drug addicts were significantly higher than

normal individuals. Furthermore, (Oveysi & Bakhshani., 2012) found that drug addicts had higher scores than normal individuals in terms of the components of disconnection, impaired autonomy and performance, and over vigilance.

Moreover, (Decouvelaere & et al., 2002), (Brotchie & et al., 2004) and (Roper & et al., 2010) found that alcoholic shad higher scores on early maladaptive schemas than non-alcoholics.

Research on early maladaptive schemas and high-risk behaviors has focused on the relationship between early maladaptive schemas and drug and alcohol abuse; other aspects of high-risk behaviors have not been addressed. Therefore, the present study investigated the relationship between early maladaptive schemas and several dimensions of high-risk behaviors (i.e., drug abuse, alcohol consumption, smoking, violence, high-risk driving, and romantic activities). On the other hand, the study of high-risk behaviors and early maladaptive schemas is important in terms of their possible consequences considering the students' life, health, mental and social development.In fact,the university provides the students with the opportunity to participate in educational programs to improve their health. Therefore, the evaluation of high-risk behaviors and the related factors provides valuable information regarding the students' needs and daily challenges. It helps formulate and plan educational and training programs which are appropriate to the studestudent'sial needs (Redican, 2004).Moreover, examining the relationship of early maladaptive schemas and high-risk behaviors not only helps to design interventional programs for individuals involved in high-risk behaviors, but also prevents these harmful behaviors in individuals. Accordingly, the present study tried to answer the following research question: what is the contribution of early maladaptive schemas in explaining students' high-risk behaviors (i.e., high-risk driving, violence, smoking, drug abuse, alcohol consumption and romantic activities)?

Methods

The design of the present study is correlational. The statistical population included all students of Sari University. The sample consisted of 182 students (88 males and 94 females) who were selected through convenience sampling method. 48.4% of the sample was male students, and 51.6% was female students. The mean age of the participants was 22.5 years. 28.6% of the students were studying in associate level, 64.3% in bachelor's level, and 7.1% in master's level. It should be noted that before filling out the questionnaires, the participants were provided by some explanations about the purpose of the study and the way of filling out the questionnaires. Moreover, stepwise regression was used to analyze the data.

Instruments

The Short Form Schema Questionnaire (SQ-SF)

Seventy-five items of this questionnaire were developed by Young (1998) to evaluate 18 early maladaptive schemas. These schemas include emotional deprivation, abandonment/ instability, mistrust/ abuse, social isolation/ alienation, defectiveness/ shame, failure,

dependency/ incompetence, vulnerability to harm or illness, enmeshment/ undeveloped self, subjugation, self-sacrifice, emotional inhibition, unrelentring standards/ hyper criticalness, entitlement/ grandiosity, insufficient self-control, admiration/ recognition-seeking, pessimism/ worry, and self-punitiveness. Each item is scored on a 6-point Likert scale (1 for completely incorrect and 6 for completely correct). The reliability and the validity of this instrument have been estimated in several studies (Baranoffet al., 2006). Ahi (2005) standardized this questionnaire in Iran, and reported the internal consistency of 0.97 in the female population using Cronbach's alpha, and that of 0.98 in the male population. In the present study, the Cronbach's alpha coefficient for the whole questionnaire was calculated to be 0.93.

High Risk Behavior Questionnaire: This questionnaire was developed by (ZadehMohammadi & Ahmadabadi., 2009) with the help of valid instruments such as AdolesentRiskTakingBehavior (Gullone & et al., 2000) and YouthRiskBehavior Surveillance (Breneret & al., 2004). In addition, contextual conditions and social constraints of Iranian society were considered in developing this instrument.

It includes 38 items on seven categories of high-risk behaviors (i.e., high-risk driving, violence, smoking, alcohol consumption, drug abuse, unsafe sexual behavior, and romantic activities). The participants expressed their disagreement and agreement on a five-point Likert scale which ranges from strongly agree to strongly disagree kaiser-Mayer-Oklinmeasure of sampling adequacy for this scale was 0.952, which was desirable moreover, Bartlett's Test of sphericity was statistically significant. Cronbach's alpha coefficients for the subscales of high-risk driving, smoking, drug abuse, alcohol consumption, violence, unsafe sexual behavior, and romantic activities were 0.74, 0.93, 0.90, 0.90, 0.78, 0.83, and 0.87, respectively (ZadehMohammadi & Ahmadi., 2009). In the present study, Cronbach's alpha for the whole questionnaire turned out to be 0.54.

Data collection procedure

First, maladaptive schemas and high-risk behaviors questionnaires were distributed among the students of different faculties of Sari University. The duration of sampling and data collection was about three months. The questionnaires were examined, and the incomplete and extreme cases were checked. Finally, 182 questionnaires (i.e., 88 questionnaires filled out by males and 94 questionnaires filled out by females) were considered in data analysis. To encourage students' participation and observe ethical issues, the participants were assured that their data would remain completely confidential. In addition, explaining the research study's objectives to the participants, obtaining informed consent, facilitating voluntary participation of the participants, and providing the results to the participants (if desired) were other ethical issues taken into account in this research study. Finally, the results were analyzed through stepwise regression analysis.

Results

Table 1. presents the mean and the standard deviation of the research variables.

Table 1. Mean and standard deviation of research variables.

Variables		Femalestudents		Male students		Total sample	
		Mean	SD	Mean	SD	Mean	SD
Earlymaladaptiveschema	emotionaldeprivation	11.49	6.36	11.62	5.84	11.52	6.08
	abandonment/ instability	13.15	6.51	12.91	6.36	13.08	6.44
	mistrust/ abuse	12.73	6.85	13.71	6.39	13.16	6.62
	social isolation	10.46	6.12	11.08	6.15	10.78	6.16
	defectiveness/ shame	8.39	5.49	9.59	5.31	8.99	5.45
	failure	10.01	6.39	10.2	5.8	10.05	6.08
	dependency/ incompetence	9.19	5.12	10.04	5.56	9.62	5.36
	vulnerability to harm or illness	9.53	5.83	11	5.83	10.25	5.89
	enmeshment/ undeveloped self	11.37	6.96	11.58	6	11.43	6.43
	Subjugation	10.03	4.89	10.43	5.55	10.21	5.21
	self sacrifice	16.76	6.36	15.69	6.5	16.17	6.43
	emotional inhibition	13.01	7.2	13.2	6.57	13.13	6.9
	perfectionism	18.31	6.18	16	7.23	17.1	6.76
	entitlement	16.85	6.29	15.52	6.21	16.14	6.27
	insufficient self-control	14.26	6.55	13.64	6.08	13.86	6.27
high-riskbehaviors	high-riskdriving	19.02	7.66	16.64	6.06	17.83	7.03
	violence	16.23	4.98	14.98	5.14	15.62	5.11
	smoking	8.21	5.18	9.12	4.52	8.65	4.89
	alcoholconsumption	14.13	6.85	14.77	5.63	14.43	6.3
	romanticactivities	9.67	3.87	9.36	3.82	9.53	3.85

According to Table 1, from among the early maladaptive schemas, perfectionism (M= 17.1) gained the highest mean, and defectiveness and shame (M= 8.99) gained the lowest mean. Furthermore, from among the subscales of high-risk behaviors, high-risk driving (M= 17.83) gained the highest mean, and smoking (M= 8.65) gained the lowest mean.

Moreover, Table 2 provides the summary of the stepwise regression model of early maladaptive schemas and high-risk behaviors.

Table 2. The summary of the stepwise regression model of early maladaptive schemas and high-risk behaviors.

Criterion variable	Model	Variable	Index	SS	DF	MS	F	P	R	R^2
Violence	1	dependence	regression	410.27	1	410.27	26.15	.000	.356	.127
			residual	2823.29	180	15.68				
Drug abuse	1	defectiveness/ shame	regression	875.82	1	875.82	24.14	.000	.344	.118
			residual	6529.42	180	36.27				

	2	defectiveness/ shame+ perfectionism	regression	1247.69	2	1247.69	18.13	.000	.410	.168
			residual	6157.55	179	34.40				
	3	defectiveness/ shame + perfectionism + entitlement	regression	1434.31	3	1434.31	14.25	.000	.440	.194
			residual	5970.93	178	33.54				
	4	defectiveness/ shame + perfectionism + entitlement + failure	regression	1564.83	4	391.20	11.85	.000	.460	.211
			residual	5840.41	177	32.99				
Alcohol consumption	1	defectiveness/ shame	regression	195.69	1	195.69	12.16	.001	.252	.063
			residual	2894.65	180	16.08				
	2	defectiveness/ shame+ perfectionism	regression	319.64	2	319.64	10.32	.000	.322	.093
			residual	2770.61	179	15.47				
Romantic activity	1	dependency	regression	77.20	1	77.20	5.34	.022	.170	.029
			residual	2598.80	180	14.43				
	2	dependency + inhibition	regression	170.37	2	85.18	6.08	.003	.252	.064
			residual	2505.63	179	13.99				

The results of regression analysis (see Table 2) showed that from among early maladaptive schemas, high-risk driving (F= 1.08, Sig= -379, P<0.05), and smoking (F= 1.08, Sig= -376, P<0.05) were not statistically significant; the components of early maladaptive schemas could not explain part of the variance of high-risk driving and smoking. This result shows that regression coefficients were not significant, and there were not enough evidence to explain high-risk driving and smoking from the components of early maladaptive schemas. In addition, as it is evident in Table 2, dependency could predict violence; 12% of the variance of violence was explained by dependency. Moreover, defectiveness/ shame, perfectionism, entitlement and failure could predict drug abuse in four steps; 21% of the variance of drug abuse was explained by these four variables. Furthermore, defectiveness/ shame and perfectionism could predict alcohol consumption in two steps; 0.093% of the variance of alcohol consumption was explained by defectiveness/ shame and perfectionism. Finally, dependency and inhibition could predict romantic activities in two steps; 0.064% of the variance of romantic activities was explained by dependency and inhibition.

In addition, to evaluate the strength of the relationship between each of the research variables and to determine the effect of predictor variables on the criterion variable, beta values were examined (see Table 3).

Table 3. The summary of stepwise regression of components of early maladaptive schemas and high-risk behaviors.

Criterion variable	Predictor variable	B	SE	β	T	P
Violence	dependency	-.277	.054	-.356	-5.11	.000
Drug abuse	defectiveness/ shame	-.404	.082	-.344	-4.91	.000
	perfectionism	.220	.067	.231	3.28	.001

	entitlement	-.235	.100	-.230	-2.35	.019
	failure	-.175	.088	-.191	-1.98	.048
Alcohol consumption	defectiveness/ shame	-.191	.055	-.252	-3.48	.001
	perfectionism	.127	.045	.207	2.83	.005
Romantic activities	dependency	-.120	.052	-.170	-2.31	.022
	inhibition	.110	.043	.193	2.58	.011

Discussion

Although we observe high-risk behaviors in all age groups, teenagers and adolescents are more exposed to high-risk behaviors due to the characteristics of their developmental stages (Rensburg&Surujlal, 2013). High-risk behaviors endanger individuals' health and well-being, and cause physical and psychological problems as well as numerous social harms (Steinberger et al., 2017). Accordingly, the present study was conducted to predict high-risk behaviors based on early maladaptive schemas in male and female students.

With regard to the predictability of high-risk behaviors through maladaptive schemas, the stepwise regression statistical test showed that the components of early maladaptive schemas could not explain some parts of the variance of high-risk driving and smoking. In fact, there was insufficient evidence to explain high-risk driving and smoking from the components of early maladaptive schemas. Furthermore, the results of stepwise regression analysis showed that dependency could predict violence, and defectiveness/ shame, perfectionism, entitlement and failure could predict drug abuse in four steps. Moreover, the variables of defectiveness/ shame and perfectionism could predict alcohol consumption in two steps. Dependency and inhibition could also predict romantic activities. The findings of the present study are in line with those of Brotchie et al. (2007), (Roper & et al., 2010), (Oveysi & Bakhshani., 2012), (Razavi & et al., 2012), (Shorey & et al., 2012), (Shorey et al., 2013),Aghili et al. (2017), (Behboodi & et al., 2017), (Marengo & et al., 2018), (Abdzadeh & et al., 2020), and (Bozzini & et al., 2021).

Regarding predicting violence from early maladaptive schemas (specifically dependency schema), research studies showed that behaviors which indicate need and dependency create unpleasant feelings in people (Nordahlet & al., 2005). In addition, they are associated with the feelings of inadequacy and lower self-esteem. Researchers have shown that there is a strong relationship between low self-esteem and violence (Samanta & Tompsett., 2013).

With respect to predicting drug abuse based on early maladaptive schemas, (Ball, 2005) reported the significant role of maladaptive schemas in increasing the tendency of individuals, especiallyteenagers and adolescents, to drug abuse. In fact, the greater the frequency and the severity of maladaptive schemas are, the more individuals tend to drug abuse. Moreover, (Ghadimi & et al., 2014) reported the significant effect of maladaptive schemas in encouraging people to use drugs. They showed that these schemas did so through impairing the individuals' cognitive function.

Concerning predicting alcohol consumption, (Roper & et al., 2010) examined maladaptive schemas of 50 alcohol-dependent individuals, and compared them with those

of a non-clinical group. They found that alcoholics had high levels of maladaptive schemas in terms of emotional dependency, distrust, defectiveness/ shame, dependency/ incompetence, vulnerability to harm or disease, and subjugation. In addition, the research findings are consistent with the model of implicit theories (Ward, 2000) and Young's theory of early maladaptive schemas. In these theories, it is assumed that high-risk behaviors such as romantic activities are associated with the activity of early maladaptive schemas. In fact, through these schemas, individuals interpret data, and act accordingly (Burn & Brown 2006).

In a possible explanation of these findings, it can be stated that early maladaptive schemas increase the likelihood of high-risk behaviors throughimpairing the individual's cognitive process and assessments. An individual's cognitive function is affected by early maladaptive schemas, and is impaired in interaction with negative and stressful life events. These schemas are inefficient mechanisms which cause bias in individuals' interpretations of events, and provide the ground for psychological distress through affecting their cognitive structure (James et al., 2007).When schemas are activated, they become the control room of automatic thoughts, thereby leading to a negative bias in data analysis. The function of early maladaptive schemas is similar to that of lenses which interfere with and influence the selection, analysis, interpretation, and evaluation of information and experiences. Given the fact that these schemas are developed and established in the early years of childhood, and are credible manifestations of childhood experiences, they can set the stage for distorted thinking, dysfunctional and high-risk behaviors.

Conclusion

Considering the findings of the present study, we can point out two categories of theoretical and practical implications. At the theoretical level, with regard to the relationship between the dimensions of early maladaptive schemas and high-risk behaviors among students, since most studies have been examined the relationships between early maladaptive schemas and drug and alcohol abuse, and the relationship between maladaptive schemas and other dimensions of high-risk behaviors(e.g., high-risk driving, violence, smoking, unsafe sexual behavior and involvement in romantic activities) have not been considered by researchers, this study can attract the attention of researchers to these variables. at the practical level, it can be stated that since early experiences do not necessarily condemn a person to the development of later life problems, and early maladaptive schemas at any point in the growth path are modified through healthy experiences, training workshops can be useful. Therefore, according to the findings of this study, it can be suggested that some training workshops and related educational programs be hold for the students to clarify the relationship between early maladaptive schemas and high-risk behaviors, and to modify the disorders. Furthermore, in the present study, it was found that there was a significant relationship between early maladaptive schemas and high-risk behaviors of violence, drug abuse, alcohol consumption, and involvement in romantic activities. Thus, since early maladaptive

schemas grow during childhood and adolescence, and develop throughout a person's life (Young, 1994; Young & et al., 2003), in order to prevent the prevalence of high-risk behaviors among students, the awareness level of parents and educators on factors affecting the formation of early maladaptive schemas, especially in childhood, should be improved. Hence, it would be possible to prevent the formation of early maladaptive schemas which affect the commission of high-risk behaviors in children raising process. To summarize, the present study only examined the role of early maladaptive schemas in predicting high-risk behaviors in students. Therefore, the findings are important only considering the effect of this variable on high-risk behaviors. Hence, to make a more accurate judgment of the relationship between early maladaptive schemas and high-risk behaviors and to generalize the findings, more comprehensive research studies which examine larger samples of other populations are suggested.

Disclosure Statements

The authors declared no conflict of interest. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

ORCID

Masoud, Asadi: 0000-0001-5872-7673

References

Abdzadeh S., Azmudeh, M., Abdollahpour, M. &Livarjani, Sh. (2020).The mediating role of psychological disturbance in the relationship of early maladaptive schemas and the regulation of negative emotion with the tendency to high risk behaviors in students.*Journal of Addiction Research. 14*(58), 143-170.

Aghili, M., Mianabadi, H. &Asghari, A. (2017).The relationship of maladaptive schemas, high-risk behaviors and optimism and the use of social networks in students of divorced and normal families.*Journal of Principles of Mental Health, 19*(3), 290-295.

Ahi, Gh. (2006). *Standardization of the short version of Young's Schema Questionnaire.*Master Thesis in Psychology, Tehran, Faculty of Psychology and Educational Sciences, AllamehTabatabaei University.

Anderson, C., Johnson, K. O., Berglund, M., &Ojehagen, A. (2009). Stress and hazardous alcohol use: Associations with early dropout from university. *Scandinavian Journal of Public Health*, 37, 713–719.

Ball, S. A. (2005). Personality traits, problems, & disorders: clinical applications to substance use disorders. *Journal of Research in Personality*, 39(1), 84-102

Ball, S. A., & Young, J. E. (2001). Dual focus schema therapy for personality disorders and substance dependence: Case study results. *Cognitive and Behavioral Practice*, 7, 270–281.

Baranoff, J., Oei, T. P. S., Cho, S. H., & Kwon, S. M. (2006).Factor structure and internal consistency of the Young Schema Questionnaire (Short Form) in Korean and Australian samples.*Journal of Affective Disorders, 93,*133–140.

Behboodi M., Ahmadi TahoorSoltani, M. (2017). The relationship between childhood abuse and drug abuse in adulthood: The mediating role of early maladaptive schemas. *Nurse and Physician Within War* 5(17), 13-22.

Boyer, T. W. (2006). The development of risk-taking: A multiple respective review. *Dev Rev*, 26, 291-345.

Bozzini, A. B., Bauer, A., Maruyama, J., Simões, R., &Matijasevich, A. (2021). Factors associated with risk behaviors in adolescence: A systematic review. *Brazilian Journal of Psychiatry*, *43*(2), 210-221. Epub August 03, 2020.https://doi.org/10.1590/1516-4446-2019-0835

Brotchie, J., Hanes, J., Wendon, P., & Waller, G. (2007). Emotional avoidance among alcohol and opiate abusers: The role of schema-level cognitive processes. *Behavioural and Cognitive Psychotherapy*, 35, 231–236.

Brotchie, J., Meyer, C., Copello, A., Kidney, R., & Waller, G. (2004). Cognitive representations in alcohol and opiate abuse: The role of core beliefs. *British Journal of Clinical Psychology*, 43, 337–342.

Buelow, M. T. (2005). *The influence of cognitive, personality and social variables: Predicting changes in risky behaviors over a two-year interval*. [Dissertation]. Ohio University: College of Arts and Science.

Burn, M., & Brown, S. (2006). A review of the cognitive distortions in child sex offenders: An examination of the motivations and mechanisms that underlie the justification for abuse. *Aggression and Violent Behavior*, *11*, 225-236.

Carr Gregg, M. R. C., & Grover, S. R. (2003).Risk taking behavior.*Journal of Australia*, *178*, 601-604.

Decouvelaere, F., Graziani, P., Gackiere-Eraldi, D., Rusinek, S., &Hautekeete, M. (2002).Hypothesis of existence and development of early maladaptive schemas in alcohol-dependent patients.*Journal de TherapieComportementaleet Cognitive*, *12*, 43–48.

Ghadimi, A., Karami, J. &Yazdanbakhsh, K. (2014).The relationship of early maladaptive schemas and metacognitive beliefs with addiction. *Journal of Principles of Mental Health*, *17*(2), 67-74.

Ghoreishi Rad, F., &PourjabarAkhuni, F. (2017). Investigating the relationship of social health and personality traits with high risk behaviors of Tabriz university of

medical sciences' students in 2017: A descriptive study. *Journal of Rafsanjan University of Medical Sciences*, *18*(2), 107-120

Gusman, M. R. (2007). *High risk behavior among youth*: Neb guide, university of Nebraska.

James, I. A., Reichelt, F. K., Freston, M. H., & Barton, S. B. (2007).Schemas as memories implications for treatment. *Journal of Cognitive Psychotherapy- An InternationalQuarterly*, *1*(1), 21-57.

Kaliehman, S. C. (2000). HIV transmission risk behaviors of men & women living with I-IIV- AIDS: prevalence & clinical interventions. *Clinical Psychology: Science and Practice*, *7*, 32-47.

Kazemi, R. &DidehRoshani, S. (2010). Comparison of early maladaptive schemas and mental health in drug abusers and normal people.*Iranian Journal of Psychiatry and Clinical Psychology*, *16*(3), 335.

Khasho, D. A., van Alphen, S., Heijnen-Kohl, S., Ouwens, M. A., Arntz, A., &Videler, A. C. (2019). The effectiveness of individual schema therapy in older adults with borderline personality disorder: Protocol of a multiple-baseline study. *Contemporary clinical trials communications*, *14*, 100330.

Lichner, V., Petriková, F., &Žiaková, E. (2021).Adolesents self-concept in the context of risk behaviour and self-care. *International Journal of Adolescence and Youth*, *26*(1), 57-70.

Marengo, S. M., Klibert, J., Langhinrichsen-Rohling, J. & et al. (2019).The Relationship of Early Maladaptive Schemas and Anticipated Risky Behaviors in College Students. *Journal of Adult Development*,*26*, 190–200.

Nordahl, H. M., Holthe, H., &Haugum, J. A. (2005). Early maladaptive schemas in patients with or without personality disorders: does schema modification predict symptomatic relief? *Clinical Psychology Psychotherapy*, *12*,142-149.

Oveysi, A. &Bakhshani, N. (2012).Comparison of early maladaptive schemas in opioid-dependent and non-opioid men in Zahedan.*Journal of Principles of Mental Health. 54*, 71-164.

Razavi, V., Soltaninezhad, A., &Rafiee, A. (2012).Comparing of early maladaptive schemas between healthy and addicted men.*Zahedan Journal of Research on Medical Sciences*, *14*(9), 60-63.

Redican, k. (2004).*A Comparison of Health Risk Behavior Among College Students Enrolled in a required Personal Health Course Vs. Enrolled in an elective Personal Health Course.* Blacksburg, Virginia.

Rensburg, C., &Surujlal, J. (2013). Gender differences related to the health and lifestyle patterns of university students. *Health SA Gesondheid (Online)*,*18*(1), 1-8.

Roper, L., Dickson, J. M., Tinwell, C., Booth, P. G., & McGuire, J. (2010). Maladaptive cognitive schemas in alcohol dependence: Changes associated with a brief residential abstinence program. *Cognitive Therapy and Research*, 34, 207–215.

Samanta,L.& Tompsett J. (2013).Childhood Maltreatment as a Predictor of Subsequent Interpersonal Problems in Young Adult Relationships: The Mediating Role of Maladaptive Schemas. *Journal of Clinical Psychology*, 53, 319-329.

Shorey, R. C., Stuart, G. L., & Anderson, S. (2012). The early maladaptive schemas of an opioid-dependent sample of treatment seeking young adults: A descriptive investigation. *Journal of Substance Abuse Treatment*, *42*, 271–278.

Shorey, R. C., Stuart, G. L., & Anderson, S. (2013). Early maladaptive schemas among young adult male substance abusers: A comparison with a non - clinical group. *Journal of Substance Abuse Treatment*.,*44*(5), 522 -527.

Steinberger, F., Schroeter, R., Foth, M., & Johnson, D. (2017).Designing gamified applications that make safe driving more engaging. In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (pp. 2826- 2839). ACM

Tariq, N., & Gupta, V. (2020).*High risk behaviors*.StatPearls Publishing.

Videler, A. C., van Alphen, S., van Royen, R., van der Feltz-Cornelis, C. M., Rossi, G., &Arntz, A. (2018). Schema therapy for personality disorders in older adults: a multiple-baseline study. *Aging and Mental Health, 22*(6), 738–747.

Ward, T. (2000). Sexual offender's cognitive distortions as implicit theories.*Aggression and Violent Behavior, 5*, 491-507.

Young, J. (2005). *Cognition treatment of personality disorders: Schema-based approach (Trans. by A. Sahibi& H. Hamidpour).*Agah Publications.

Young, J. E. (1994). *Cognitive therapy for personality disorders*: *A Schema focused approach*. Professional resource press.

Young, J. E., Klosko, J. S., &Weishaar, M. E. (2003).*Schema therapy: A practitioner's guide*. The Guilford Press.

ZadehMohammadi, A. &Ahmadabadi, Z. (2009).Investigating high-risk behaviors among adolescents: Strategies for crime prevention in the family environment.*Journal of Family Studies, 5*(20), 467-485.

Zargar, M., Kakavand, A., Jalali, M. &Salavati, M. (2011).Comparison of early maladaptive schemas and avoidance coping behaviors in opioid-dependent men and normal individuals.*Journal of Applied Psychology, 17*(1), 69-84.