Relationship between Developmental Assets and Addiction Potential with Regard to Mediating Role of Alexithymia in Adolescents of Arak, Iran

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Abstract

Aims: This study aimed at presenting a model for addiction potential based on developmental assets mediating by alexithymia in adolescents living in Arak, Iran. **Materials and Methods:** Five hundred members were selected as samples ($n = 500$) among female and male second-grade high school students at the tenth and eleventh academic grades in Arak using cluster random sampling. To collect data, Iranian Addiction Potential Scale, Toronto Alexithymia Scale and Developmental Assets Profile were used. The data were analyzed using Structural Equation Modeling and LISREL Software. **Results:** Model fit indices had suitable model fit with data. Internal developmental assets with path coefficient of $B = -0.48$ were more effective in reducing addiction potential compared with external developmental assets with path coefficient of $B = -0.27$. Positive identity, empowerment, and social competency were the most effective components of developmental assets in reducing addiction potential. Internal assets could explain addiction potential in adolescence more than external assets. **Conclusion:** Direct effect of developmental assets on addiction potential was confirmed and its indirect effect with mediation of alexithymia was significant. Moreover, results showed that only internal developmental asset had an effect on addiction potential in adolescents mediating by alexithymia, so the effect of external developmental asset on addiction potential in adolescents based on the mediation of alexithymia was rejected.

Keywords: Addiction potential, adolescents, alexithymia, developmental assets, developmental external assets, developmental internal assets

Introduction

Substance use disorder is a pathologic dependence on the use of one or more drugs causing hazardous behaviors so that deprivation signs will appear in addicted persons in case of no drug use.[1] One of the most substantial reasons of such threatening crisis is lack of suitable and effective preventive programs; suitable preventive programs require scientific recognition of reasons affecting tendency and potential of individuals to use drug.[2] Research findings imply the significant role of addiction in unhealthy fields and addiction potential.[3] According to the theory of addiction potential, some individuals have potential for addiction under provided circumstances while other persons do not have such potential.[4]

Many of the addiction field authors assume that personality construct of some individuals is ready to accept addiction compared to others. In this regard, some factors increase possibility of drug abuse and addiction. Dangerous factors in tendency toward addiction do not show future addiction, but they are predictors or indices of potential addiction.[5]

Among growth periods, adolescent is potential highly for addiction because adolescence is an important developmental period along with identification and changes in all of the

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growth dimensions.[6] Cognitive growth is one of the substantial dimensions of adolescents that affect their adjustment and mental-physical health significantly.[7] Emotion seeking is another part of this growth process appearing as unhealthy sexual behaviors, alcohol use, and drug abuse.[8] Drug abuse in adolescents depends on various factors. Some of the young people consider alcohol and drug consumption as a kind of rebellion or facilitator of social link and/or dignity among peers.[9] Some youths use drugs to enjoy life, to avoid boredom, to satisfy curiosity, and to avoid coping with problems.[10] Some other youths tend to use drugs and alcohol due to the lack of information about possible dangers.[11] In general, various factors including cultural-social environment, biological factors, interpersonal factors, and mental-behavioral factors anticipate addiction potential in young people.[12] Despite such evidence, each study has examined some of the variables, so none of these factors can explain reason for addiction potential in youths in alone. Therefore, this study examined factors predicting addiction potential in young people in frame of a comprehensive model. Since researches have shown that consideration of developmental assets' components in growth of children and youths can reduce harming behaviors such as drug abuse,[13] this variable was used. Developmental assets are positive building blocks that all of the children, adolescents, and youths need to be successful; these assets comprise significant communications, skills, opportunities, and values that help youths to prevent from dangerous behaviors increasing their success in life.[14] Hence, since developmental assets consist of numerous components as addiction potential predictors, then they can be introduced as suitable index,[15] but emotions of adolescents, which are significant predictors of addiction, have not been mentioned in components of developmental assets,[16] while there is a significant relationship between addiction potential and emotional failure (alexithymia). The concept of alexithymia is determined by problems in identifying and describing feelings and reduction in ability to distinguish between affective moods, physical feelings, and imagine capacity. Moreover, alexithymia means inability to process emotional information cognitively and emotion regulation[17] that is one of the factors leading to addiction in youths.[18] Individuals with higher alexithymia have reported unhealthier behaviors such as eating disorder, alcohol consumption, drug abuse, and gambling compared to their peers; besides above-mentioned behaviors, there is a high rate of aggressive, illegal, irresponsible behaviors and sexual activities in such persons.[19] If emotions of adolescents are controlled, there will be undeniable effect on their physical and mental health of them[12] (Desatnik. A. Bahar 2017). Some of the adolescents might face numerous mental and physical problems due to the lack of control on their emotions and inability to regulate these emotions[20] (Kolar. D. Huss, 2017). Those individuals with more emotional disorders have reported higher alcohol consumption and drug abuse[21] (Schimmenti and Passanisi, 2018). Those adolescents who are unable to process and regulate their emotions and suffer from emotional disorder having parents with inappropriate behavioral style and poor religious beliefs are more exposed to addiction potential[18] (Mohammadi, 2016). Furthermore, such individuals suffer from severe interpersonal problems which lead to addiction potential[22] (Zarzella and Moura, 2017) since emotional disorder may act as a factor affecting addition potential in adolescents.

Alexithymia has been used as a mediator in this process due to the importance of this variable in addiction potential in young people. These relations have been studied in frame of a structural model, in which developmental asset is defined as an independent and indigenous variable of model, alexithymia is defined as a mediating variable, and addiction potential is defined as a dependent variable in model. Therefore, this is an essential research aim to find if there is a relationship between developmental assets, alexithymia, and addiction potential within drug use process. Is it possible to design the causal model if the alexithymia is considered as the center for relationships between the selected variables? Which one of the components plays a vital role in addiction potential?

MATERIALS AND METHODS

As adolescents have more potential for harmful behaviors such as addiction, this group was selected as the research society. Statistical population of study (11,200 subjects) consisted of male and female second-grade high school students at the tenth and eleventh academic grades who studied in governmental, specific, nongovernmental schools in majors of human sciences, mathematics and physics, and biological sciences in Arak, Iran, during the academic year of 2017–2018. To select sample members, cluster sampling method was used; in this way, two schools of girls and boys were selected randomly among high schools of Arak, and then, the tenth and eleventh grades were selected randomly of these two schools. Since preuniversity grade had a time limitation, it was not selected during sampling process; hence, stratified random sampling was used to select sample among female and male schools since each school had three majors of mathematics and physics, biological sciences, and human sciences.

Statistical method of data analysis
Descriptive methods and statistical indicators such as Pearson correlation and Structural Equation Modeling (SEM) were used to analyze research results. Two software were employed for data analysis; the main software was LISREL, which was used to design measurement and structural models of process and model fitting indicators; SPSS was the other employed software.

Ethical considerations
1. The consent letter was filled out by participants before distributing questionnaires and it was explained to them not to write their personal information in order to remain anonymous.

Research instruments have been introduced in the next section of the study.

Instruments

Iranian Addiction Potential Scale

Addiction potential scaled was designed by Weed and Butcher,[23] and then, sum attempts were done in Iran to determine the validity of this scale. This questionnaire is an Iranian scale of addiction potential that was designed by Zargar[24] considering mental-social circumstances of Iranian community. This questionnaire consists of 2 factors plus 36 items and 5 items measuring lying. Each item was scored based on a scale from 0 (strongly disagree) to 3 (strongly agree). However, some items including 6, 12, 15, and 21 were scored reversely. This questionnaire consists of lie detector factors including 12, 13, 15, 21, and 33. To obtain total score of scale, sum of scores of items (except for lie detector scale) was added. This score was at range between 0 and 108. Higher scores indicate more potential of respondent for addiction and vice versa. Construct validity of scale was calculated to 0.45 correlating it with a 25-item scale of clinical symptoms; this was a significant value. Reliability of scale obtained to suitable value of 0.90 using Cronbach's alpha method. Cronbach's alpha coefficient obtained to 0.80 for all of the scales and items of addiction potential scale indicating good reliability of the instrument.

Developmental Assets Profile (Research Institution of Minnesota)

This scale consists of 58 items to measure two categories of internal and external developmental assets that have been designed by research institute. Each of these categories comprises four sections forming eight categories; external developmental assets consist of support, empowerment, limitations and expectations, and constructive use of time (external relationships and opportunities provided by others for young people). Internal developmental assets consist of commitment to learning, positive values, social competencies, and positive identity (inner values, skill, and self-perceptions formed by youths during gradual process of self-regulation). This questionnaire creates scores of subscales with re-grouping of items that indicate that the obtained assets are provided based on which life contexts: individual, society, family, school, and communities. Each item of this scale is scored from 1 to 4.[25] The scale is scored based on a 4-point Likert scale.

Research institute[26] implemented Developmental Assets Scale on 2005 high school students with different races of white, American, Indian Asian, and multinational groups. Reliability of Developmental Assets Scale obtained to 0.81 while this value obtained to 0.79 after retest. Moreover, Research institute[26] reported average Cronbach's alpha coefficient of 0.81 for 8 asset categories and reported this rate equal to 0.88 for contextual scale. Attitude and behavior (A and B) scale of research institute[26] has been used to examine the validity of the scale, and simultaneous validity results of correlation coefficient indicated 0.82 for total score of assets, 0.76 for external assets, 0.80 for internal assets, and 0.62

for average category of assets. The Developmental Assets Profile (DAP) has been used in many of the countries such as Albania, Armenia, Azerbaijan, Bangladesh, Bolivia, Brazil, China, Colombia, Republic of Dominica, Egypt, Gaza, Iraq, Japan, Jordan, Lebanon, Mexico, Morocco, Nepal, Philippine, Rwanda, and Yemen. A secondary analysis of data obtained from five countries (Albania, Bangladesh, Japan, Lebanon, and Philippine) among the above-mentioned countries with considerably sufficient databases and comparable data of America indicated that almost all of the scales had acceptable internal consistency. According to evidence, DAP has similar validity to the American version of this scale. DehghanHesar[27] carried out a study in Iran and obtained Cronbach's alpha of 0.84 and 0.89 for internal and external components, respectively.

Toronto Alexithymia Scale (FTAS. 20)

The Toronto Alexithymia Scale for children and youths has been adopted from the main version of adults' alexithymia scale and designed by Riff, Esterwald, and Nezoget.[28] This questionnaire consists of 20 items scored based on a 3-point Likert scale (strongly, somewhat, and never) that evaluates three factors of inability to identify feelings and to describe feelings and externally oriented thinking. Inability to identify feelings: 1, 3, 6, 7, 9, 13, and 14. This subscale is scored at range of 7–21. Inability to express feelings: 2, 4, 11, 12, and 14. This subscale is scored at range of 5–15. Externally oriented thinking: 5, 8, 10, 15, 16, 18, 19, and 20. This subscale is scored at range of 8–24. Items 4, 10, 18, and 19 are scored reversely. Simultaneous validity of alexithymia scale was examined and confirmed based on the correlation between subscales of this test and scales of emotional intelligence, psychological well-being, and psychological distress. The results obtained from Pearson correlation coefficient showed a significant correlation between scores of respondents in total alexithymia scale and emotional intelligence ($r = -0.80$, $P < 0.001$), psychological well-being ($r = -0.78$, $P < 0.001$), and psychological distress ($r = -0.44$, $P < 0.001$). Correlation coefficients between subscales of emotional failure and above-mentioned variables were significant. Cronbach's alpha coefficient of this scale obtained to 0.75. Correlation coefficient of subscale of this test with checklist of mental symptoms obtained between 0.07 and 0.48. Cronbach's alpha rate of alexithymia scale obtained to 0.828 indicating suitable reliability. The results obtained from confirmatory factor analysis approved three factors making it difficult to identify feelings and to describe feelings and objective thinking within three Persian versions of alexithymia scale. The Cronbach's alpha coefficient obtained 0.75 for this scale. Correlation coefficient of the subscale in this test reported at range of 0.07–0.48 with mental symptom checklist. Abolghasemi, Herafti, and Rezaee (2011) obtained the significant correlation ($P < 0.01$) between alexithymia scale and mental abuse ($r = -0.34$) and mental negligence ($r = -0.20$); they also obtained the reliability of 0.83 using Cronbach's alpha coefficient.

RESULTS

Descriptive findings

According to Table 1, the highest means of addiction potential were ranked as follows:

- 1 – Passive addiction potential
- 2 – Active addiction potential.

External developmental assets with mean of 3.02 were greater than the internal developmental assets with mean of 2.93. Emotional disorders can be ranked considering the highest mean of alexithymia:

- 1 – Inability to identify feelings
- 2 – Objective thinking style
- 3 – Inability to express feelings.

Goodness of fit tests

Table 2 showed the results of the goodness of fit.

a. Root Mean Square Error of Approximation (RMSEA): this index is based on the noncentral parameter (χ^2), which is less affected by sample size. RMSEA can measure lack of fit in each degree of freedom. This value was calculated in this research:
RMSEA = 0. 0656.

As RMSEA = 06556, research data are suitably fitted to this model.

b. Root mean square residual (RMSR) and Standardized RMR (SRMR) are <0.08 indicating good model fitting.

The values obtained from the software are as follows:
Root mean square residual (RMSR) =0.01
Standardized RMR = 0.03

As it is seen, RMR = 0.01 and SRMR = 0.03, which are suitable values.

c. Normed Fit Index (NFI), non-NFI (NNFI), and Comparative Fit Index (CFI): These values were >0.9 indicating good fitting model.

The obtained values are provided here:

- NFI = 0. 97
- NNFI = 0. 97
- CFI = 0. 98
- Incremental Fit Index (IFI) =0. 98.

Index values are >0.9 in this case; hence, data can almost fit the model properly.

According to Table 3, to test data normality, Kolmogorov–Smirnov test was used. Accordingly, H_0 (data normality) was rejected for all of the variables except for internal developmental asset and alexithymia ($P < 0.05$), but as the sample size is almost large, a partial violation of this hypothesis can be ignored and accurate results are obtained.

As it has been shown in Table 4, the obtained results indicated a significant correlation between subscales of developmental assets and addiction potential. Direct effect of internal developmental asset on addiction potential obtained to −0.25, and indirect effect of internal developmental asset on addiction potential with alexithymia's mediation

obtained to −0.23. Therefore, total effect of internal developmental asset on addiction potential was confirmed with path coefficient of −0.48 and alexithymia mediation. Direct effect of external developmental asset on addiction

Table 1: Descriptive indicators (*n*=500)

Variables	Mean	SD
Active addiction potential	1.69	0.523
Passive addiction potential	2.48	0.811
Addiction potential	2.09	0.587
Commitment to learning	3.11	0.568
Positive values	2.98	0.546
Social competence	2.74	0.512
Positive identity	2.09	0.677
Internal developmental asset	2.93	0.459
Constrictive use of time	2.67	0.753
Support	3.02	0.618
Empowerment	3.12	0.667
Limits and expectations	3.29	0.663
External developmental asset	3.02	0.555
Inability to identify feelings	2	0.556
Inability to express feelings	1.81	0.540
Objective thinking style	1.98	0.266
Alexithymia	1.93	0.335

SD: Standard deviation

Table 2: Fit indexes and result of structural fitting model

Row	Fit index	Acceptable value	Model value	Fitting result
1	χ^2	-	157.39	-
2	df	-	51	-
3		1-5 acceptable <3 suitable	3	Suitable
4	RMSEA	<0.08 suitable	0.065	Suitable
5	RMSR	<0.08 suitable	0.01	Suitable
6	NNFI	>0.9	0.97	Suitable
7	CFI	>0.9	0.98	Suitable

RMSEA: Root Mean Square Error of Approximation, RMSR: Root mean square residual, NFI: Normed Fit Index, NNFI: Non-NFI, CFI: Comparative Fit Index

Table 3: Frequency distribution

School	Class	Major	*n* (%)	Total	Sum total
Girls	Tenth	Mathematics and physics	26 (21.8)	119	238
		Human sciences	31 (26.1)		
		Biological sciences	62 (52.1)		
	Eleventh	Mathematics and physics	55 (50.5)	119	
		Human sciences	36 (23.9)		
		Biological sciences	28 (25.7)		
Boys	Tenth	Mathematics and physics	37 (26.2)	141	250
		Human sciences	78 (55.3)		
		Biological sciences	26 (18.4)		
	Eleventh	Mathematics and physics	55 (50.5)	109	
		Human sciences	26 (23.9)		
		Biological sciences	28 (25.7)		
Sum total					488

potential has been significant (-0.27), but indirect effect of external developmental asset on addiction potential has been insignificant (-0.08). Therefore, direct effect of external developmental asset on addiction potential was confirmed with path coefficient of −0.27 while indirect effect was rejected. Hence, only internal developmental asset has a significant indirect effect on addiction potential in adolescents. According to the results obtained from SEM, total effect of internal developmental asset on addiction potential obtained to −0.48 and total effect of external developmental asset on addiction potential obtained to −0.27. After evaluating models for measurement of latent variables, SEM was used through LISREL8 Software (LISREL 8.54, Scientific Software International Inc, Chicago, United States) with maximum likelihood estimation to assess the proposed model.

Eight factors of developmental assets have different effect rates on addiction potential. It was required to design a structural model in order to compare effects of these factors of developmental assets on addiction potential; such model should encompass all of the components of developmental assets explaining their effect on addiction potential. Hence, the structural model was designed and evaluated based on this principle. According to Figure 1, among internal developmental assets, social competencies and positive identity remained in fit model and empowerment remained in model among external developmental asset. Components of commitment to learning, positive values, support, constructive use of time, limitations, and expectations were removed due to the lack of significant structural coefficient of these factors. Accordingly, a new structural model was designed after removal of insignificant. Results obtained from model fit indices have been demonstrated in Table 5.

According to Table 5, total effect of positive identity on addiction potential with path coefficient of −0.38 is higher than effect of empowerment with path coefficient of −0.31 and social competency with path coefficient of −0.10. Therefore, positive identity, empowerment, and social competency were the most effective components of developmental assets on addiction potential, respectively.

Table 4: Direct and indirect effects of developmental asset on addiction potential based on the Figure 1

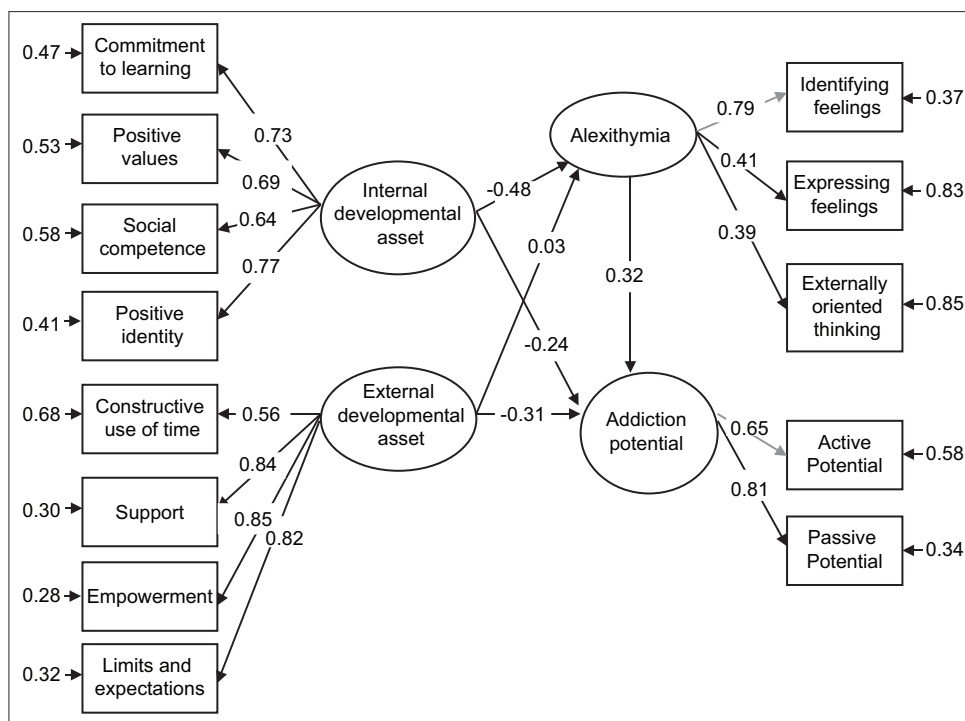|	Direct effect	Indirect effect	Total effect
Internal developmental asset → Alexithymia	−0.36		
Alexithymia → Addiction potential	0.65		
Internal developmental asset → Addiction potential	−0.25	−0.36×0.65 = −0.23	(−0.23) + (−0.25)=−0.48
External developmental asset → Alexithymia	Rejected		
Alexithymia → Addiction potential	0.65		
External developmental asset → Addiction potential	−0.27	Rejected	−0.27

Figure 1: Path analysis and standardized parameters of the proposed model

Table 5: Direct and indirect effects of developmental asset on addiction potential

	Direct effect	Indirect effect	Total effect
Social competencies → Alexithymia	−0.13		
Alexithymia → Addiction potential	0.50		
Social competency → Addiction potential	-	$(−0.13) \times (0.50) = −0.1$	−0.10
Positive identity → Addiction potential	−0.23		
Alexithymia → Addiction potential	0.50		
Positive identity → Addiction potential	−0.27	$(−0.23) \times (0.50) = −0.11$	$(−0.11) + (−0.27) = −0.38$
Empowerment → Addition potential	−0.31	−	−0.31

DISCUSSION

The objective of this study was to process a comprehensive model for important consequence addiction potential in order to achieve a better knowledge in this area. The finding obtained from this research showed that the assumed structural model of addiction potential predictors in adolescents is fit to empirical acceptably. The designed structural model in this research is a suitable anticipator in order to prevent from drug abuse in young people. Such findings clarified direct and indirect effects of internal and external developmental assets as well as mediating role of alexithymia. The results obtained from this study approve the results obtained of studies conducted by Scales *et al*.,[29] Benson and Scales,[30] Lerner *et al*.,[13] Scott-Parker,[10] and Scales *et al*.,[31] The results of the current study showed effect of developmental assets on addiction potential so that internal developmental assets had direct effect on addiction potential while external developmental assets had only direct effect on addiction potential and indirect effect of this variable was rejected. Moreover, it was confirmed that internal developmental assets had a higher effect on reducing addiction potential compared to external developmental assets. The last result showed that among eight factors of developmental assets, positive identity, empowerment, and social competency were the most effective components in addiction potential. Fundamental assumptions related to internal and external developmental assets were adopted form ecological theory of Bronfenbrenner. This is assumed that development of young people is affected by the nature and construct of the body internally and pedagogy that includes environmental and external factors; in this regard, it is possible to prevent from harmful behaviors in adolescents and young people considering both of internal and external factors to protect young people from possible harms.[29] This theory is matched with direct effect of internal and external developmental assets on addiction potential in youths.

Moreover, the emphasis of Bandura social learning theory is on social and interpersonal factors when explaining drug abuse. This theory states that adolescents acquire their beliefs about offensive behaviors from the role patterns, in particular, their close friends and parents. Theory of Bandura is matched with direct effect of external developmental assets on addiction potential in adolescents, in particular, with the use of boundaries and expectations of external developmental assets that consist of some subscales including family boundaries, school boundaries, neighborhood boundaries, adults' role model, positive effects of peers, and high expectations.[32]

Family systems theory is another theory emphasizing on the importance of family role in drug abuse and other risky behaviors of adolescents. In family systems approach toward drug abuse in adolescents, the focus is on the relationship between adolescent's function and function of parents, siblings, extensive family, and communication and interaction patterns with different family subsystems such as parent–adolescent, parent–parent, and parent–siblings. Particularly, a family systems approach considers a method, in which communication levels and emotional separation, coherence, and conflict between family members are kept and then appeared as addiction potential or risky behaviors in adolescents. Murray Bowen stated at the early 1950s that families are emotional and interactional systems; hence, problems of a family member are not isolated from other ones. Family systems theories are matched with effect of external developmental asset on addiction potential in adolescents; in particular, the family life should provide high levels of love and support using component of support and relationship with adults. The more love and affection parents spend in childrearing and the more suitable their support for their children, the more motivated the adolescent will be to receive family advice and the lower the risky behaviors in adolescent will be.[25] This subject is in line with results obtained from a study conducted by Eelbeygi Ghalee and Rostami.[25] As a factor preventing from risky behaviors, suitable interaction between family members leads to growth development and identity fostering in young people. The above-mentioned results were matched with findings obtained by Najaflavi and Navabinejad,[33] Ghafari,[34] Heydarnia and Charkhian,[35] Seyfi Gondmani *et al*.,[36] Abdoli, Soltan, Ahmadi, and Amani,[37] Shalchi *et al*.,[38] Salimi *et al*.,[39] and Hajarian and Ghanbari.[40] Tension reduction assumption is one of the etiology patterns of social learning that is matched with Bowen's viewpoint in family systems approach. Opponents of these two approaches believe that all of the disorders existing in family function such as drug abuse are caused by inefficient anxiety management within a family system. Addiction potential and drug abuse for family members as a group may be a solution to control anxiety. Therefore, a person who consumes alcohol or drug can reduce his/her anxiety to some extents temporarily; these results are in line with subscale of security under the component of

empowerment in external developmental assets. This subscale expresses that adolescent should feel security in home, school, and living place. Such sense of security that begins at the first step of family focus happens when family is calm and competent and autonomy and self-reliance of adolescents are valuable in such family. An outstanding and new subject in treatment and prevention from drug abuse is training life skills such as coping with stress. Mental calmness and coherent mental, spiritual, and practical actions can reduce tendency toward risky behaviors effectively. Therefore, it is possible to prevent from harmful behaviors in youths holding workshops and stress management courses for families and youths. The results obtained from studies conducted by Haj Hosseini and Hashemi,[41] Soleimani and Babaee,[42] Piri and Pirani,[43] and Moosavinasab *et al*.[44] were in line with these theories.

Pioneers of cognitive theory, Aaron Beck and Albert Ellis, believe that behaviors and affections will be changed when thoughts (cognitions) are changed. Distorted beliefs lead to destructive behaviors. Attitude provides the field for many of the risky behaviors in human so that some of the behaviors showed by people in future can be anticipated by recognizing and measuring this variable. This theory is matched with self-control that is one of the components of internal developmental assets, expressing that adolescents' attitude toward sexual activity, alcohol consumption, and other issues is important since such adolescents believe that these behaviors are stressful and he or she should avoid them. Moreover, this theory is in line with subscale of family limits that is a component of limitations and expectations under external developmental assets expressing that families build their transparent principles and rules based on efficient beliefs monitoring adolescents. According to this theory, agents and responsible persons for the prevention of drug abuse should reorganize beliefs and attitudes of family members cognitively using cognitive-behavioral approach; in this case, required skill should be trained to change inefficient thoughts of families.[28] These results were in line with findings obtained from studies conducted by Babaee *et al*.,[45] Nemati Sogolitape *et al*.,[46] Rahmanian *et al*.,[47] Yavari *et al*.,[48] and Khodayari *et al*.[49]

Emotions do not exist among developmental assets; hence, this variable has been taken as mediator in this research. According to the results, internal developmental assets can affect addiction potential directly or indirectly with mediating role of alexithymia, while external developmental assets can affect just within a direct way. The indirect effect of this variable through alexithymia was rejected. Emotions and coping strategies play a vital role in physical, mental, and rational health of people so that they can be considered as the factor protecting individuals against harms and risks. Sifnos (1973) introduced alexithymia as the main trait of patients with psychological disorders, and then, Gardner (1983) expressed it in multiple intelligences theory including interpersonal and intrapersonal intelligences. Moreover, Melanie Klein (1975) addresses alexithymia in her object relations theory. Klein considers the jealousy as one of the basic emotions of a human. Jealousy emerges at

the early days of life and moves toward the mother's breast. The love, warmth, care, and food received by the child lead to conflicting reactions. Selfish satisfaction of the baby being aware of the outside source of goodness leads to some feelings such as anger, hostility, and jealousy in the child. In terms of addiction, selfish satisfaction caused by the drugs will be broken by the addicted person since drugs are external subjects that addicted persons need them. Addicted individuals cannot tolerate dependence because it means hatred, jealousy, and unbearable failures so that such negative emotions make them more vulnerable.[50] According to the presented theories, as an intrapersonal factor, failure in emotions may exposure the person to the harmful behaviors such as addiction potential; hence, it is required to take such emotions serious in order to make persona capable of handling their emotions using them at the right time and place. In this way, addiction potential and harmful behaviors will be reduced.

Conclusion

In order to findings, it concluded that all of the individuals who are responsible to foster personality of adolescent (family, educational environments, government, and politicians) should emphasize on components of developmental assets in order to prepare the field for fostering healthy personality in adolescents to prevent from risky behaviors in them. Moreover, as emotions are important factors, adolescents should be trained to identify and accept feelings, to find causes for feelings, and to learn strategies to cope with negative emotions.

Conflicts of interest
There are no conflicts of interest.

References

1. Trifilieff P, Ducrocq F, van der Veldt S, Martinez D. Blunted dopamine transmission in addiction: Potential mechanisms and implications for behavior. Semin Nucl Med 2017;47:64-74.
2. Edwards S, Ersche KD. Editorial overview: The diverse facets and emerging potential of addiction research. Current Opinion in Behavioral Sciences 2017;13:iv-vi.
3. Peltz G, Südhof TC. The neurobiology of opioid addiction and the potential for prevention strategies. JAMA 2018;319:2071-2.
4. Aghayousefi A, Safarinia M, Abaspour P. Study of addiction potential in medicine students. J Addict Study 2015;9:25-35.
5. Lyvers M, Karantonis J, Edwards MS, Thorberg FA. Traits associated with internet addiction in young adults: Potential risk factors. Addict Behav Rep 2016;3:56-60.
6. Trotman GE, Mackey E, Tefera E, Gomez-Lobo V. Comparison of parental and adolescent views on the confidential interview and adolescent health risk behaviors within the gynecologic setting. J Pediatr Adolesc Gynecol 2018;31:516-21.
7. Jernigan TL, Brown SA, Dowling GJ. The adolescent brain cognitive development study. J Res Adolesc 2018;28:154-6.

8. Kokotailo PK, Baltag V, Sawyer SM. Educating and training the future adolescent health workforce. J Adolesc Health 2018;62:511-24.

9. Johnston LD, Miech RA, O'Malley PM, Bachman JG, Schulenberg JE, Patrick ME. Monitoring the Future national survey results on drug use, 1975-2017: Overview, key findings on adolescent drug use. Institute for Social Research, The University of Michigan 2018.

10. Scott-Parker B. Emotions, behaviour, and the adolescent driver: A literature review. Transp Res Part F 2017;50:1-37.

11. Dupas P, Huillery E, Seban J. Risk information, risk salience, and adolescent sexual behavior: Experimental evidence from Cameroon. J Econ Behav Organ 2018;145:151-75.

12. Desatnik A, Bel-Bahar T, Nolte T, Crowley M, Fonagy P, Fearon P. Emotion regulation in adolescents: An ERP study. Biol Psychol 2017;129:52-61.

13. Lerner RM, Weiner M, Buckingham MH, Champine RB, Greenman KN, Warren DJ. Positive development among diverse youth: Individual and ecological bases. In: Scott R, Kosslyn S, editors. Emerging Trends in the Social and Behavioral Sciences. Hoboken, NJ: Wiley; 2015.

14. Satheesan S, Hameed N. Gender differences in developmental assets profile of college going youth: A report from India. Int J Community Med Public Health 2018;5:714-20.

15. Markiewicz JH. Engaging Youth Leaders in Prevention Planning with Developmental Assets, Survey Data and Social Norming National Youth-at-Risk Conference; 2018.

16. Westwood H, Kerr-Gaffney J, Stahl D, Tchanturia K. Alexithymia in eating disorders: Systematic review and meta-analyses of studies using the Toronto Alexithymia Scale. J Psychosom Res 2017;99:66-81.

17. Besharat MA, Zebardazt O, Nadali H, Salehi M. Emotional intelligence, emotional failure and interpersonal problems. J Psychol Educ Sci Tehran Univ 2008;38:101-23.

18. Mohammadi GH. The Role of Religion, Behavioral Style of Parents and Emotional Defectiveness in Addition Potential among Adolescents, MSc Dissertation in Educational Psychology, Abu Ali Sina University of Hamedan; 2016.

19. Knapton C, Bruce G, Williams L. The impact of alexithymia on desire for alcohol during a social stress test. Subst Use Misuse 2018;53:662-7.

20. Kolar DR, Huss M, Preuss HM, Jenetzky E, Haynos AF, Burger A, et al. Momentary emotion identification in female adolescents with and without anorexia nervosa. Psychiatry research. 2017;255:394-8.

21. Schimmenti A, Passanisi A, Caretti V, La Marca L, Granieri A, Iacolino C, *et al*. Traumatic experiences, alexithymia, and Internet addiction symptoms among late adolescents: A moderated mediation analysis. Addictive Behaviors 2017;64:314-20.

22. Zorzella KP, Muller RT, Cribbie RA, Bambrah V, Classen CC. The role of alexithymia in trauma therapy outcomes: Examining improvements in PTSD, dissociation, and interpersonal problems. Psychological Trauma: Theory, Research, Practice and Policy 2019.

23. Weed NC, Butcher JN, Williams CL. Development of MMPI-A alcohol/drug problem scales. Journal of Studies on Alcohol 1994;55:296-302.

24. Zargar M. SPSS 13: Comprehensive Guide: Comes with practical exercises. 1st ed. Tehran: Behineh Press; 2005.

25. Eelbeygi Ghalee R, Rostami M. Role of childrearing styles, perfectionism and quality of friendship in prediction of tendency to drug abuse. J Addict Study 2016;136:37-115.

26. Scales PC. Developmental assets and the middle school counselor. Professional School Counseling 2005;9:104-11.

27. Dehghanhesar, M.The relationship between developmental assets and self regulation with ethical identity in first grade high school girls, MA dissertation, Tehran University; 2012.

28. Rieffe C, Oosterveld P, Terwogt MM. An alexithymia questionnaire for children: Factorial and concurrent validation results. Personality and Individual Differences. 2006 Jan 1;40(1):123-33.

29. Scales PC, Benson PL, Roehlkepartain EC, Sesma A Jr., van Dulmen M. The role of developmental assets in predicting academic achievement: A longitudinal study. J Adolesc 2006;29:691-708.

30. Benson PL, Scales P. The definition and preliminary measurement of thriving in adolescence. J Posit Psychol 2009;4:85-104.

31. Scales PC, Roehlkepartain EC, Wallace T, Inselman A, Stephenson P, Rodriguez M, et al. Brief report: Assessing youth well-being in global emergency settings: Early results from the emergency developmental assets profile. J Adolesc 2015;45:98-102.

32. Minochin S, Fishman HC. Family Therapy Principles. Translated by Bahari F, Siya F. Tehran: Roshd Publication; 2002.

33. Najaflavi F, Navabinejad SH. Comparing family climate profile of addicted and normal people to provide family-based services. J Drug Abuse 2014;30:81-95.

34. Ghafari F. Effectiveness of Systematic Family Therapy Approach of Bowen on Distinguishing and Function of Family Members Who Have Addicted Children, MA Dissertation, Welfare and Rehabilitation Sciences University; 2009.

35. Heydarnia A, Charkhian, A. Quality of parent-child relationship in addicted and normal adolescents. Journal of Social Welfare 2007;6:39-57. [In Persian].

36. Seyfi Gondmani MY, Safarinia M, Kalantari Meybodi S. Typology of family parenting (combination of father and mother's childrearing) and its effect on tendency toward drug abuse in male adolescents. J Addict Study 2013;25:11-24.

37. Abdoli-Soltan-Ahmadi J, Amani J. Factors affectin drug abuse in Iranian youth: Analysis of cognitive roles based on authors' theories. J Addict Study 2016;39:195-212.

38. Shalchi B, Dadkhah, M., Yaghooti Azari, Sh. Role of family function, intergeneration gap and socio-economic situation in explaining youth's addiction potential. Journal of Addiction Study 2015;15:37-52. [In Persian].

39. Salimi Bajestani H, Farkoravand P, Younesi J. Predicting addiction orientation based on family process and context model in students. Journal of Drug Abuse 2015;5:9-34.

40. Hajarian A, Ghanbari Y. Identifying and analyzing social factors affecting tendency of rural youth toward addiction in rural areas of Isfahan. Journal of Addiction Study 2013;7:67-78.

41. Haj Hosseini M, Hashemi, R. Comparing medical effectiveness of methadone and association of anonymous addicted people on psychological disorders (anxiety, depression, and stress) and quality of life. Journal of Addiction Study 2015;5:119-36.

42. Soleimani I, Babaee K. Effectiveness of Group Reality Therapy Training Based on Choice Theory on Anxiety and Hole in Addicted People who are Quitting Drugs; 2016.

43. Piri M, Pirani M. Meta-Analysis of Mental Health and Addiction, Articles in First International Conference on Addiction of Medical Sciences and Healthcare Services University of Urmia; 2012.

44. Moosavinasab SM. Shamsodini Lori L. Mansoori Z. The mediating role of life satisfaction in relationship between stress coping strategies and attitude toward addiction, J Drug Abuse 2015;33:41-55.

45. Babaee J, Rezaee M, Akbari Balootanbokan A. Prediction of attitude toward drugs based on components of adolescence' positive development and life satisfaction in adolescents. J Addict Study 2017;43:127-44.

46. Nemati Sogolitape F, Mohammadifar MA, Khaledian M. The role of spiritual health, self-efficacy and addiction potential to anticipate addicted and normal people. J Addict Study 2017;39:63-87.

47. Rahmanian M, Zamani M, Alibazi H. The relationship between attachment style and attitude toward drug: Mediating role of personality traits. J Addict Study 2015;33:121-34.

48. Yavari S, Noori R, Hasanabadi HR. Structural model of drug abuse in students: Role of spirituality, social modeling and attitude toward drug. J Addict Study 2015;33:145-64.

49. Khodayari S, Younesi J, Feyzi Bornaji A. Modeling factors of attitude toward addiction among students in Tehran. J Addict Study 2016;39:27-42.

50. Besharat MA. Relationship between emotional failure and anxiety, depression, psychological distress and psychological well-being. New psychological researches. Tabriz University; 2008. p. 3-17.