What Components of Adolescents’ Responsibility are Effective in Preventing Addiction?

Abstract
Background: In most countries, the age of addiction is declining, and the prevalence of adolescent addiction is increasing. Many factors can affect the addiction tendency; one of them can be a sense of responsibility. This study was designed to evaluate the probable relation between addiction tendency and responsibility. Materials and Methods: This cross-sectional study was conducted in Isfahan in 2018. A total of 496 high school students aged from 15 to 18 years were selected by a multistage cluster and systematic random sampling method. Students’ responsibility and adolescents’ addiction tendency questionnaire were used. The collected data were analyzed by the Statistical Package for the Social Sciences version 20 using Chi-square test, independent t-test, multivariate analysis of variance, and linear regression. Results: The mean age of participants was 16.50 ± 1.12. The results showed that boys’ out-of-home activities were more than girls (P < 0.001), but there was no significant difference between girls and boys regarding indoor activities. Furthermore, it was found that girls were more responsible than boys (P = 0.004) and addiction tendency was higher in boys (P = 0.001). Social responsibility and addiction tendency had a significant negative relationship in this research (P < 0.001). In addition, parents’ education, the feeling of belonging, and the sense of security had an effect on the addiction tendency (P < 0.001 for all). Conclusion: This study showed that social responsibility could affect the addiction tendency.

Keywords: Accountability, addiction, adolescent, social responsibility

Introduction
Adolescence is a period of physical, cognitive, and socio-emotional changes, and also, it is a course to increase the ability to think; change relationships, responsibilities, and management of assignments independently; and create a new orientation for the future[1]

One of the critical factors that can make adolescent choices more perfect is personal and social responsibility, a commitment that a person has toward himself, beliefs, values, duties, and family.[2‑5] In other words, accountability is a multidimensional construction, includes emotional, behavioral, and moral aspects, and has so many definitions across the studies.[6]

Adolescents are more vulnerable to high-risk behaviors because of the evolutionary characteristics of this period.[7] Studies have shown that most high-risk behaviors such as smoking, drinking, and drug abuse begin at this age.[7,8]

The cause of addiction is complex and none of the current hypotheses can fully explain the cause.[9] On the other hand, substance abuse is affected by individual, family, social, economic, political, and cultural factors such as depression, excitement, aggression, socioeconomic situation, and family emotional atmosphere.[9‑13] Studies showed that some adolescents use drugs to be cool, feel powerful, accept in the peer relationships, and to forget their problems.[8]

Considering the importance of addiction in adolescents and identifying risk and protective factors, and to the extent that the researcher has searched for scientific resources, a similar study has not been done, so this study was designed to examine the addiction tendency status and the probable role of responsibility in adolescents.

Materials and Methods
This cross-sectional study was conducted...
in Isfahan in 2018. Five hundred high school students aged 15–18 years were selected by a multistage cluster systematic random sampling method. Out of all five education districts in Isfahan, one girls’ school and one boys’ school were selected by convenience method. Out of each school, fifty students were randomly selected based on the list of students by a simple random sampling method using a random number table. If the students did not have the criteria for entering the study or the questionnaire was not completed, sampling would continue until the sample size reached the specified number.

The inclusion criteria were the willingness to participate in the study and having ages 15–18 years, and the exclusion criteria were dissatisfied with engaging and failure to complete more than 20% of the questionnaire information.

The study was approved by the Ethics Committee of Isfahan University of Medical Sciences (Code No. 396316). In order to meet the ethical aspects of the research, coordination was initially carried out with the school authorities and the purpose of the study was explained. The confidentiality of the information was assured to students. Two self-administered questionnaires were used for data collection: Students’ responsibility and adolescents’ addiction tendency questionnaire.

The five-scale responsibility questionnaire was designed by Kordloo, and its validity and reliability have been investigated. Cronbach’s alpha coefficient was 89%.14

In the first and second scales, students’ activities at school and home asked, respectively, and one score was allocated to each item; eventually, the total count of each scale showed the students’ activity at school and home.

The student attendance status was reviewed in the third scale. The fourth (22 questions) and fifth scales (56 items) assessed the accountability (21 questions), sense of security (14 questions), self-esteem (14 questions), and belonging (29 questions). The questionnaire is scored by the Likert method. Answers ranged from one (I’m not satisfied at all) to four (I’m completely satisfied), and to calculate the total score of each variable, the scores of related questions were summed up. The higher the score, the better the situation.

The addiction tendency questionnaire was designed by Mirhashemi et al. and its reliability was calculated using Cronbach’s alpha, which was 80%.15

It had 16 questions that measured the addiction tendency in three dimensions (individual, social, and environmental). The answering spectrum of this tool was Likert, ranging from one to five (very low to very high).

The collected data were analyzed by the Statistical Package for the Social Sciences version 16 using Chi-square test, independent t-test, analysis of variance (ANOVA), and linear regression.

**Results**

Two hundred and forty-seven (49.8%) boys and 249 (50.2%) girls were participating in this study. The mean age was 16.53 ± 1.12 in boys and 16.47 ± 1.12 in girls (P = 0.62). The general characteristics of the participants are listed in Table 1.

The mean number of indoor activities such as house cleaning, participation in family decision-making, maintaining the green space of the home, minor repairs of equipment, and cooking in girls was 5.17 ± 2.96 and in boys was 5.02 ± 3.46 (P = 0.61). Furthermore, the mean out-of-home activity such as activities at the sports club, forums, artistic centers, and student council in girls was 2.05 ± 1.99 and in boys was 2.74 ± 2.28, which was statistically significant (P < 0.001). The student attendance status is shown in Figure 1.

The grade and sex significantly affected responsibility and tendency to addiction. ANOVA was conducted to assess the grade and sex differences on responsibility.

| Table 1: Comparison of demographic characteristics of high school students based on sex* |
|-----------------------------------|-------------------|-----------------|-----------------|
|                                  | Male              | Female          | P               |
| **Grade**                        |                   |                 |                 |
| Nine                             | 60 (44.4)         | 75 (55.6)       | 135 (100)       | 0.52 |
| Ten                              | 61 (52.6)         | 55 (47.4)       | 116 (100)       |     |
| Eleven                           | 66 (52.4)         | 60 (47.6)       | 126 (100)       |     |
| Twelve                           | 61 (49.2)         | 63 (50.8)       | 124 (100)       |     |
| **Mother’s job**                 |                   |                 |                 |
| Housewife                        | 153 (48.9)        | 160 (51.1)      | 313 (100)       | 0.25 |
| Employee                         | 39 (45.9)         | 46 (54.1)       | 85 (100)        |     |
| Teacher                          | 18 (47.4)         | 20 (52.6)       | 38 (100)        |     |
| Others                           | 37 (61.7)         | 23 (38.3)       | 60 (100)        |     |
| **Mother’s education**           |                   |                 |                 |
| Illiterate                       | 11 (55)           | 9 (45)          | 20 (100)        | 0.92 |
| Under the diploma                | 62 (47.7)         | 68 (52.3)       | 130 (100)       |     |
| Diploma                          | 97 (50.3)         | 96 (49.7)       | 193 (100)       |     |
| Academic education               | 77 (50.3)         | 76 (49.7)       | 153 (100)       |     |
| **Father’s job**                 |                   |                 |                 |
| Employee                         | 86 (51.2)         | 82 (48.8)       | 168 (100)       | 0.14 |
| Worker                           | 46 (44.2)         | 58 (55.8)       | 104 (100)       |     |
| Self-employment                  | 74 (47.4)         | 82 (52.6)       | 156 (100)       |     |
| Unemployed                       | 9 (81.8)          | 2 (18.2)        | 11 (100)        |     |
| Others                           | 30 (55.6)         | 24 (44.4)       | 54 (100)        |     |
| **Father’s education**           |                   |                 |                 |
| Illiterate                       | 3 (33.3)          | 6 (66.7)        | 9 (100)         | 0.45 |
| Under the diploma                | 34 (44.7)         | 42 (55.3)       | 76 (100)        |     |
| Diploma degree                   | 101 (53.2)        | 89 (46.8)       | 190 (100)       |     |
| Academic education               | 107 (49.1)        | 111 (50.9)      | 218 (100)       |     |

*Chi-square test was used, **P<0.05 regarded significant
and its five subscales include security, self-esteem, sense of belonging, sense of responsibility, and accountability [Table 2] and tendency to addiction and its three social, individual, and environmental dimension [Table 3]. The mean score of responsibility, self-esteem, and security in girls in Grade 12 was significantly higher than other groups (32.84 ± 7.87, \( P < 0.001; \) 40.49 ± 7.68, \( P < 0.001; \) and 42.22 ± 9.52, \( P = 0.001 \)). The boys of the 11th grade had a lower mean score of accountability than the other grade groups (25.62 ± 9.43, \( P < 0.001 \)).

| Dependent variable | Grade | Sex | Mean±SE | 95% CI | Lower bound | Upper bound | \( P \) |
|--------------------|-------|-----|---------|--------|-------------|-------------|------|
| Sense of responsibility | 9th | Male | 28.000±0.901 | 26.231 | 29.769 | 0.33 |
|                     |       | Female | 30.707±0.806 | 29.124 | 32.289 | |
|                     | 10th | Male | 29.459±0.893 | 27.704 | 31.214 | 0.65 |
|                     |       | Female | 27.182±0.941 | 25.334 | 29.030 | |
|                     | 11th | Male | 27.182±0.859 | 25.495 | 28.869 | 0.86 |
|                     |       | Female | 29.000±0.901 | 27.231 | 30.769 | |
|                     | 12th | Male | 28.295±0.893 | 26.540 | 30.050 | 0.008 |
|                     |       | Female | 32.841±0.879 | 31.114 | 34.568 | |
| Accountability | 9th | Male | 29.550±0.927 | 27.729 | 31.371 | >0.05 |
|                     |       | Female | 29.667±0.829 | 28.038 | 31.295 | |
|                     | 10th | Male | 29.393±0.919 | 27.588 | 31.199 | 0.99 |
|                     |       | Female | 28.218±0.968 | 26.316 | 30.120 | |
|                     | 11th | Male | 25.621±0.884 | 23.885 | 27.357 | 0.23 |
|                     |       | Female | 28.717±0.927 | 26.896 | 30.538 | |
|                     | 12th | Male | 29.574±0.919 | 27.768 | 31.380 | 0.45 |
|                     |       | Female | 32.222±0.904 | 30.445 | 33.999 | |
| Self-esteem | 9th | Male | 36.233±1.045 | 34.180 | 38.287 | 0.97 |
|                     |       | Female | 37.653±0.935 | 35.816 | 39.490 | |
|                     | 10th | Male | 35.541±1.037 | 33.504 | 37.578 | >0.05 |
|                     |       | Female | 35.436±1.092 | 33.291 | 37.581 | |
|                     | 11th | Male | 33.682±0.997 | 31.724 | 35.640 | 0.95 |
|                     |       | Female | 35.300±1.045 | 33.246 | 37.354 | |
|                     | 12th | Male | 35.344±1.037 | 33.307 | 37.381 | 0.01 |
|                     |       | Female | 40.492±1.020 | 38.488 | 42.496 | |
| Sense of belonging | 9th | Male | 77.767±2.450 | 72.953 | 82.581 | 0.46 |
|                     |       | Female | 84.453±2.191 | 80.148 | 88.759 | |
|                     | 10th | Male | 75.639±2.430 | 70.865 | 80.414 | >0.05 |
|                     |       | Female | 76.236±2.559 | 71.208 | 81.264 | |
|                     | 11th | Male | 71.500±2.336 | 66.910 | 76.090 | 0.99 |
|                     |       | Female | 73.850±2.450 | 69.036 | 78.664 | |
|                     | 12th | Male | 75.016±2.430 | 70.242 | 79.791 | 0.03 |
|                     |       | Female | 85.841±2.391 | 81.143 | 90.539 | |
| Security | 9th | Male | 39.083±1.404 | 36.325 | 41.841 | >0.05 |
|                     |       | Female | 38.960±1.255 | 36.493 | 41.427 | |
|                     | 10th | Male | 36.869±1.392 | 34.134 | 39.604 | >0.05 |
|                     |       | Female | 36.564±1.466 | 33.683 | 39.444 | |
|                     | 11th | Male | 33.621±1.338 | 30.992 | 36.251 | 0.93 |
|                     |       | Female | 35.950±1.404 | 33.192 | 38.708 | |
|                     | 12th | Male | 38.918±1.392 | 36.183 | 41.653 | 0.69 |
|                     |       | Female | 42.222±1.370 | 39.531 | 44.914 | |

ANOVA test was used. CI: Confidence interval, SE: Standard error, ANOVA: Analysis of variance
Amini and Heidary: Adolescents’ responsibility and addiction tendency

The total responsibility score was measured based on its subscales, and it was significantly different between two genders (216.18 ± 44.39 in girls vs. 203.79 ± 50.82 in boys, *P* = 0.004). Measurement of the total score of addiction tendency showed that girls had a lower trend than boys (32.30 ± 11.20 vs. 35.73 ± 12.05, *P* = 0.001).

To predict the tendency to addiction, according to the demographic variables and responsibility scales, a linear regression test was performed. The analysis showed that the defined model was appropriate (*R*² = 0.66, *P* < 0.001). Parents’ education, sex, responsibility, feeling of belonging, and sense of security could predict addiction tendency in students. The results are shown in Table 4.

### Discussion

The main purpose of this study was to investigate the addiction tendency status and the relationship between responsibility and addiction tendency among high school students in Isfahan.

Findings showed that boys have more addiction tendency than girls. In 2015, Zare Shahabadi et al. conducted a study and the results were the same.[16] In the present study, there is no significant correlation between parents’ job and addiction tendency, but the level of their education affected it, and the addiction tendency was significantly lower in the children of more educated parents. Inconsistent with our results, Rou naughty et al. found adolescents whose mothers had university degree and fathers were retired with literacy to read and write, had more tendencies to addiction. The different results can be due to the difference between the age, marital status, level of education, and cultural discrepancy of the statistical population.[17]

In this study, age, grade, and students’ attendance status did not have an effect on addiction tendency, whereas Heradstveit et al. found that more drinking and drug abuse

---

**Table 3: The mean score of addiction tendency dimensions in students based on sex and grade**

| Dependent variable                      | Grade | Sex     | Mean±SE     | 95% CI       | Lower bound | Upper bound | *P*     |
|-----------------------------------------|-------|---------|-------------|--------------|-------------|-------------|---------|
| Environmental dimension of addiction tendency | 9th   | Male    | 9.917±0.529 | 8.876        | 10.957      | 0.24        |
|                                         |       | Female  | 8.200±0.474 | 7.270        | 9.130       |             |
|                                         | 10th  | Male    | 8.852±0.525 | 7.821        | 9.884       | 0.94        |
|                                         |       | Female  | 9.745±0.553 | 8.659        | 10.832      |             |
|                                         | 11th  | Male    | 10.364±0.505 | 9.372       | 11.355       | >0.05       |
|                                         |       | Female  | 10.017±0.529 | 8.976        | 11.057      |             |
|                                         | 12th  | Male    | 10.492±0.525 | 9.460        | 11.523       | 0.04        |
|                                         |       | Female  | 8.222±0.517 | 7.207        | 9.237       |             |
| Social dimension                        | 9th   | Male    | 18.533±0.713 | 17.133       | 19.933      | 0.001       |
|                                         |       | Female  | 14.453±0.637 | 13.201       | 15.706      |             |
|                                         | 10th  | Male    | 14.984±0.707 | 13.595       | 16.372      | 0.99        |
|                                         |       | Female  | 15.673±0.744 | 14.210       | 17.135      |             |
|                                         | 11th  | Male    | 16.727±0.679 | 15.392       | 18.062      | 0.99        |
|                                         |       | Female  | 15.933±0.713 | 14.533       | 17.333      |             |
|                                         | 12th  | Male    | 15.705±0.707 | 14.316       | 17.094      | 0.37        |
|                                         |       | Female  | 13.556±0.695 | 12.189       | 14.922      |             |
| Individual dimension                    | 9th   | Male    | 8.950±0.465 | 8.037        | 9.863       | 0.98        |
|                                         |       | Female  | 8.400±0.416 | 7.583        | 9.217       |             |
|                                         | 10th  | Male    | 8.623±0.461 | 7.717        | 9.529       | >0.05       |
|                                         |       | Female  | 8.873±0.485 | 7.919        | 9.826       |             |
|                                         | 11th  | Male    | 10.424±0.443 | 9.554        | 11.295      | 0.77        |
|                                         |       | Female  | 9.417±0.465 | 8.504        | 10.330      |             |
|                                         | 12th  | Male    | 9.230±0.461 | 8.324        | 10.135      | 0.07        |
|                                         |       | Female  | 7.349±0.454 | 6.458        | 8.240       |             |

ANOVA test was used. ANOVA: Analysis of variance, CI: Confidence interval, SE: Standard error

---

Figure 1: The frequency of latency and absence of students based on gender in the 12th grade had the lowest score and the boys in the 11th grade had the highest score.

The total responsibility score was measured based on its subscales, and it was significantly different between two genders (216.18 ± 44.39 in girls vs. 203.79 ± 50.82 in boys, *P* = 0.004). Measurement of the total score of addiction tendency showed that girls had a lower trend than boys (32.30 ± 11.20 vs. 35.73 ± 12.05, *P* = 0.001).
Table 4: Variable predicting addiction tendency in students by linear regression test

| Model                  | Unstandardized coefficients | P  | 95.0% CI for B |
|------------------------|-----------------------------|----|----------------|
|                        | B       | SE  | Lower bound | Upper bound |
| **Demographic characteristics** |         |     |             |             |
| Father education*      | −3.240  | 0.691| 0.000       | −4.598      | −1.881      |
| Mother education*      | −2.283  | 0.582| 0.000       | −3.427      | −1.139      |
| Father job             | −0.349  | 0.398| 0.381       | −1.130      | 0.433       |
| Mother job             | 0.238   | 0.423| 0.574       | −0.593      | 1.070       |
| Grade                  | −1.946  | 2.200| 0.377       | −6.270      | 2.378       |
| Sex*                   | −1.684  | 0.754| 0.026       | −3.165      | −0.202      |
| **Responsibility subscales** |         |     |             |             |
| Number of out-of-home activities | −0.029  | 0.205| 0.887       | −0.432      | 0.374       |
| Number of activities inside the house | −0.195  | 0.131| 0.139       | −0.453      | 0.063       |
| Sense of security      | 0.235   | 0.080| 0.004       | 0.077       | 0.393       |
| Feeling of belonging   | 0.277   | 0.072| 0.000       | 0.135       | 0.418       |
| Self esteem            | −0.065  | 0.115| 0.571       | −0.290      | 0.160       |
| Attendance status      | −0.132  | 0.179| 0.458       | −0.483      | 0.218       |
| Overall responsibility  | −0.306  | 0.048| 0.000       | −0.401      | −0.212      |

The reference group: *Illiterate, *Boy. CI: Confidence interval, SE: Standard error

One of the limitations of this study was the type of research that, with a cross-sectional design, we cannot precisely study the causality relationship. Other limitations of this study were the number of questions. Although it was attempted to respond to questions at a time when students are comfortable, and in a confident place, some students were tired of answering questions.

**Conclusion**

Overall, the study showed that responsibility, sense of security, and belonging and demographic factors such as sex and parental education have related to addiction tendency.

**Acknowledgment**

We thank all students, school administrators, and education officials as well as the vice-chancellor for research at Isfahan University of Medical Sciences for their cooperation in implementing this project.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

**References**

1. Asadi M, Mansourian Y, Nazari AM. Exploring indicators of successful parenting of adolescents among Iranian families. Iran J Health Educ Health Promot 2015;3:219-31.
2. Khaje Noori B, Mosavat SE, Riayahi Z. Modernism of underdevelopment and alienation of the middle class in post-revolutionary Iran. Sociol Cult Stud 2015;5:19--.
3. Tabatabie N, Tabatabie S, Kakai Y, Mohammadi Aria A. The relationship between identity styles and responsibility with educational achievement in high school students in Tehran.
4. Wray-Lake L, Syvertsen AK, Flanagan CA. Developmental change in social responsibility during adolescence: An ecological perspective. Dev Psychol 2016;52:130-42.

5. Sheikholeslami R, Borzoo S. Child-rearing and responsibility among adolescents: the mediating role of identity processing styles. Cogn Methods J 2015;6:97-120.

6. Mergler A, Shield P. Development of the Personal Responsibility Scale for adolescents. J Adolesc 2016;51:50-7.

7. Mami Sh, Ahad H, Naderi F, Enaiati MS, Mazaheri M. The estimation of addiction tendency model based on personality factors (NEO) via mental health mediator variable. J Ilam Univ Med Sci 2013;21:248-56.

8. Lional Kumar V. Adolescence behavior problems: How to tackle or prevent? Manager’s J Educ Psychol 2013;6:13-7.

9. Mirzaei Alavijeh M, Nasirzadeh M, Eslami AA, Sharifrad GH, Hasanzadeh A. Influence of family function about youth dependence to synthetic drugs. J Health Educ Health Promot 2013;1:19-30.

10. Rezaei S, Jahangirpour M, Mousavi S. The mediating role of conscientiousness personality characteristic in relationship between attitude toward addiction and academic achievement. J Res Addict 2014;8:53-68.

11. Abdolmaleki A, Farid A, Habibi-Rad A, Hashemi M, Ghodoosi Nejad A. Investigating the relationship between family emotional atmosphere and addictive control with tendency to addiction. J Fam Res 2017;12:649-62.

12. Mehrabi Zade M, Fathi K, Shehni M. Depression, emotion-seeking, aggression, attachment styles and socioeconomic status as predictors of drug dependence in male adolescents in Ahwaz. J Educ Sci 2008;3:153-87.

13. Abdolmaleki S, Farid A, Habibi R, Hashemi SM, Ghodoosi Nejad A. Investigating the relationship between family emotional atmosphere and affective control with tendency to addiction. J Fam Res 2017;12:649-62.

14. Kordlu M. Factors affecting adolescents’ responsibility at home and school. Sch Couns Train 2014;1:4-11.

15. Mirhashemi S., Role of the family in addiction among youth and adolescents.: Payam Noor university, 2009.(Thesis).

16. Zare Shahabadi A Mobarak M, Ferdosizade Naeeni E. Analysis of the relationship between social vitality and tendency to addiction (18-30 year-old youth in the city of Yazd). J Contemp Social Res 2015;4:145-74.

17. Rouaghi M, Pakseresht S, Asiry SH Atrakr Roushan Z. Relationship between aggression and addiction tendency among university students. J Holistic Nurs Midwifery 2018;28:185-91.

18. Heradstveit O, Skogen JC, Hetland J, Hysing M. Alcohol and illicit drug use are important factors for school-related problems among adolescents. Front Psychol 2017;8:1023.

19. Panah YL, Hekmat F. Study of effective factors on social responsibility between students of Shahid Bahonar University of Kerman. Iran Soc Stud 2014;8:128-52.

20. Iman MT, Jalacian V. A survey on the relationship between social responsibility and social capital among the young in Shiraz. J Appl Sociol 2010;21:19-42.

21. Movahed M, Salehi R, Hosseini M. A comparison of the relationship between cultural factors and responsibility among youths of Ghorveh and Baneh cities. J Appl Sociol 2013;24:79-98.

22. Fisher LA, Elias JW, Ritz K. Predicting relapse to substance abuse as a function of personality dimensions. Alcohol Clin Exp Res 1998;22:1041-7.