High Risk Behaviors among Iranian Adolescents: Evaluating the Effect of Family Factors

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ABSTRACT

Objective: This survey aimed at studying the effects of socioeconomic and family factors in adolescents' tendency towards smoking, alcohol consumption, and drug abuse.

Methods: Using multistage sampling, 3530 high school students were selected in Tehran, Iran. They completed the Iranian adolescents risk behavior scale questionnaire (IARS) and demographic questionnaire with the main focus on their parents' information.

Results: The results indicated that adolescents' tendency towards high risk behaviors are significantly related with family factors.

Conclusion: The existence of high risk behaviors among family members can positively predict adolescents' risky behaviors.

1. Introduction

High rate of substance abuse and lack of socioeconomic boundaries put millions of children and adolescents at risk of growing up with addicted parents (Werner, Joffe, & Graham, 1999). These children are the first and direct victims of inappropriate condition of life. Emotional, cognitive, behavioral, and social difficulties are frequently experienced by them (Copello, Velleman, & Templeton, 2005). Moreover, this puts them at higher risk for antisocial behaviors (De Kemp, Scholte, Overbeek, & Engels, 2006), and substance abuse and addiction (Allen et al., 2003).

Alcohol and other kinds of drug addiction can be traced among different family generations, and children who are coming from these families are exposed to higher risk of illegal drug abuse. In this pattern, family and environmental factors play important roles (Kumpfer, 1999). Findings of some researchers (Schuckit, Goodwin, & Winokur, 1972) indicated that biological children of alcoholic parents who grew up in other families had higher risk of developing alcoholism.

The second factor is the environment, especially family environment, as Flora and Chassin (2005) indicated that the level of drug use among youth with at least one addicted parent was significantly higher compared to the youth of nonaddicted parents. The same trend can be found with regard to smoking. Otten, Engels, Van den Ven, and Bricher (2007) showed that parental smoking is a good predictor from "never smoking" to "trying to smoke" and from trying to "daily smoking."

Although adolescents are susceptible to risky behaviors but there are factors such as religious activities, having good relationship with parents, and parents' support that might buffer against adolescents tendency towards high risk behaviors (Beyers et al., 2004; De Micheli &

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Formigoni, 2004). Among them, family and societal factors gained more attention. As it is mentioned by many scholars, parental substances abuse (Su, Hoffman, Gerstein, & Johnson, 1997), alcohol consumption (Akers & Lee, 1996) and their attitudes and behaviors towards alcohol are strong predictors of adolescents' drinking habit (Barnes et al., 1986; McMorris, Tyler, Whitbeck, & Hoyt, 2002) and it can also affect alcohol consumption and abuse of other substances among adolescents (Elder et al., 2000).

The literature on smoking also shows the same trend. Akers and Lee (1996) showed that when neither parents nor peers smoke, the likelihood of abstinence increases among adolescents. In addition, parent-adolescent's relationship and family's emotional environment have significant role. Inappropriate emotional environment in the family, low parents-adolescents' relationship, and parenting style (Steinberg, 2001) can affect adolescent's tendency toward these risky behaviors (Bernardi et al., 1989; Chambers, Power, Loucks, & Swanson, 2000; Grant & Kim, 2002; Joyce et al., 1994; Schweitzer & Lawton, 1989).

There is an extensive literature, including cross-sectional and longitudinal studies indicating that high levels of hostility and conflict, recurrent episodes of anger and aggression, and coercive interactions among family members increase the risk of different emotional and behavioral problems in children such as aggression, conduct disorder, delinquency, anxiety, and depression (Gonzales, 2010). In a review of the current research on the prevalence of high risk behaviors, and their outcomes as well as the risk and protective factors among adolescents in the English-speaking Caribbean, 95 relevant papers were identified. Five papers were published in the 1980s, 47 in the 1990s, and 43 papers from 2000 to 2005. High risk behaviors and outcomes were divided into 7 themes.

- **Lifetime prevalence of substance use:** Cigarettes-24% and marijuana-17%;

- **High risk sexual behavior:** Initiation of sexual activity≤10 years old, 19% and those having more than 6 partners, 19%;

- **Teenage pregnancy:** Teens account for 15%–20% of all pregnancies and one-fifth of these teens were in their second pregnancy;

- **Sexually-transmitted infections (STIs):** Population prevalence of gonorrhea and/or chlamydia in 18–21 years old was 26%;

- **Mental health:** Severe depression in the adolescent age group was 9%, and attempted suicide, 12%;

- **Violence and juvenile delinquency:** Carrying a weapon to school in the last 30 days, 10% and almost always wanting to kill or injure someone, 5%;

- **Eating disorders and obesity:** Overweight, 11%, and obesity, 7%.

Many of the risk behaviors in adolescents were shown to be related to the adolescent's family, home environment, and parent-child relationships. Also, the protective effects of family and school connectedness as well as increased religiosity noted in studies from the United States were also applicable in the Caribbean (Maharaj, Nunes, & Renwick, 2009).

It has been well documented that other family characteristics such as low parental level of education (Brewster et al., 1993; Glei, 1999), low family income, and the features of family's living region like population intensity (Falck, Wang, Carlson, & Siegal, 2002) increases the probability of these risky behaviors.

This significant role of family and its environment on adolescents' tendency towards high risk behaviors, and increasing rate of this problem among Iranian adolescents has led many scholars to focus on this important social issue (Mohammadpour Asl, Fakhari, Rostami, & Pourafkari, 2007; Mohammadpour Asl, Fakhari, Rostami, Vahidi, & Dastgiri, 2007). The present study aimed to determine the role of some family factors (such as parental level of education, family income, smoking, alcohol and substance abuse among parents) on adolescents' tendency to these high risk behaviors.

2. Methods

The current research is a part of a cross-sectional study which evaluated the risk-taking behaviors among high school students. The sample consisted of 1204 participants (639 males, 565 females) from 30 high schools located in different districts of Tehran. Participants were selected by cluster sampling from 3 major fields of study in Iranian high schools (Humanities, Mathematics, and Experimental Sciences) among them 420 were in the second year, 500 in the third year, and 284 were in the fourth year. In the first step of sampling, Tehran was divided into 4 regions (north, west, east, and south). Then some districts were randomly chosen from each of these regions. Afterwards by using the list of high schools and vocational schools of these districts and with regard to

Table 1. Frequencies and means of demographic variables.

	Frequency	Valid percentage	Mean tendency towards Substance abuse (SD)	Mean tendency towards Alcohol consumption (SD)	Mean tendency towards Cigarette use (SD)
Gender					
Female	1872	53.0	0.24 (0.42)	0.63 (0.85)	0.59 (0.86)
Male	1657	47.0	0.37 (0.60)	0.9 (1.08)	0.61 (0.85)
Grade					
1	1074	30.7	0.30 (0.52)	0.70 (0.92)	0.51 (0.78)
2	973	27.8	0.31 (0.52)	0.81 (1.01)	0.61 (8.84)
3	1027	29.3	0.27 (0.47)	0.78 (0.99)	0.66 (0.88)
4	430	12.3	0.33 (0.59)	0.72 (0.97)	0.68 (0.97)
Father life status					
Living	3365	96.0	0.30 (0.51)	0.75 (0.97)	0.60 (0.85)
Deceased	140	4.0	0.4 (0.62)	0.84 (0.98)	0.75 (0.94)
Mother life status					
Living	3454	98.3	0.30 (0.51)	0.76 (0.97)	0.60 (0.86)
Deceased	58	1.7	0.43 (0.73)	0.74 (1.05)	0.62 (0.87)
Father education status					
Illiterate to Diploma	2745	78.6	0.33 (0.63)	0.64 (0.96)	0.48 (0.76)
Bachelor	495	14.2	0.30 (0.50)	0.73 (0.96)	0.59 (0.84)
Master and PhD	256	7.3	0.30 (0.54)	0.86 (1.04)	0.67 (0.93)
					0.6 (0.86)
Mother education status					
Illiterate to Diploma	3075	88.0	0.28 (0.48)	0.62 (0.90)	0.48 (0.72)
Bachelor	320	9.2	0.30 (0.51)	0.73 (0.95)	0.59 (0.84)
Master and PhD	96	2.8	0.32 (0.58)	0.96 (1.10)	0.75 (1.02)
Income					
Low Income	1126	33.6	0.30 (0.51)	0.65 (0.92)	0.52 (0.79)
Moderate Income	1447	43.1	0.29 (0.51)	0.74 (0.96)	0.60 (0.84)
High Income	783	23.3	0.33 (0.54)	0.96 (1.05)	0.27 (0.97)

the number of schools in each district, the sample was chosen. Sampling in the schools was made according to the grade and education of students. All participants were informed about the goals of the survey and they received the rules and instructions of filling the questionnaire. Participants signed written informed consent and then completed the questionnaires anonymously.

Measures

Demographic questionnaire

Demographic questionnaire included some personal questions e.g. gender and grade and some family questions, including family income, parents' life state (living/deceased), and level of education (no education or less than 12 years of education, 12-18 years of education, more than 18 years of education).

Iranian adolescents risk-taking scale

This scale comprised 38 questions, which assesses 7 subscales of high risk behaviors, including dangerous driving, violence, cigarette smoking, substance abuse, alcohol consumption, sexual behavior, and relationship with opposite sex. In constructing this scale, several questions from adolescents risk behavior questionnaire (ARQ) (Gullone, Moore, Moss, & Boyd, 2000) and youth risk behavior survey scale (YRBS) (Brener et al., 1995) were used.

The result of Kaiser-Meyer-Olkin KMO was acceptable (0.952) and Bartlett's test of sphericity was statistically significant (χ^2=21.26191, df=703, P=0.001). In addition, IARS and its subscales have acceptable reliability. The results of Cronbach α were as follow: substance abuse (α=0.90, 8 questions); alcohol consumption (α=0.90, 6 questions); cigarette use (α=0.93, 5 ques-

Table 2. Correlations between adolescents' smoking, alcohol, drug abuse, and demographic variables.

	Smoking	Alcohol abuse	Drug abuse
Smoking in family	0.235**	0.206**	0.156**
Alcohol consumption in family	0.247**	0.270**	0.270**
Drug abuse in family	0.158**	0.156**	0.227**
Illiterate father	-.028	-0.023	0.012
Father with 12 years study	-.029	-0.044*	-0.006
Fathers with more than 12 years study	0.044**	0.057**	0.001
Illiterate Mother	-.034*	-0.035*	-0.009
Mother with less than 12 years study	-0.034*	-0.046**	-0.009
Mother with more than 12 years study	0.065**	0.079**	0.017
Deceased Father	0.034*	0.017	0.040*
Deceased Mother	0.002	-0.002	0.031
Low Income	-0.076**	-0.083**	0.003
Medium Income	-0.010	-0.017	-0.025
High Income	0.096**	0.112**	0.026
Male (=1)	0.012	0.139**	0.131**

* Correlation is significant at the level of 0.05 (2-tailed).

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** Correlation is significant at the level of 0.01 (2-tailed).

tions); violence (α=0.78, 5 questions); sexual relationship and sexual behavior (α=0.87, 4 questions); attitude toward opposite sex (α= 0.83, 4 questions); and dangerous driving (α=0.74, 6 question) (MohammadiZade & Ahmadabadi, 2008).

Statistical analysis

SPSS ver. 15 was used for analysis. At first, the correlation among smoking, alcohol consumption, and substance abuse in Iranian adolescents and family variables were assessed by using bivariate correlation. In the second step, the proportion of each variable in adolescents' tendency toward high risk behaviors was evaluated by hierarchical regression. Only those variables correlated with adolescents' risky behaviors, were used in hierarchical regression. In the first block, parental risky behaviors (smoking, alcohol consumption, and substance abuse) were entered and in the second block the other correlated variables such as family income and parents' education were entered.

3. Results

Distribution of demographic variables is shown in Table 1. A total of 1872 (53%) participants were female and 1657 (47%) were male. About 4% (140) of participants' fathers and 1.7% (58) of their mothers had died. Most of the parents' level of education (fathers=78.6% and mothers=88%) were in the first category (illiteracy to 12 years education). The means of adolescents' tendency towards high risk behaviors are presented in Table 1.

Whereas the aim of the present survey was to evaluate the family variables proportion in Iranian adolescents' tendency toward high-risk behaviors, the bi-variant correlation among these variables was calculated (Table 2). Results indicated that smoking, alcohol consumption, and substances abuse among Iranian adolescents are correlated with the same high-risk behaviors among parents (0.27, 0.23, and 0.22, respectively). Alcohol consumption among family members has the highest correlation with adolescents' smoking, alcohol consumption, and substance abuse (0.24, 0.27, and 0.27, respectively; $P<0.01$). Having fathers and mothers with more than 12 years education and high-income were correlated with smoking (0.04, 0.06, and 0.96, respectively; $P<0.01$) and alcohol consumption (0.057, 0.70, and 0.11, respectively; $P<0.01$) among adolescents of the present sample.

Hierarchical regression was used to determine the share of each variable in adolescents' tendency towards high-risk behaviors. As it was mentioned before, correlated variables were entered in the regression and for

Table 3. The results of hierarchical regression.

	R	Adjusted R^2	F	Sig.
Smoking				
Model 1	0.320[a]	0.102	124.32	0.000
Model 2	0.338[b]	0.112	46.7	0.000
Alcohol abuse				
Model 1	0.400[a]	0.159	207.1	0.000
Model 2	0.440[c]	0.191	78.13	0.000
Drug abuse				
Model 1	0.326[a]	0.106	136.02	0.000
Model 2	0.355[d]	0.124	98.60	0.000

a. The predictors: family smoking, family alcohol abuse, and family drug abuse.

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b. The predictors: family smoking, family alcohol consumption, family drug abuse, illiterate mother, mother with 12 years study, mother with more than 12 years study, father with more than 12 years study, living father, low income, and high income.

c. The predictors: family smoking, family alcohol consumption, family drug abuse, father with 12 years study, father with more than 12 years, illiterate mother, mother with 12 years study, mother with more than 12 years, low Income, high Income, and sex.

d. The predictors: family smoking, family alcohol consumption, family drug abuse, father life status, and sex.

making distinction between the proportion of high-risk behaviors among family members and the other family variables; family smoking, alcohol consumption, and substance abuse entered in the first block and other variables entered in the second regression.

Regression analysis indicated that adolescents' tendency towards smoking was predicted by smoking among family members (β=0.18), alcohol consumption among family members (β=0.23), and substance abuse among family members (β=0.05). In addition, deceased father (β= 0.35), low income (β=-0.5), and high income (β=0.05) have a low but significant prediction power in adolescents tendency' towards high-risk behaviors. For more information about other variables, see Table 3.

4. Discussion

The aim of the current study was to evaluate the role of family variables on adolescents' tendency towards high risk behaviors. Our analyses confirmed that there are significant relations between adolescents and parents' risky behaviors. Also it was shown that the existence of health risk behaviors among family members can positively predict adolescents' risky behaviors.

In order to explain family impact on adolescents' tendency toward these behaviors, social theories suggested modeling effect (Bandura, 1977) that makes children imitate their parents' behaviors. Other theories have suggested that parental substance abuse may impair parenting which may have influences on adolescents' alcohol consumption and drug addiction (Barnard & McKeganey, 2004; van der Vorst et al., 2006). In addition, personality characteristics impairment and disabilities that exist in addiction may affect parents' child raising abilities (Mayes & Truman, 2002).

One of the variables that can positively predict adolescents' risky behavior is deceased father and living with a single mother. It was shown that having a deceased father was related to more tendency toward smoking and drug abuse. As Fothergilland and Ensminger (2006) declared, parental supervisions may influence this trend. Since the death of a father can bring economic difficulties and in some cases leads mother to find a job to compensate for the deficit, it is possible that in these cases adolescents got deprived of a sufficient supervision that may affect their tendency toward smoking and drug abuse.

The other family related factor is parents' educational status. Results showed that higher education of parents was related to increase in adolescents' tendency toward smoking and alcohol consumption. It seems that mother education also has relation with adolescents' high-risk behaviors. Although in the literature, this trend was reversed. Bronfenbrenner et al. (1984) emphasized that educated mothers have a better understanding of maternal and occupational duties but low educated mothers cannot keep up with that. Besides, higher education is associated with higher probability of having a job and being busy. Aughinbaugh and Gitteman (2004) empha-

sized on the existence of a direct link between mothers' occupation and high-risk behaviors among adolescents. Working mothers spend less time for emotional support, continuous supervision, encouraging and help in school activities (Chase-Lansdale, 1999), and this might result in more risky behaviors among their children.

Tendency toward alcohol consumptions and smoking is different with regard to family income. In families with higher income adolescents show stronger tendency towards alcohol and smoking. This along with the results regarding parents' education indicates that higher economic status relates to these trends. Furthermore, Stafstrim, Ostergren, and Larsson (2005) suggested that high purchasing power in Swedish students was related to more alcohol consumption. Tot, Yazıcı, Yazici, Metin, Bal, and Erdem (2004) showed that high socioeconomic status of family increases alcohol consumption and smoking; also alcohol consumption is more prevalent among adolescents with high educated mothers. Likewise, Zadeh-mohammadi and Ahmadabadi (2008) found that higher economic status was related to higher risk for alcohol consumption.

In North Europe and America higher rate of smoking is observed among individuals with lower social class. Nevertheless, this trend is different in South Europe, especially between women, so more smoking was observed among women of higher classes (Iribarren et al., 1997). Blow, Leicester, and Windmeijer (2005) found that an increase in income was related to younger child smoking. Men with higher socioeconomic status were lighter drinkers while this trend among the women of this class was reversed (Borrell et al., 2000). In some other studies, research did not find any association between social class and alcohol consumption (Dunbar & Morgan, 1987).

Despite careful attention to study design, there are a number of limitations. The major one is the generalizability of the results. Although sample size was statistically adequate but due to wide range of cultural and economic differences in different parts of Iran (especially among metropolitans and smaller cities), there should be some precautions in generalizing these results to all Iranian adolescents. Another limitation is related to demographic questionnaire. It just asked students to declare whether there is any smoker, alcohol consumers, or drug abuser in their family.

It is not clearly defined, if there is any, which family member is doing these behaviors, for how along and how adolescent's relationship with that person is. It should also be mentioned that in Iranian community like many others, people try to hide behaviors such as alcohol consumption or drug abuse. It might be possible that some participants simply were not aware of such behaviors among their family members or tried to hide them. This study is based on the participants' answers to direct questions about these behaviors and did not use any other source of information for evaluating the reliability of the responses, so the answers should be considered with caution.

The current study demonstrates the significant role of family factors, especially smoking, alcohol consumption and drug abuse among family members, on Iranian adolescents' tendency towards high-risk behaviors. As it was mentioned earlier, there are some inconsistencies in the results of present study with other studies from other cultures. These may arise from specific characteristics of Iranian culture which needs further investigation.

Reference

Akers, R. L., & Lee, G. (1996). A longitudinal test of social learning theory: Adolescent smoking. *Journal of Drug Issues, 26*(2), 317-343.

Allen, M., Donohue, W. A., Griffin, A., Ryan, D., & Turner, M. M. M. (2003). Comparing the influence of parents and Peers on the choice to use drugs. *Criminal Justice and Behavior, 30*(2), 163-186.

Aughinbaugh, A., & Gittleman, M. (2004). Maternal employment and adolescent risky behavior. *Journal of Health Economics, 23*(4), 813-838.

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs: Prentice-Hall.

Barnard, M., & McKeganey, N. (2004). The impact of parental problem drug use on children: what is the problem and what can be done to help? *Addiction, 99*(5), 552-559.

Barnes, G. M., Farrell, M. P., & Cairns, A. (1986). Parental socialization factors and adolescent drinking behaviors. *Journal of Marriage and the Family, 48*(1), 27-36.

Bernardi, G. C., Suarez, S., Fainstein, P. D., Garibotti, C. R., Meckbach, W., & Focke, P. (1989). Two-center effects in electron emission in^{3}He^{2+}-He and H^{+}-He collisions at intermediate energies. *Physical Review A, 40*(12), 6863.

Beyers, J. M., Toumbourou, J. W., Catalano, R. F., Arthur M. W, & Hawkins, J. D. (2004). A cross-national comparison of risk and protective factors for adolescents substance use. *Journal of Adolescent Health, 35*(1), 3-16.

Blow, L., Leicester, A., & Windmeijer, F. (2005). *Parental income and children's smoking behaviour: Evidence from the British House-*

hold Panel Survey (Working paper). IFS Working Papers (No. W05/10). London, UK: Institute for Fiscal Studies.

Borrell, C., Domínguez-Berjón, F., Pasarín, M. I., Ferrando, J., Rohlfs, I., & Nebot, M. (2000). Social inequalities in health related behaviours in Barcelona. *Journal of Epidemiology and Community Health, 54*(1), 24-30.

Brener, N. D., Collins, J. L., Kann, L., Warren, C. W., & Williams, B. I. (1995). Reliability of the Youth Risk Behavior Survey Questionnaire. *American Journal of Epidemiology, 141*(6), 575-580.

Brewster, K. L., Billy, J. O. G., & Grady, W. R. (1993). Social context and adolescent behavior: the impact of community on the transition to sexual activity. *Social Forces, 71*(3), 713-740.

Bronfenbrenner, U., Alvarez, W. F., & Henderson, C. R. (1984). Working and watching: maternal employment status and parents' perceptions of their three-year old children. *Child Development, 55*(4), 1362-1378.

Chambers, J. A., Power, K. G., Loucks, N., & Swanson, V. (2000). Psychometric properties of the Parental Bonding Instrument and its association with psychological distress in a group of incarcerated young offenders in Scotland. *Social Psychiatry and Psychiatric Epidemiology, 35*(7), 318-325.

Chase-Lansdale, P. L. (1999). *How Developmental Psychologists Think About Family Process and Child Development in Low Income Families*. Chicago, IL: Harris School of Public Policy Studies, University of Chicago.

Copello, A. G., Velleman, R. D. B., & Templeton, L. J. (2005). Family interventions in the treatment of alcohol and drug problems. *Drug and Alcohol Review, 24*(4), 369-385.

De Kemp, R. A. T., Scholte, R. H. J., Overbeek, G., & Engels, R. C. M. E. (2006). Early adolescent delinquency. *Criminal Justice and Behavior, 33*(4), 488-510.

De Micheli, D., & Formigoni, M. L. O. S. (2004). Drug use by Brazilian students: Associations with family, psychosocial, health, demographic and behavioral characteristics. *Addiction, 99*(5), 570-578.

Dunbar, G. C., & Morgan, D. D. (1987). The changing pattern of alcohol consumption in England and Wales 1978-85. *British Medical Journal (Clinical research ed.), 295*(6602), 807-810.

Elder, J. P., Campbell, N. R., Litrownik, A. J., Ayala, G. X., Slymen, D. J., Parra-Medina, D., & et al. (2000). Predictors of cigarette and alcohol susceptibility and use among Hispanic migrant adolescents. *Preventive Medicine, 31*(2), 115-123. doi: 10.1006/pmed.2000.0693.

Falck, R. S., Wang, J., Carlson, R. G., & Siegal, H. A. (2002). Variability in drug use prevalence across school districts in the same locale in Ohio. *Journal of School Health, 72*(7), 288-293.

Flora, D. B., & Chassin, L. (2005). Changes in Drug Use During Young Adulthood: The Effects of Parent Alcoholism and Transition Into Marriage. *Psychology of Addictive Behaviors, 19*(4), 352-362. doi: 10.1037/0893-164X.19.4.352.

Fothergill, K. E., & Ensminger, M. E. (2006). Childhood and adolescent antecedents of drug and alcohol problems: A longitudinal study. *Drug and Alcohol Dependence, 82*(1), 61-76. doi: 10.1016/j.drugalcdep.2005. 08.009.

Glei, D. (1999). Measuring contraceptive use patterns among teenage and adult women. *Family Planning Perspectives, 31*(2), 73-80.

Gonzales, N. (2010). *Family and peer influences on adolescent behavior and risk-taking*. Paper presented at IOM Committee on the Science of Adolescence Workshop, Washington, D.C., USA

Grant, J. E., & Kim, S. W. (2002). Parental bonding in pathological gambling disorder. *Psychiatric Quarterly, 73*(3), 239-247.

Gullone, E., Moore, S., Moss, S., & Boyd, C. (2000). The Adolescent Risk-Taking Questionnaire. *Journal of Adolescent Research, 15*(2), 231-250.

Iribarren, C., Luepker, R. V., McGovern, P. G., Arnett, D. K., & Blackburn, H. (1997). Twelve-year trends in cardiovascular disease risk factors in the Minnesota Heart Survey: Are socioeconomic differences widening? *Archives of Internal Medicine, 157*(8), 873-881.

Joyce, P. R., Sellman, D., Wells, E., Frampton, C. M., Bushnell, J. A., Oakley-Browne, M., & et al. (1994). Parental bonding in men with alcohol disorders: A relationship with conduct disorder. *Australian and New Zealand Journal of Psychiatry, 28*(3), 405-411.

Kumpfer, K. L. (1999). Outcome measures of interventions in the study of children of substance-abusing parents. *Pediatrics, 103*(5), 1128-.

Maharaj, M. R., Nunes, P., & Renwick, S. H. (2009). Health risk behaviours among adolescents in the English-speaking Caribbean: A review. *Journal of Child and Adolescent Psychiatry and Mental Health, 3*(1), 10-21.

Mayes, L. C., & Truman, S. D. (2002). *Substance abuse and parenting*. Mahwah: Lawrence Erlbaum Associates.

McMorris, B. J., Tyler, K. A., Whitbeck, L. B., & Hoyt, D. R. (2002). Familial and "on-the-street" risk factors associated with alcohol use among homeless and runaway adolescents. *Journal of Studies on Alcohol, 63*(1), 34-43.

Mohammadpour Asl, A., Fakhari, A., Rostami, F., & Pourafkari, N. A. (2007). Cigarete smoking among Iranian adolescents. *Iranian Journal of Psychiatry and Behavioral Sciences, 1*(1), 303-335.

Otten, R., Engels, R., van de Ven, M., & Bricker, J. (2007). Parental smoking and adolescent smoking stages: The role of parents' current and former smoking, and family structure. *Journal of Behavioral Medicine, 30*(2), 143-154.

Schuckit, M., Goodwin, D., & Winokur, G. (1972). A study of alcoholism in half Siblings. *American Journal of Psychiatry, 128*(9), 1132-1136.

Schweitzer, R. D., & Lawton, P. A. (1989). Drug abusers' perceptions of their parents. *British Journal of Addiction, 84*(3), 309-314.

Stafstrim, M., Ostergren, P. O., & Larsson, S. (2005). Risk factors for frequent high alcohol consumption among Swedish secondary-school students. *Journal of Studies on Alcohol and Drugs, 66*(6), 776-783.

Steinberg, L. (2001). We know some things: Parent–adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*(1), 1-19.

Su, S. S., Hoffman, J. P., Gerstein, D. R., & Johnson, R. A. (1997). The effect of home environment on adolescent substance use and depressive symptoms. *Journal of Drug Issues, 27*(4), 851-878.

Tot, S., Yazıcı, K., Yazıcı, A., Metin, O., Bal, N., & Erdem, P. (2004). Psychosocial correlates of substance use among adolescents in Mersin, Turkey. *Public Health, 118*(8), 588-593.

Van Der Vorst, H., Engels, R. C. M. E., Meeus, W., Dekovic, M., & Vermulst, A. (2006). Parental attachment, parental control, and early development of alcohol use: A longitudinal study. *Psychology of Addictive Behaviors, 20*(2), 107-116. doi: 10.1037/0893-164X.20.2.107.

Werner, M. J., Joffe, A., & Graham, A. V. (1999). Screening, early identification, and office-based intervention with children and youth living in substance-abusing families. *Pediatrics, 103*(5), 1099-1112.

Zadeh-Mohammadi, A., & Ahmadabadi, Z. (2008). The co-occurrence of risky behaviors among high school adolescents in Tehran. *Journal of Family Research, 4*(13), 87-100.