academicJournals

Vol. 8(46), pp. 2257-2262, 11 December, 2013
DOI: 10.5897/SRE09.350
ISSN 1992-2248 © 2013 Academic Journals
http://www.academicjournals.org/SRE

Scientific Research and Essays

Full Length Research Paper

Association between emotional intelligence and illicit drug involvement: A study in adolescents in Tehran, Iran

Katayoon Khushabi[1]*, Setareh-Ameneh-Forouzan[1] and Mehdi Akbarian[2]

[1]University of Social Welfare and Rehabilitation Sciences, Post code: 1985-713834, Tehran, Iran.
[2]Department of Psychology and Psychiatry, Medicine and Health Promotion Institute, Tehran, Iran.

Accepted 2 July, 2010

The study sought to assess if there is an association between emotional intelligence (EI) with illicit drug use in adolescents, and if this link is independent of social and parental variables. In this cross-sectional study, 990 randomly selected adolescents (age 15 - 17) from public high schools in Tehran, Iranian capital, were interviewed in 2006. The independent data consisted of EI (measured by the Bar-On Emotional Quotient Inventory) and also demographic characteristics (age and sex), family-related data (number of siblings and having an intact family), education-related data (attitude towards school and school achievement), parental and environmental data of illicit drug use and the outcome was "a history of illicit drug use amongst adolescents". Our logistic regression model showed that the correlates of a history of illicit drug use in the adolescents were "the Bar-On Emotional Quotient Inventory score" ($P < 0.001$) alongside "family history of illicit drug use" ($P < 0.001$), "witnessing illicit drug use" ($P < 0.014$), "peer encouragement of illicit drug use" ($P = 0.006$), "school achievement" ($P < 0.001$), and "attitude towards school" ($P = 0.007$). Our results indicated a link between EI and a history of illicit drug use in Iranian adolescents, independent of other social factors. It is advisable that policymakers pay heed to this association in devising preventive measures against illicit drug use amongst adolescents.

Key words: Adolescents, Illicit drug use, emotional intelligence, social risk factors.

INTRODUCTION

Adolescence is a critical phase in life inasmuch as its influences inform the ensuing years (Wheaton and Clarke, 2003). Illicit drug use at this developmental period wreaks havoc on the healthy growth of the body, brain, and behavior (Toumbourou and Catalano, 2005; Chambers et al., 2003) and can predict the patterns of use, mortality, and morbidity later in life (Toumbourou et al., 2007).

By and large, adolescent illicit drug use is believed to be primarily socially influenced (Han et al., 1999; Hopfer et al., 2003). The contributing social factors (Kokkevi et al., 2007) such as peer pressure (Simons-Morton 2007), comprise school-related variables such as achievement and performance (Lloyd, 1998), and also parental characteristics (Barrett and Turner, 2006) such as "parental drug use" (Chassin et al., 1986; Peterson et al., 1994; Harrier et al., 2001; Hurdle et al., 2003; Yu et al., 2005, Dierker et al., 2001; Vega and Gil, 1998, Brook et al., 2003).

Emotional intelligence has been defined as "the ability to monitor one's own and others' emotions, to discriminate among them, and to use the information to guide one's thinking and actions" (Mayer and Salovey, 1990). Lower emotional intelligence (EI) is linked to higher likelyhood of pro-social (Rice, 1999; Salovey et al., 2001) and anti-social behaviors such as physical fights (Brackett and Mayer, 2003; Trinidad and Johnson, 2001), self-destructive

*Corresponding author. E-mail: cru_common@yahoo.com. Tel: 0098-21-221 80043. Fax: 0098-21-221 80043.

behaviors (Brackett and Mayer, 2003; Rubin, 1999), vandalism (Brackett and Mayer, 2003; Trinidad and Johnson, 2001) and knife and gun ownership (Formica, 1998). However, in its link to illicit drug use, research is scarce and mostly limited to adult populations (Brackett and Mayer, 2003; Formica, 1998; Trinidad and Johnson, 2001, Riley and Schutte, 2003).

In the adolescent population, if the lower EI is associated with illicit drug use, and if this link is independent of environmental; parental variables is not known. The study therefore, aimed at seeking evidence amongst a sample of adolescents in support of this hypothesis.

METHODS

Sample

Grant for this cross-sectional study was awarded by the University of Social Welfare and Rehabilitation Sciences upon the approval of the study protocol by the university's Ethics Committee and subsequently by the Ministry of Education of the Islamic Republic of Iran. This study is part of a greater study with other publications (Khushabi et al., 2010).

From 1,100 Iranian adolescents between 15 and 17 years of age randomly selected from the public high schools in Tehran, the capital city of Iran, 990 (90%) accepted to participate in the study. The samples were selected via a two-stage cluster sampling proportionate to the student population in each educational zone. Eleven educational zones were selected, from each, 1 male and 1 female school were selected. From each school, 50 adolescents were sampled. Equal numbers drawn from each zone, irrespective of the population of each zone.

The respondents gave oral consent after they had been reassured that their name would not be registered and that their answers would be kept strictly confidential. Interviews were carried out by trained interviewers in private place which was the classrooms without the presence of other students, school staff or anyone affiliated to the Ministry of Education between January and April 2006. Each interview took approximately two hours. Participants were interviewed individually.

Measures

Study variables

A self-report check list was used to gather information on demographic characteristics (age and sex), family-related data (number of siblings and having an intact family), and attitude tow- ards school (using a single question with 5-point Likert responses). The check list also contained queries on other social risk factors for illicit drug use, namely "family history of drug use" (Chassin et al., 1986), "drug use amongst peers" (Chassin et al., 1986; Guo et al., 2001; Brook et al., 2006), "peer encouragement of drug use" (Dierker et al., 2001; Vega and Gil, 1998), and "witnessing illicit drug use" (Sherman et al., 2005).

Additionally, education-related data such as "school performance" and "school achievement" (Wright, Fitzpatrick, 2004) were registered. The grade point average in the previous educat- ional year was considered "school performance", and it was extract- ed from the students' charts in the school.

EI was measured using the Bar-On Emotional Quotient Inventory, which is a 133-item questionnaire for the evaluation of the total EI score based on a 5-point Likert scale. The sub-scores in the present study, comprised "emotional self-awareness", "decisive ness", "self-esteem", "independence", "agreement", "interpersonal relations", "social responsibility", "problem solving", "reality testing", "flexibility", "control of pressure", "control of shock", "happiness", and "optimism". A Persian version of this questionnaire was used with an alpha Cronbach of 0.73.

Outcome variables

The outcome in this study was "a history of illicit drug use amongst adolescents", which was measured using the following question: 'Have you ever tried or experienced illicit drug use in your life?' (Liu et al., 2001). The outcome of the present study is one of the main outcomes in large surveys such as the National Survey on Drug Use and Health in the United States of America (Winstanley et al., 2008). The respondents in the present study were not inquired about the type of illicit drug and the frequency of use because of the prohibitions imposed by the Ministry of Education.

Statistical analysis

All the statistical analyses were carried out using the SPSS-13 Program. Skewing of the EQ data necessitated reporting medians. Non-parametric tests were chosen (that is, Mann-Whitney tests) because of the skewed data. Those with and without a history of illicit drug use were compared with respect to the independent variables, namely the total EI score, demographic characteristics, family-related data, education-related data, and other social risk factors using the Chi-square test and the Mann-Whitney tests, when appropriate. All the independent data were thereafter entered into logistic regression analyses to assess their association with illicit drug abuse in the adolescents. A P-value < 0.05 was considered significant.

RESULTS

From 990 adolescents, 505 (51%) were male, most were 16 year old (n = 393; 39.7%). Family was not intact in 59 (6%) respondents, and 349 (35.3%) had no siblings. As regards the parents' employment status, the father was unemployed in 23 (2.3%), and the mother was employed in 181(18.3%). In terms of illicit drug use among family members and friends, 404 (40.8%) subjects reported having at least one parent using illicit drugs, and 462 (46.7%) reported having at least one friend using illicit drugs.

A history of illicit drug use

From the total study population, 76 (7.7%) adolescents reported a history of illicit drug use. This was reported by 42 (8.3%) male and 34 (7.1%) female (P = 0.457).

Univariate associates of a history of illicit drug use

According to this study's univariate analysis, the prevalence of "a history of illicit drug use" was significantly higher in the adolescents who reported the following variables: "witnessing drug abuse" ($P < 0.001$), "peer encouragement of drug use" ($P < 0.001$), "older age" ($P = 0.004$), "no siblings" ($P = 0.011$), "at least one friend using

Table 1. Comparison of the frequencies of a history of illicit drug use in the study subpopulation.

Demographics	Use (%)	P
Age (years)		
15	17(5.2%)	
16	26(6.6%)	0.004
17	33(12.2%)	
Gender		
Male	42(8.3%)	0.457
Female	34(7.1%)	
Having a smoking parent		
Yes	40(9.9%)	0.029
No	36(6.2%)	
Having a drug-using parent		
Yes	25(28.1%)	<0.001
No	51(5.7%)	
Having a drug-using friend		
Yes	57(12.4%)	<0.001
No	17(3.3%)	
Intact family		
Yes	68(7.4%)	0.086
No	8(13.6%)	
Single child		
Yes	37(10.6%)	0.011
No	39(6.1%)	
Father's employment status		
Employed	71(7.6%)	0.334
Unemployed	3(13%)	
Mother's employment status		
Employed	17(9.4%)	0.385
Unemployed	59(7.5%)	
Witnessing substance use		
Yes	65(13.2%)	<0.001
No	11(2.2%)	
Peer encouragement of substance use		
Yes	42(27.1%)	<0.001
No	33(4%)	

* Chi-square.

drugs" (P = 0.000), "cigarette-smoking parents" (P = 0.029), and "drug-using parents" (P < 0.001) (Table 1).

Table 2. Comparisons of the total score of emotional intelligence and its sub-scores between the users and non-users.

EI	USER		NON-USER		
	Median	IQR	Median	IQR	P
Emotional self-awareness	23	4	27	6	< 0.001
Decisiveness	24	4	27	6	< 0.001
Self-esteem	29	7	33	8	< 0.001
Independence	21	7	25	5	< 0.001
Agreement	24	7.25	30	5	< 0.001
Interpersonal relations	34	6.25	40	7	< 0.001
Social responsibility	33	8.25	38	7	< 0.001
Problem solving	25	6.50	30	8	< 0.001
Reality testing	31	6	34	7	< 0.001
Flexibility	23	5.25	26	6	< 0.001
Control of pressure	26	7	30	6	< 0.001
Control of shock	26	8.25	31	7.75	< 0.001
Happiness	28	6	33	6	< 0.001
Optimism	26	6.50	30	7	< 0.001
Total score	400	8.25	463	57	< 0.001

* Man-Whitney.

"School performance" (P < 0.001) and "attitude towards school" (P < 0.001) were significantly poorer in the users than the ones in the non-users (Table 2).

A significantly lower "total EI score" (P<0.001) and its subscores, composed of "emotional self-awareness" (P < 0.001), "decisiveness" (P < 0.001), "self-esteem" (P < 0.001), "independence" (P < 0.001), "agreement" (P < 0.001), "interpersonal relations" (P < 0.001), "social responsibility" (P < 0.001), "problem solving" (P < 0.001), "reality testing" (P < 0.001), "flexibility" (P < 0.001), "control of pressure" (P < 0.001), "control of shock" (P < 0.001), "happiness" (P < 0.001), and "optimism" P < 0.001) were seen in the adolescents with a history of illicit drug use than others (Table 2).

There was no statistically significant difference between the users and non-users in terms of gender, father's unemployment, mother's unemployment, and having an intact family (P > 0.05) (Table 1).

Regressors of a history of illicit drug use

Our logistic regression model showed that illicit drug use was associated with "family history of drug use" (P = 0.001), lower "total EI score" (P < 0.001), "school performance" (P = 0.001), "attitude towards school" (P = 0.007), "witnessing drug use" (P < 0.014), and "peer encouragement of drug use" (P = 0.006) (Table 3).

DISCUSSION

This study found that "the lower total EI score", independent of known social associates such as "parental drug use", "witnessing drug use", "peer encouragement of drug use", "attitude towards school", and "school performance",

Table 3. Associates of a history of drug use among 990 Iranian adolescents.

Variable	OR	CI:	P
Family substance use (yes versus no)	3.908	(1.702 - 8.974)	0.001
Total score of emotional intelligence	0.984	(0.978 - 0.991)	< 0.001
School performance	0.672	(0.534 - 0.846)	0.001
Attitude towards school	0.846	(0.749 - 0.954)	0.007
Witnessing substance use (yes versus no)	2.920	(1.244 - 6.851)	0.014
Peer encouragement of substance use (yes versus no)	3.049	(1.381 - 6.733)	0.006

was correlated with an increase in the history of illicit drug use among adolescents. A low EI score denotes poor ability to recognize and regulate emotions (Goleman, 2001) and is associated with cigarette smoking (Brackett and Mayer, 2003; Rubin, 1999; Trinidad and Johnson, 2001), alcohol and illegal drug use (Brackett and Mayer, 2003; Formica, 1998; Trinidad and Johnson, 2001), and such delinquencies as deviant behavior (Brackett and Mayer, 2003; Formica, 1998; Trinidad and Johnson, 2001), physical fights, and knife and gun ownership (Formica, 1998).

It has been illustrated that higher levels of EI are linked to reduced psychological distress and higher adaptive and lower maladaptive coping mechanisms (Campbell and Ntobedzi, 2007,) as well as with elevated prosocial behaviors such as interaction with friends and family (Brackett et al., 2004), parental warmth (Rice, 1999; Salovey et al., 2001), and positive relationships with peers, family, and relatives (Rice, 1999; Salovey et al., 2001).

This study is based on a cross-sectional design; therefore, any conclusion and statement on the direction and causality of the association present should be by cautious. However, it is plausible that a high EI score might directly inhibit drug use initiation, for instance through a greater mental ability to tolerate negative influences by others. It is also within the realms of possibility that a high EI score might indirectly bring to bear similar deterrent effects upon the initiation of illicit drug use via its ties with the foregoing factors, many of which are believed to affect drug use, e.g. enjoying good family relationships (Guo et al., 2001). Further research, however, is required to shed sufficient light on these effects.

Two other associates of a history of drug abuse by Iranian adolescents in our study were “witnessing drug use” and “peer encouragement of drug use”. Indubitably, peer pressure plays a key role in the initiation and continuation of drug use (Scheier et al., 2001; USDHHS, 2001; Yu et al., 2005). A review of the literature clearly demonstrates that a major correlate of adolescent drug use is peer drug use (Elliott et al., 1985; Chassin et al., 1986; Guo et al., 2001; Mason and Windle, 2001; Dishion et al., 1995). This salient social factor can explain the largest percenttage of the variance in the adolescents’ frequency of illegal drug use (Brook et al., 2006), insofar as this influence is exerted via modeling and social reinforcement of nonconforming behavior (Oetting and Donnermeyer, 1998; Hawkins et al., 1992). Be that as it may, adolescents’ own predispositions to using drugs may lead them to select deviant peers (Chavez et al., 1994).

“School performance” and “attitude towards school” were also associated with a history of illicit drug use in our study population. The results of one study indicated a significant relationship between current school performance, future educational aspirations, and drug use (Paulson et al., 1990). Elsewhere, educational underachievement (Lloyd, 1998) and detachment from school were linked to drug use in adolescents (Hawkins et al., 1992). As the aforementioned instances connote, commitment to school can exert a substantial influence on adolescents' drug use (Sung, 2002). The study’s subjects were focused on middle adolescence; school and peer influence begins to increase from early adolescence, peaks during middle adolescence, and declines thereafter (Sung, 2002). Research also shows that adolescent use of drugs can be averted and/or delayed, not least at an individual level, by school attachment (or school bonding in general). Students who demonstrate a positive attachment to school are less likely to be involved in illicit drug use (Hawkins et al., 1992; Henry et al., 2005; Maddox and Prinz, 2003; McBride et al., 1995; Resnick et al., 1997). This protective effect can be partly explained by the fact that a strong attachment to school in general is characterized by a commitment to conventional academic and social endeavors in school, attachment to prosocial peers, attachment to teachers and other school staff, and belief in established prosocial norms (Hawkins and Weis, 1985). The social development model (Hawkins and Weis, 1985) offers a theoretical framework to describe the mechanisms by which school bonding may affect drug use. The model asserts that prosocial bonds (including bonding to school) preclude problem behavior, proposing that weak school bonds free adolescents from adhering to conventional norms that discourage problematic behaviors.

Overall, the findings which in the first look- might seem not provide much new information beyond what is already known (that is, having peers that take drugs is a risk factor; having poor emotional coping skills is a risk factor). What is more new is the use of the regression analysis, which showed that the link between EI and drug abuse is independent of peer and parental drug use data.

In other words, even EI is controlled for, peer and parental data still influences drug abuse behavior.

The present study had some limitations. First and foremost, the cross-sectional design and the reliance upon the subjects' self-reports in this study restricted the scope of research. A prospective longitudinal study is required to adequately determine the predictors of future drug use amongst adolescents. Recall bias, however, cannot have exerted a great deal of negative influence on the results of our study on account of the fact that our subjects were very young and were, therefore, highly unlikely to have forgotten ever using illicit drugs. In this study, the standard version of Bar-On Emotional Quotient Inventory was used, however, originally is known to be more appropriate for individuals over 17 years of age. The same inventory has been used in adolescent population, previously. In addition, although a large number of statistical comparisons were made, the statistical significance criterion was retained at 0.05, and no attempt was done to correct the multiple comparisons. Our results clarified a link between EI and drug abuse. It is also just as possible, however, that taking drugs may have altered emotional functioning, leading to poorer EI scores. Having information regarding the frequency or severity of drug use, could further clear out the relationships between these variables. Not reporting standardized scores instead of raw scores is another limitation of this study. The findings presented here should be examined in depth by further investigations.

To conclude, the study's results indicated that EI might be a psychological link of drug abuse amongst Iranian adolescents and this association seems to be independent of parental and social characteristics. These findings might assist policymakers in their battle against illicit drug use in adolescents.

REFERENCES

Mayer JD, Salovey P (1990). The intelligence of emotional intelligence. Intelligence 17:433-442.

Barrett AE, Turner RJ (2006). Family structure and substance use problems in adolescence and early adulthood: Examining explanations for the relationship. Addiction 101(1):109-20.

Brackett MA, Mayer JD (2003). Convergent, discriminant, and incremental validity of competing measures of emotional intelligence. Pers. Soc. Psychol. Bull. 29:1147–1158.

Brackett MA, Mayer JD, Warner RM (2004). Emotional intelligence and its relation to everyday behaviour. Pers. Individ. Differences 36:1387-1402.

Brook JS, Morojele N, Pahl K (2006). Predictors of drug use among South African adolescents. J. Adolesc. Health. 38:26–34.

Brook JS, Brook DW, Richter L, Whiteman M (2003). Risk and protective factors of adolescent drug use: Implications for prevention programs. In: Bukowski WJ, Sloboda Z (eds). Handbook of Drug Abuse Prevention Theory and Practice. New York, NY: Plenum, pp. 87-265.

Campbell A, Ntobedzi A (2007). Emotional intelligence, coping and psychological distress: A partial least squares approach to developing a predictive model. E-J. Appl. Psychol. 3*(*2):39-54.

Chambers RA, Taylor JR, Potenza MN (2003).Developmental neurocircuitry of motivation in adolescence: A critical period of addiction vulnerability. Ame. J. Psychiatry., 160: 1041–52.

Chassin LA, Presson CC, Sherman SJ, Montello D, MC Grew J (1986). Changes in peer and parent influence during adolescence: Longitudinal versus cross-sectional perspectives on smoking initiation, Development all psychology, 22: 327–334.

Chavez EI, Oetting ER, Swaim RC (1994). Dropout and delinquency: Mexican- American and Caucasian non-Hispanic youth. J. Clinical. Child. Psychol., 23: 47–55.

Dierker LC, Avenevoli S, Merikangas KR, Flaherty BP, Stolar M (2001). Association between psychiatric disorders and the progression of tobacco use behaviors. J. Ame. Acade. Child. Adolescent. Psychiatry., 40: 1159-1167.

Dishion TJ, Andrews DW, Crosby L (1995). Antisocial boys and their friends in early adolescence: Relationship characteristics, quality, and interactional processes. Child. Dev., 66: 139 –52.

Duke B, Groos A (1994). America's Longest War: Rethinking Our Tragic Crusade Against Drugs. New York: Putnam and Sons,

Ellickson PL, Hays RD (1992). On becoming involved with drugs: Modeling adolescent drug use over time. Health. Psychol., 11: 377–85.

Elliott DS, Huizinga D, Ageton SS (1985). Explaining Delinquency and Drug Use. Beverly Hills, CA: Sage,.

Formica S (1998). Description of the socio-emotional life space: Life qualities and activities related to emotional intelligence. Unpublished Senior Honors Thesis, University of New Hampshire, Durham NH

Goleman D (2001). Emotional intelligence: Issues in paradigm building. In Cherniss C, Goleman D (Ed's.), The Emotionally Intelligence Workplace. San Francisco: Jossey-Bass.

Guo J, Hawkins JD, Hill KG, Abbott RD (2001).Childhood and adolescent predictors of alcohol abuse and dependence in young adulthood., J. Stud. Alcohol., 62: 754–62.

Harrier LK, Lambert PL, Ramos V (2001). Indicators of adolescent drug users in a clinical population. J. Child. Adolescent. Substance. Abuse., 10: 71-87.

Han C, McGue MK, Iacono WG (1999). Lifetime tobacco, alcohol and other substance use in adolescent Minnesota twins: univariate and multivariate behavioral genetic analyses. Addiction., 94(7): 981-93.

Hawkins JD, Weis JG (1985). The social development model: an integrated approach to delinquency prevention. J. Primary. Prevention., 6: 73-97.

Hawkins JD, Catalano RF, Miller JY (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention, Psychol. Bull., 112: 64–105.

Hawkins JD, Graham JW, Maguin E, Abbott R, Hill KG (1997). Catalano Rf Exploring the effects of age of alcohol use initiation and psychosocial risk factors on subsequent alcohol misuse. J. Stud. Alcohol., 58: 280–90.

Henry KL, Swaim RC, Slater MD (2005). Intraindividual variability of school bonding and adolescents' beliefs about the effect of substance use on future aspirations. Prevention Science., 6(2):101-112.

Hopfer CJ, Crowley TJ, Hewitt JK (2003). Review of twin and adoption studies of adolescent substance use. J. Ame. Acade. Child. Adolescence. Psychiatry., 42(6): 710-9.

Hurdle DE, Okamoto SK, Miles B (2003). Family influences on alcohol and drug use by American Indian youth: Implications for prevention. J. Family. Soc. Work.,*7*(1): 53-68.

Kokkevi A, Richardson C, Florescu S, Kuzman M, Stergar E (2007). Psychosocial correlates of substance use in adolescence: a cross-national study in six European countries. Drug and alcohol dependence, 86(1): 67-74.

Krauss M, Lazear E (1991). Searching for Alternatives: Drug-Control Policy in the United States. Stanford, CA: Hoover Institution Press.

Khushabi, Frouzan, Assari, Moghani Lankarani (2010). Predictors of illicit drug use in adolescents. Dev. World. Epidemiol., 1 (1): 32-36.

Lloyd C (1998). Risk factors for problem drug use: Identifying vulnerable groups, Drugs: Education, Prevention and Policy, 5: 217–232.

Liu Z, Zhou W, Lian Z, Mu Y, Cai Z, Cao J (2001). The use of psychoactive substances among adolescent students in an area in the south-west of China. Addiction., 96(2): 247-50.

Maddox SJ, Prinz RJ (2003). School bonding in children and adolescents: conceptualization, assessment, and associated variables. Clinical. Child. Family. Psychol. Rev., 6: 31-46.

Mason WA, Windle M (2001). Family, religious, school and peer influences on adolescent alcohol use: A longitudinal study. J. Stud. Alcohol., 62: 44–53.
McBride CM, Curry SJ, Cheadle A (1995). School-level application of a social bonding model to adolescent risk-taking behavior. J. School. Health 65:63-68.
Paulson MJ (1990). School Performance, Academic Aspirations, and Drug Use among Children and Adolescents. J. Drug. Educ. 20: 289-303.
Peterson PL, Hawkins JD, Abbott RD, catalano R (1994). Disentangling the effects of parental drinking, family management, and parental alcohol norms on current drinking by Black and White adolescents. J. Res. Adolesc. 4:203–227.
Oetting ER, Donnermeyer JF (1998). Primary socialization theory: The etiology of drug use and deviance. I. Subst Use Misuse 33:995–1026.
Resnick MD, Bearman PS, Udry JR (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. JAMA 278:823-832.
Rice CL (1999). A quantitative study of emotional intelligence and its impact on team performance. Unpublished Master's thesis, Pepperdine University.
Rubin MM (1999). Emotional intelligence and its role in mitigating aggression: A correlational study of the relationship between emotional intelligence and aggression in urban adolescents. Unpublished Dissertation, Immaculata College, Immaculata, Pennsylvania.
Riley H, Schutte NS (2003). Low emotional intelligence as a predictor of substance-use problems. J. Drug Educ. 33(4):8-391.
Salovey P (2001). Emotional intelligence: Health and wealth. In Ciarrochi J, Forgas JP, Mayer JD (Eds.), Emotional intelligence in everyday life: A scientific inquiry, philadelphia: Psychol. Press. pp. 133-184.
Salovey P, Mayer JD, Caruso D, Lopes PN (2001). Measuring emotional intelligence as a set of mental abilities with the MSCEIT In Lopez SJ, Snyder CR (Eds.), Handbook of positive psychology assessment. Washington DC: American Psychological Association.
Scheier LM, Miller NL, Ifill- Williams M, Botvin GJ (2001). Perceived neighborhood risk as a predictor of drug use among urban ethnic minority adolescents: Moderating influences of psychosocial functioning. J. Child. Adolesc. Substance Abuse. 2:67-106.
Sherman SG, Fuller CM, Shah N, Ompad DV, Vlahov D, Strathdee SA (2005). Correlates of initiation of injection drug use among young drug users in Baltimore, Maryland: The need for early intervention. J. Psychoactive Drugs 37(4):437-443.
Simons-Morton B (2007). Social influences on adolescent substance use. Am. J. Health Behav. 31(6):672-84.
Sung J (2002). The effects of family, school, peers, and attitudes on adolescents' drug use: Do they vary with age? Justice Quart. 19:97-126.
Yu M, Stiffman AR, Freedenthal S (2005). Factors affecting American Indian adolescent tobacco use. Addict. Behav. 30(5):889-904.
Vega WA, Gil AG (1998). Ethnicity and Drug Use in Early Adolescence. New York, N.Y.: Plenum., United Nations Economic and Social Council, (1999). Youth and drugs: A global overview—report of the secretariat. Available online at http://www. unodc.org/pdf/document 2008-01-11 2.pdf (accessed on January 18, 2006).
USDHHS (2001).Risk and protective factors for adolescent drug use: Findings from national household survey and drug abuse. (No. Analytic series: A12. DHHS Pub. No. (SMA) 013499). Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
Toumbourou JW, Stockwell T, Neighbors C, Marlatt G A, Sturge J, Rehm J (2007). Interventions to reduce harm associated with adolescent substance use. www.thelancet.com,p. 369.
Toumbourou JW, Catalano RF (2005). Predicting developmentally harmful substance use. In: Stockwell T, Gruenewald P, Toumbourou, JW, Loxley W, eds. Preventing harmful substance use: the evidence base for policy and practice. London: Wiley, pp. 53–66.
Trinidad DR, Johnson CA (2001). The association between emotional intelligence and early adolescent tobacco and alcohol use. Pers. Individ. Differences 32:95–105.
Wheaton B, Clarke P (2003). “Space Meets Time: Integrating Temporal and Contextual Influences on Mental Health in Early Adulthood.” Am. Sociol. Rev. 68(5):680-706.
Wright DR, Fitzpatrick KM (2004). Psychosocial correlates of substance use behaviors among African American youth. Adolescence 39:653–667.
Winstanley EL, Steinwachs DM, Ensminger ME, Latkin CA, Stitzer ML, Olsen Y (2008). The association of self-reported neighborhood disorganization and social capital with adolescent alcohol and drug use, dependence, and access to treatment. Drug Alcohol Dependance 92(1-3):173-182.