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A Study of Motives for Tobacco and Alcohol Use Among High School Students in Hungary

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Abstract

Motives may be an important influence for substance use among youth. The goal of this research was to study the relation of social, self-enhancement, boredom relief and affect regulation motives to smoking and drinking in a sample of Eastern European high school students and to examine variation in the effects of these motives by gender. Our sample involved 500 students (ages 14–20 years) from three high schools in a large city in Hungary. Multiple logistic regression analyses examined the relation between motives and substance user status. Social motives were significantly related to both smoking and drinking (except for boys' smoking). Affect regulation motives were a significant predictor of smoking; in addition, boredom relief was a significant motive for smoking among boys. Mother's educational level was inversely related to youth substance use, whereas father's education was positively related to alcohol use among girls. School-based prevention programs should include cognitive education and social skills training to counter perceived benefits of substance use. Further research is needed to clarify the relation of alcohol use to parental education.

Keywords

Youth; Smoking; Drinking; Substance use motives

Introduction

Substance use usually begins during adolescence and has a great impact on adult morbidity and mortality [1]. Alcohol use and smoking are the most frequent types of youth substance

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use. They tend to co-occur [2] and their prevalence rates are growing among girls in urban areas [3]. Motivations for use have been identified previously as significant predictors of smoking and drinking among adolescents [4], which is relevant for prevention research because cognitive beliefs about substances can be modified [5]. Though there are some common influences on smoking and drinking for boys and girls, there may be gender differences in their motives for use [4, 6], so it is important to test for differential effects.

Previous assessment research has identified multiple measures of motives for substance use; these include social motives, boredom relief motives, affect regulation (coping) motives and self-enhancement motives [7]. For many youth from western societies, social motives play a dominant role in substance use. Drinking and smoking are social activities that youth often engage in together [8]. These shared behaviors may serve as a form of social adaptation [9]. Casual alcohol use is often viewed as a social norm for many social groups; self-enhancement and affect regulation are believed to play lesser roles [10–13]. However, previous research on alcohol has suggested that affect regulation and self-enhancement are endorsed as motives by some gender groups [4, 7]. In addition, social motives seem to play a decisive role for casual alcohol users but coping motives (for girls) and self-enhancement (for boys) may be particularly important for daily users and binge drinkers [12, 14, 15].

With regard to smoking, social norms are also believed to be a key motive, and non-daily smokers tend to smoke almost exclusively with friends [16]. Self-enhancement motives may also play a role, because those with lower self-esteem are more likely to smoke [17]. Nicotine, as a source of chemical stress relief, may serve a coping function [18], and some evidence suggests that youth may use cigarettes as a source of arousal to counter boredom or negative mood [19]. This motive dimension seems to be more important for boys [4], although evidence on gender differences is limited.

Evidence on the relation of parental socioeconomic status (SES) to adolescent substance use shows a quite mixed picture. For example, some studies report a higher rate of smoking uptake among lower-SES adolescents [20]. However, the relationship between low family affluence and smoking seems to be stronger in the US and Northern and Western Europe than in Eastern European countries [21]. Other studies have found a consistent inverse relation of SES to youth tobacco smoking whereas alcohol use was more common in young people from higher-income households [22]. Some studies have reported that not only higher parental income but also higher parental education was associated with higher rates of binge drinking, marijuana and cocaine use in youth [23]. Higher income and the liberal parenting attitudes of the upper classes may increase the availability of these substances [24]. The exception to this pattern is that one study found youth alcohol use inversely associated with maternal education [22], suggesting that mothers with higher educational attainment might encourage health consciousness and healthy behaviors in the family [22, 25]. All in all, research findings suggest more consistent relations for smoking than for drinking [26], and more research is needed on possible moderation of the SES–substance use relationship by demographics and social role covariates in the family [27].

The goal of the present study was to extend research on motives from North American and Western European samples by conducting a new study with youth in Hungary. Hungarian

youth face particular challenges due to changing the attitudes in a former East Bloc country that is trying to integrate with the European Union and adjust to a competitive global economy [28]. In a rapidly changing country like Hungary, all these changes may have an effect on coping resources and health decisions [29]. Few data are available for an understanding of these processes [30], although adolescent smoking and drinking are still higher in prevalence in Hungary and other Eastern European countries as compared with Western states [31]. For the present research we used a previously validated multidimensional motive measure to examine relations of four motive dimensions to smoking and drinking behavior. We hypothesized that drinking (not binge drinking and drunkenness) among youth would primarily be associated with social motives, whereas cigarette smoking would be related to other motive dimensions; namely, coping, boredom relief and elevating self-esteem. In addition, we also examined for any variation in the effects of these motives by gender.

Method

Sample and Procedure

Our initial sample was made up of 503 students recruited from 22 randomly selected classes in high schools in Debrecen, the second largest city in Hungary. With three of their self-completed questionnaires excluded due to missing data, the analyses reported below were based on data obtained from 500 students (age range = 14–20 years; $M = 16.4$, $SD = 1.31$; 34 % males; 99.4 % response rate). Data were collected in December 2012 and January 2013. The Institutional Review Board of Semmelweis University (Budapest) and the principals of the participating schools approved the questionnaire and methods of the study. After parental permission was obtained, graduated teachers previously trained in health education distributed the questionnaires to students in classrooms after a brief explanation. Students completed the anonymous questionnaires during the 45-min class period.

Measures

Smoking and drinking were indexed by the current status of substance use (“Do you currently smoke cigarettes/drink alcohol?”). Response options were yes or no. Father’s and mother’s level of schooling (2 = university/college degree and 1 = below) and SES self-assessment (2 = upper/ upper-middle and 1 = below) were also obtained [24].

Motives for substance use were assessed by the Hungarian version of a previously validated four-dimensional inventory [4, 7]. The measure consisted of 15 items, with parallel reports obtained for cigarettes and for alcohol (i.e., 30 items total). Items followed the lead-in statement: “Here are some things that people have said about smoking cigarettes/drinking beer or wine. Read each one and circle a number (from 1 to 5) to show what you think.” Responses were on five-point Likert scales with anchor points ‘Not at all true for me’ and ‘Very true for me.’ The inventory contained questions about social motives (four items, e.g., “Smoking/drinking helps you fit in with other people”), self-enhancement motives (four items, e.g., “Smoking/drinking makes you feel more self-confident”), boredom relief motives (two items, e.g., “Smoking/ drinking is something to do when you’re bored”), and affect regulation motives (five items, e.g., “Smoking/ drinking helps you calm down when

you're feeling tense or nervous"). Internal consistency reliabilities (Cronbach alphas) for social motives were .87 and .83 for smoking and alcohol, respectively; for self-enhancement were .88 and .78; for boredom relief were .67 and .57; and for affect regulation were .83 and .82.

Results

Data on substance use indicated no gender differences in the prevalence of smoking (34 % of both girls and boys were smokers), whereas boys more often reported current drinking (78 % among boys vs. 64 % among girls, $p = .002$ by Chi square test). Descriptive statistics for the whole sample (Table 1) indicated that for smoking, boredom relief motives received the most endorsement (on a 1–5 scale, M rating = 2.05) followed by affect regulation (M = 1.82), social motives (M = 1.75), and self-enhancement motives (M = 1.60). In absolute terms, however, these all received only a relatively low level of endorsement. For drinking, the most endorsement was given for social motives (on a 1–5 scale, M = 2.73) followed by self-enhancement (M = 2.49), affect regulation (M = 1.82), and boredom relief (M = 1.63). Ratings for drinking motives indicated a moderate level of endorsement in absolute terms.

Intercorrelations among the motive dimensions were moderate to high; for smoking they ranged from .43 to .76, and for alcohol they ranged from .36 to .70. The indices of current smoking and drinking status were moderately related (r = .28). With regard to SES variables, mother's education was inversely related to both smoking and drinking whereas father's education was not related to either. SES self-assessment did not show any significant correlations with the study variables. With regard to the motive dimensions, affect regulation for smoking was inversely related to both father's and mother's schooling, whereas self-enhancement for smoking only to mother's schooling. Finally, being male was associated with higher levels of reported motives, particularly in the case of drinking.

Univariate tests (Table 2) indicated that those who identified as current smokers or drinkers had higher scores on all motive dimensions (by *t* test) compared with non-smokers or nondrinkers. In addition, gender tests indicated that boys reported more endorsement of boredom relief motives in the case of smoking ($p = .008$), and more endorsement of social ($p = .000$), self-enhancement ($p = .001$), and boredom relief ($p = .001$) motives in the case of drinking.

Multiple logistic regression analyses with smoking status or drinking status as criterion variables tested a model in which all four motive dimensions were entered simultaneously together with father's and mother's schooling. Table 3 presents the results of analyses conducted for boys and girls separately. An odds ratio >1.0 indicates a positive association between the factor of interest to the baseline odds while a value <1.0 indicates an inverse association. Confidence intervals (95 %) were also calculated for statistical significance. Results from the multivariate analyses indicated a significant unique effect of social motives for predicting girls' smoking and drinking and boys' drinking. Affect regulation motives showed a significant unique effect for boys' and girls' smoking and boredom relief had a significant unique effect for boys' smoking. Whereas a significant inverse effect was

detected for mothers' schooling in relation to boys' smoking and girls' drinking, an opposite effect was noted for fathers' schooling, which was positively related to drinking among girls.

Discussion

The primary goal of this study was to obtain data on the motivational basis of youth smoking and drinking. This is particularly important in a rapidly changing postsocialist country like Hungary where societal processes may have an impact on the individual's coping resources and behavioral decisions [30]. Despite that fact that frequencies of substance use in Hungary are still relatively greater than those from Western European countries [31], we know less about their background variables, e.g., motivations.

Our first hypothesis about the primary role of social motives in the case of drinking was confirmed, namely, social motives predicted both girls' and boys' drinking. This finding is consistent with previous studies on US and European samples indicating that the social norm is a dominant motive for youth and mostly they drink in social situations, among friends [4, 10, 12]. This was found for both males and females. Since we did not measure the different types of drinking, we could not analyze the role of these motives by drinking types (e.g., regular, occasional or heavy drinkers), these findings suggest that social motives are the dominant ones for high school students' drinking in general. Moreover, in the case of alcohol motives our data are now comparable with other European data. As it seems not only the order of motives are similar (social >self-enhancement > affect regulation) throughout Europe but also these values are closer to results of the Southern European adolescents (e.g., from Italy) and Switzerland than Northern European ones (e.g., Finland, Denmark) where youth have higher values for the social and self-enhancement motives [11].

Our prediction that other motive dimensions would be important for youth smoking was also confirmed. While social motives were significant for girls, consistent with some previous studies [16], affect regulation was a significant predictor for both genders. Boredom regulation was a significant predictor only for boys similar to a previous finding [4].

This may be due to their higher need for arousal and thrill-seeking [32]. Using nicotine as a chemical stress relief and coping is well-known [18, 19]. Thus, it is not surprising that affect regulation was a predictor of smoking for both males and females. Aside from the role of boredom relief for boys, the motivational structures of girls and boys were more similar than different.

Our findings indicate that social motives are an almost universal influence of youth smoking and drinking except for the lack of its role in boy's smoking; for them, boredom relief occupies a special place in the motivational structure. Affect regulation is also an important contributor to youth smoking. Besides motives, among socioeconomic variables, higher level of mother's schooling seemed to provide some protection against youth substance use. Although this is not consistently found in studies, the role of mother seems to be important in teens' substance use [22, 25]. This is because the mother usually takes care of health related issues in the family and the more she is educated the more likely that she becomes

health conscious since getting relevant health information is associated with level of education [33].

On the other hand, for girls higher father's schooling may serve as a risk factor. This is in line with previous studies [22–24] and may be explained by a more permissive attitudes of the fathers with higher educational level. It is not surprising that for girls the fathers may have more impact on adolescent behaviors than for boys due to the importance of the opposite-sex parent in the gender role socialization and personality development [34]. We must also note that affect regulation motive for smoking was negatively correlated with father's and mother's schooling and self-enhancement for smoking with mother's schooling. Perhaps better educated parents may serve as a role model for coping resources as well. All these findings suggest that parents' educational achievement may have a decisive role in adolescents' substance use (either as a protection or risk). Further research is needed to get a deeper insight into these associations and establish the linkage between adolescents' coping processes and their motives for substance use.

Although the present study has some limitations, e.g., the cross-sectional study design and self-reported/dichotomized data on substance use, we believe that these findings provide further support for the role of these motivational factors in youth smoking and drinking. The specific cultural context may limit generalizability but it expands our understanding the role of motives worldwide. Further research is needed to explore these relationships for different stages of involvement in substance use (e.g., initiation, experimentation, transition to regular use). Overall, the present results suggest that school-based prevention programs should include education on motivations to counter common myths about effects of tobacco and alcohol, and social skills training to deal with shared influences on smoking and drinking as a means of social adaptation for youth.

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Table 1

Descriptive statistics for motive dimensions and correlations among the variables (n = 500)

Variables	Mean (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13
SMOKING														
1. Social	1.75 (1.0)	–	–	–	–	–	–	–	–	–	–	–	–	–
2. Self-enhancement	1.60 (.94)	.76***	–	–	–	–	–	–	–	–	–	–	–	–
3. Boredom relief	2.05 (1.16)	.46***	.43***	–	–	–	–	–	–	–	–	–	–	–
4. Affect regulation	1.82 (1.01)	.56***	.61***	.50***	–	–	–	–	–	–	–	–	–	–
ALCOHOL														
5. Social	2.73 (1.12)	.45***	.38***	.37***	.41***	–	–	–	–	–	–	–	–	–
6. Self-enhancement	2.49 (1.08)	.38***	.35***	.35***	.36***	.70***	–	–	–	–	–	–	–	–
7. Boredom relief	1.63 (.91)	.33***	.32***	.30***	.28***	.36***	.49***	–	–	–	–	–	–	–
8. Affect regulation	1.91 (1.00)	.38***	.39***	.32***	.49***	.61***	.64***	.50***	–	–	–	–	–	–
9. Smoking	–	.42***	.37***	.35***	.48***	.24***	.17***	.12*	.18***	–	–	–	–	–
10. Drinking	–	.18***	.12**	.19***	.18***	.52***	39***	.13**	.30***	.28***	–	–	–	–
11. Father's schooling	–	−.06	−.09	.02	−.15**	.08	.09	.02	.02	.08	.03	–	–	–
12. Mother's schooling	–	−.09	−.12**	.00	−.21***	.01	.02	.03	−.02	−.12*	−.11*	.53***	–	–
13. SES	–	−.02	−.07	.03	−.08	.01	.04	.04	−.01	−.05	.06	.24***	.13**	–
14. Gender (female = 2)	–	−.06	−.04	−.12**	−.01	−.19***	−.16***	−.15***	−.07	.01	−.14**	−.15**	−.07	−.07

*$p < .05$;

**$p < .01$;

***$p < .001$

Table 2

Descriptive statistics for motive dimensions by gender and substance user status (n = 500)

Motive dimension	BOYS (mean, SD)	GIRLS (mean, SD)	Significance	SUBSTANCE USER (mean, SD)	NON-USER (mean, SD)	Significance
SMOKING						
Social	1.84 (1.04)	1.71 (.97)	$p = .178$	2.33 (1.11)	1.45 (.78)	$p = .000$
Self-enhancement	1.66 (.94)	1.58 (.94)	$p = .357$	2.08 (1.13)	1.35 (.70)	$p = .000$
Boredom relief	2.26 (1.26)	1.96 (1.10)	$p = .008$	2.62 (1.26)	1.75 (.98)	$p = .000$
Affect regulation	1.83 (.99)	1.82 (1.02)	$p = .892$	2.48 (.93)	1.47 (.86)	$p = .000$
DRINKING						
Social	3.02 (1.14)	2.57 (1.07)	$p = .000$	3.11 (.97)	1.83 (.89)	$p = .000$
Self-enhancement	2.73 (1.11)	2.36 (1.04)	$p = .001$	2.76 (1.01)	1.83 (.94)	$p = .000$
Boredom relief	1.81 (.99)	1.52 (.82)	$p = .001$	1.70 (.94)	1.44 (.77)	$p = .004$
Affect regulation	2.01 (1.01)	1.85 (.99)	$p = .111$	2.10 (1.01)	1.44 (.83)	$p = .000$

Student's *t* tests

Table 3

The role of motive dimensions in youth's smoking and drinking (multiple logistic regression analyses) (n = 500)

Motive dimension	BOYS (n = 170)		GIRLS (n = 330)	
	SMOKING OR (95 % CI)	DRINKING OR (95 % CI)	SMOKING OR (95 % CI)	DRINKING OR (95 % CI)
Social	1.21 (.98–1.50)	1.20 (1.03–1.50) *	1.12 (1.04–1.27) **	1.49 (1.31–1.70) ***
Self-enhancement	.92 (.72–1.17)	1.12 (1.00–1.52)	1.01 (.87–1.16)	1.04 (.93–1.16)
Boredom relief	1.31 (1.09–1.65) **	.90 (.60–1.34)	1.05 (.88–1.26)	.91 (.89–1.08)
Affect regulation	1.11 (1.05–1.27) **	.98 (.83–1.69)	1.19 (1.08–1.31) ***	1.01 (.90–1.14)
Socioeconomic variables				
Father's schooling (2 = college/university, 1 = less)	1.33 (.40–4.44)	.80 (.26–2.44)	2.24 (.83–6.11)	2.45 (1.11–5.38) *
Mother's schooling (2 = college/university, 1 = less)	.22 (.06–.77) *	.50 (.44–1.34)	.55 (.20–1.50)	.18 (.07–.42) ***
χ^2	41.30 ***	32.82 ***	43.20 ***	115.66 ***
df	6	6	6	6
Nagelkerke R^2	.45	.34	.29	.46

OR odds ratio

95 % CI 95 % confidence intervals

* $p < .05$;

** $p < .01$;

*** $p < .001$