Psychological Factors Related with Substance Use Among Regularly Drinking University Students with Low Income

Hatice Demirbaş [1], İnci Özgür İlhan [2], Fatma Yıldırım [3], Yıldırım Beyatlı Doğan [4]

Abstract

In this study it was aimed to investigate the psychological factors related with regularly drinking university students' substance use in a social perspective. Among 1720 students selected with convenience sampling who consumed alcohol with a frequency of at least once a month during the past year were selected as "regular drinkers" (n=586). The Sociotropy and Autonomy Scale, the Beck Hopelessness Scale, the Stress Audit Scale, and the Locus of Control Scale were administrated for data collection. Then, the relationship between ever use of an illicit substance and the aforementioned psychological factors was investigated in high- and low-income groups separately. A low level of Vulnerability to Stress and scoring lower in the Sociotropy Scale were found to be significantly related with a higher risk of substance use among low-income regularly drinking students. In the context of disadvantegous socioeconomic conditions, a low level of sociotropy and a low level of motivation indicate lack of attachment to the society, thus leading to a higher risk for substance use.

Introduction

University students constitute one of the risk groups in terms of illicit substance use. University campus is a new sociocultural environment which has significance for psychosocial development of the youth. University students are in adolescent age group where the youth is open to peer influence, concerning particularly alcohol and substance use (İlhan, Yıldırım, Demirbaş, & Doğan, 2008a). An aspect of substance use is its association with socioeconomic disadvantages. It has been shown that low social class and the relevant environmental disadvantages were associated with substance use problems (Bernstein, Galea, Ahern, Tracy, & Vlahov, 2007; Bogenschneider, 1994; Friedman & Glassman, 2000; Galea, Ahern, Tracy, & Vlahov 2007; İlhan et al., 2008a; Nandi et al., 2006). In the previous study where regularly drinking students were taken, risk of substance use was found to be four times higher in the low family income group compared with students with higher family income (İlhan, Yıldırım, Demirbaş, & Doğan, 2008b). Social class, either directly or through the mediating effect of various individual psychological factors, determines the conditions of beginning

[1] Gazi University, Faculty of Arts, Department of Psychology, Turkey, hdemirbas@gazi.edu.tr

[2] Ankara University, School of Medicine, Department of Psychiatry, Turkey, iilhan@medicine.ankara.edu.tr

[3] Ankara University, Faculty of Political Science, Department of Labor Economics and Industrial Relations, Turkey, yildirimfatma@yahoo.com

[4] Ankara University, School of Medicine, Department of Psychiatry, Turkey, ybdogan@yahoo.com

and progression of substance use (Guthrie & Low, 2000). Psychological factors are mediators in the relationship of environmental factors and self-determined motivation which in turn results with behavioural consequences (Grouzet, Vallerand, Thill, & Provencher, 2004). The emotional environment under poor living conditions may be related with substance abuse, as substances have mood-altering effects (Boys & Marsden, 2003).

On the other hand, while considering the developmental characteristics of adolescence, various studies suggested that alcohol and/or substance use in adolescence was related with a low level of autonomy (Chassin, Pitts, & DeLucia, 1999), an exaggerated need for social approval (Neighbors, Larimer, Geisner, & Knee, 2004), coping with stress, and affect regulation (Adewuya, Ola, & Aloba, 2006; Boys & Marsden, 2003; Park & Levenson, 2002; Tarter et al., 1999). Future orientation and goals were reported to be protective factors in alcohol (Lecci, MacLean, & Croteau, 2002) and substance (Peters et al., 2005) use problems especially in college samples, and hopelessness was found to be related to alcohol use problems in working adolescents (İlhan, Demirbaş, & Doğan, 2007).

In addition to various psychological and social risk factors related to substance use of the youth, alcohol use, particularly early regular drinking and heavy drinking, in adolescence is considered to be a major risk factor presumably for consecutive development of substance use problems (Barrett, Darredeau, & Pihl, 2006; Case, 2007; Grant et al., 2005; Pedersen & Skrondal, 1999; Swadi, 1999; Zapert, Snow, & Tebes, 2002). However, not every drinker in such a population necessarily becomes a substance user, besides there should be some additional psychosocial risk factors that determine use of substances accompanying drinking.

In this study, it was aimed to investigate the psychological factors related with regularly drinking university students' substance use including stress, autonomy-sociotropy, hopelessness, and locus of control in a social context.

Method

Participants

A survey was carried out among 1720 political sciences students from five different universities. The reason for preferring these schools was first the ease to reach the sample by the authors. Secondly, a homogeneous sample with regard to the faculty would allow comparability and interpretation of the findings in itself. The study protocol was approved by Ankara University.

Data gathered on lifetime substance experimentation and repeated-use were collected using self-report questionnaire (İlhan et al., 2008a; İlhan et al., 2008b; İlhan, Yıldırım, Demirbaş, & Doğan, 2009). Self-rating questionnaire forms were distributed to the participants by lecturers while they were in attendance of a required class. Students were assured that the forms would remain anonymous. The questionnaire consisted of questions including sociodemographic status and frequency of alcohol use. Students who consumed alcohol with a frequency of at least once a month during the past year were selected as "regular drinkers".

Regular drinkers constituted 34.1% (n=586) of the total sample. The regular drinkers were further divided into two groups according to their statement on family income: the low income group (n=280) and the high income group (n=304). Two subjects did not answer the question about level of income. Then, ever use of an illicit substance (cannabis, ecstasy, solvents, cocaine or heroin) was investigated in each income group separately for its association with various psychological factors. After excluding the missing cases, a total of 512 students were taken in the statistical analysis.

The mean age(±sd) of the sample was 21.5±1.8. Males constituted 58.9% (n=345) and females constituted 41.1% (n=241) of the sample. In the high-income group 7.9% (n=24), and in the low-income group 18.9% (n=53) reported that they had ever tried using a substance.

Psychological assessment instruments were administered in random order besides the sociodemographic questionnaire forms.

Instruments

The Sociotropy-Autonomy Scale (SAS), originally developed by Beck, Epstein, Harrison, and Emery (1983), and adapted to Turk culture by Şahin, Ulusoy, and Şahin (1993), is a five-point Likert-type self-report questionnaire composed of 30 sociotropy and 30 autonomy items. Autonomy is described as the person's investment in preserving and increasing his independence, mobility, and personal rights. Sociotropy can be characterized by an individual's emphasis on interpersonal interactions involving intimacy, sharing, empathy, understanding, approval, affection, protection, guidance and help (Sato, 2003). The scale was designed to measure the two relatively stable personality dimensions that can dominate an individual's psychological functioning. The SAS is reported to have high levels of internal consistency (Cronbach alpha is 0.83 for Sociotropy, and 0.81 for Autonomy) in university students. The subscales Concern about Disapproval, Concern over Separation, and Pleasing Others constitute the Sociotropy Scale. The subscales Individual Achievement, Freedom from Control, and Preference for Solitude constitute the Autonomy Scale. Scores are calculated separately for each of the six dimensions.

The Beck Hopelessness Scale (BHS) This self-rating scale consists of 20 true-false statements that assess the extent of pessimism and negative beliefs about the future. The total is the sum of the individual item scores which range from 0 to 20. The psychometric properties of the BHS were originally studied on by Beck, Weissman, Lesker, and Trexler (1974) and its adaptation to Turkish language was done by Durak (1994). The three subscales of the BHS are Feelings about the Future, Loss of Motivation, and Expectations. The higher score in the BHS reflects a higher level of hopelessness.

The Stress Audit (Vulnerability) Scale This scale was firstly studied on by Miller, Smith and Mahler (1988) and adapted to Turkish language by Batıgun and Şahin (2006). It is a five-point Likert-type self-report questionnaire where the total score may range from 20 to 100. Vulnerability to stress increases as the test score increases. The scale was a reliable (Cronbach alpha coefficient =0.74), and a valid scale with a three-factor structure. In the present study only the total score was taken in the analysis.

The Locus of Control Scale (LOCS) was developed by Dağ (2002) benefitting from major locus of control (LOC) scales including the Rotter's Internal-External Locus of Control Schedule (Rotter, 1966). Locus of control is defined as a personality variable reflecting the tendency to perceive events as being either a consequence of once own actions (internal LOC), or a function of outside factors such as luck, fate, or powers beyond one's personal control (external control). The scale was studied originally on the Turkish university students, and the internal consistency of the scale was found high (Chronbach alpha=0.92), as well as its test-retest reliability (Dağ, 2002). It is a five-point 47-item Likert scale. The factor analysis of the scale yielded 5 factors, which were entitled as Personal Control, Belief in Chance, Meaninglessness of Effort, Belief in Fate, and Belief of the World being Unjust. The last four subscales were taken as measures of external locus of control, whereas the first subscale was regarded as the measure of internal locus of control.

Data Analysis

Statistical analyses were conducted on never use of a substance versus life-time use, including both experimenting with and continued use, of any substance separately in low- and high-income groups, since it was previously found on the study sample that low family income increased the risk of substance use almost 4 times compared with higher income group among regular drinkers (İlhan, Yıldırım, Demirbaş, & Doğan, 2008b). In the first step univariate analyses were carried out on the relationships between psychological test scores and substance use among regular drinkers using t-test. Next, the relationships which were found to be at p=0.15 significance level or below in the univariate analyses were reassessed using logistic regression models using backward stepwise method. The presence of substance use was taken as the dependent variable, and gender and psychological test scores were taken as the independent variables in the logistic regression analysis.

The level of significance was set at p<0.05. All statistical analyses were executed by using SPSS 16.0.

Results

Among the regularly drinking students 8.7% (n=51) told that they experimented with using a substance only once, and 4.7% (n=27) continued substance. In the high income group t-test did not reveal any difference between substance users and non-users in vulnerability to stress (t=1.911, p=0.055), Concern about Disapproval (t=0.873, p=0.384), Pleasing Others (t=0.644 p=0.520), Individual Achievement (t=0.106, p=0.916), Freedom from Control (t=0.518, p=0.605), Preference for Solitude (t=-0.547, p=0.585), Personal Control (t=1.128, p=0.260), Belief in Chance (t=0.555, p=0.579), Meaninglessness of Effort (t=1.323, p=0.187), Belief in Fate (t=1.588, p=0.113), Belief of the World being Unjust (t=0.856, p=0.393), Feelings about the Future (t=1.043, p=0.298), Loss of Motivation (t=0.736, p=0.462), and Expectations (t=1.433, p=0.161), except Concern over Separation (t=2.174, p=0.031). Next, in the logistic regression analysis where gender, Vulnerability to Stress, Sociotropy, and Belief in Fate scores were taken as the independent variables, and only gender (OR=4.491, CI=1.475-13.679, p=0.008) and Belief in Fate (OR=0.862, CI=0.743-1.001, p=0.051) remained in the model. Male gender increased the risk of substance use in this group.

According to the t-test analysis in the low income group, regularly drinking and substance using students were found to have a lower level of Vulnerability to Stress, a lower level of Concern about Disapproval, a lower level of Concern over Separation and Pleasing Others, and a higher level of Freedom from Control, Personal Control and Loss of Motivation compared with the non-users (Table 1).

Table 1. The Relationship Between Psychological Factors and Substance Use Among Regularly Drinking University Students with Low Family Income-Univariate Analysis

Psychological Tests	Test Scores Mean ± SD		t	p
	Substance Nonusers	**Substance Users**	*t*	*p*
Stress Vulnerability	53.7 ± 9.4	47.7 ± 10.2	4.149	0.000***
Sociotropy	71.9 ± 14.5	64.9 ± 18.1	3.036	0.003**
Autonomy	82.6 ± 11.7	80.2 ± 12.9	1.299	0.195
External LOC	72.1 ± 16.4	71.6 ± 18.7	0.180	0.857
Personal Control -Internal LOC	40.8 ± 8.2	43.6 ± 10.0	-2.180	0.030*
Hopelessness	4.8 ± 4.0	5.8 ± 4.6	-1.590	0.113

*p < 0.05; **p < 0.01; ***p < 0.001

Gender, Vulnerability to Stress, Sociotropy (total), Personal Control and Hopelessness-Loss of Motivation scores were taken as independent variables in the logistic regression analysis in the low-income group. A smaller level of Vulnerability to Stress and scoring lower in the Sociotropy Scale were found to be significantly related with a higher risk of substance use among low-income regularly drinking students (Table 2). Interestingly, gender did not appear to be a significant predictor of substance use in regularly drinking students in the low-income group in contrast to the high income group.

Table 2. Psychological Factors Related to Substance Use Among Regularly Drinking University Studentsw with Low Family Income-Multivariate Analysis

	Odds Ratio	95% CI	p
Stress vulnerability	0.955	0.924-0.992	0.022*
Sociotropy-total score	0.972	0.951-0.993	0.011*
Internal Locus of Control	1.033	0.996-1.071	0.084
Hopelessness-Motivation	1.218	0.992-1.494	0.059

*p < 0.05

Discussion and Conclusion

The aim of the the present study was to investigate psychological factors related with illicit substance use among regularly drinking university students in two different income levels. Regular drinking and substance use were taken together, as it was assumed that the two states together revealed a high risk situation for later development of alcohol and/or substance dependence problems (Barrett, Darredeau, & Pihl, 2006). The psychological factors were investigated in low and high income groups separately, since low socioeconomic status was associated with psychological factors such as external locus of control beliefs and lack of future orientation (Bosma, van de Mheen, & Mackenbach, 1999; Wardle & Steptoe, 2003) which were taken as some of the psychological variables in this study.

In the present study, the psychological states associated with substance use among university students was a lower level of vulnerability to stress in contrast to the results of many studies which claimed that substance use was related with coping with stress (Luthar & D'Avanzo, 1999; Park & Levenson, 2002), belief in internal LOC (Bearinger & Blum, 1997). In a previous study, hopelessness of working youth was found to be related with their alcohol use problems (İlhan et al., 2007). Likewise, a low level of future orientation (Peters et al., 2005) and lack of personal goals, feeling of meaninglessness were found to be predictors of alcohol or substance use in adolescents in other studies (Lecci et al., 2002; Newcomb & Harlow, 1986). Simons, Vansteenkist, Lens, and Lacante (2004) proposed that when the individual is not optimistic about the future, his/her present behaviour would lose its meaning and value in determining the future goals. In that sense, substance use behaviour is just an action in itself which is not expected to be related with a future orientation.

Studies done on the relationship between sociotropy and/or autonomy and psychopathology have demonstrated inconsistent results. In some of the studies sociotropy, but not autonomy, was related with depression (Batıgun & Şahin, 2006), while in others both sociotropy (Sato & McCann, 2007; Shih, 2006) and autonomy (Sato & McCann, 2007) were found to be related with interpersonal problems and depression (Sato, 2003). After the original SAS, Bieling, Beck, and Brown, (2000) found it necessary to reanalyse the factor structure of the scale, and suggested a different factor structure of it. Sociotropy and, particularly, autonomy concepts still remain to be defined by their functional as well as non-functional aspects by further studies (Batıgun & Şahin, 2006; Koestner & Losier, 1996; Ryan & Deci, 2006). Nonetheless, in the present study, the relationship between lack of concern over separation as one of the sociotropy dimensions according to the SAS and substance use of the low-income university students was found significant.

A lower level of motivation, less concern about separation, a lower level of vulnerability to stress and a higher belief in internal locus of control, which were found to be related with substance use of low-income students altogether constitute a consistent personality profile which define a low level of bonding to the family and society. Our findings support Bogenschneider's (1994) proposal that bonding to family, school, and community requires opportunities to involvement in positive social activities. Experiencing perceptions of competence, autonomy, and/or relatedness provides an indication that one's needs are being full-filled by taking part in a given activity, thereby increasing the person's motivation to reengage in the activity in the future. In contrast, as a negative social activity, use of illicit drugs is more prevalent under conditions of extreme social and economic deprivation, and risk factors are often correlated, so being poor increases the probability that other risks will be present.

Cosidering the results of the present study it can be suggested that in the context of disadvantageous socioeconomic conditions, alow level of internal LOC, a low level of concern about the surrounding people in the society, that is a low level of sociotropy, and a low level of motivation indicate lack of attachment to the society thus leading to a higher risk for substance use. Still, the individual exercises a choice, in terms of use of substance, within the constraints of a wider social context, and the mentioned psychological factors might be more amenable to change than other determinants in low income groups.

There may be some underestimation of the prevalence of substance use as a result of the absentees being omitted from the student population and possibly some incorrect answers about personal substance use because this is illegal in Turkey. Another limitation is that this study was cross-sectional, so causal connections cannot be drawn. On the other hand, this is the first large-scale multicentered study which investigated relationships between psychological factors and substance use specifically for two different levels of income.

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