Factorial Structure, Reliability and Validity of the Turkish Version of the Drinking Motives Questionnaire-Revised in Male Alcohol Dependent Inpatients

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ÖZET

İçme nedenleri ölçeği - gözden geçirilmiş Türkçe versiyonunun yatarak tedavi gören erkek alkol bağımlılarında faktöryal yapısı, geçerliği ve güvenirliği

Amaç: İçme Nedenleri Ölçeği (İNÖ-G) 20 maddeden oluşan ve dört kategoride içme nedenlerini (sosyal, başetme, etkiyi arttırma, çevreye uyma) değerlendiren bir ölçektir. Bu çalışmanın amacı doğrultusunda, İNÖ-G Türkçe tercümesinin yatarak tedavi gören erkek alkol bağımlılarında geçerlik, güvenirlik ve faktöryel yapısı değerlendirilmiştir.

Yöntem: Çalışma kapsamına, Bakırköy Ruh Sağlığı ve Sinir Hastalıkları Eğitim ve Araştırma Hastanesi, AMATEM (Alkol Madde Araştırma Tedavi ve Eğitim Merkezi) İstanbul'da, Ağustos 2008 ile Mart 2009 tarihleri arasında, ardışık yatarak tedavi gören 155 erkek alkol bağımlısı hasta alınmıştır. Hastalara İNÖ-G, Obsesif Kompulsif İçme Ölçeği (OKİÖ) ve Michigan Alkol Tarama Testi (MATT) uygulanmıştır. İNÖ-G'nin Türkçe versiyonunun iç güvenirliği Cronbach Alfa testi ve geçerlilik araştırması ise OKİÖ ve MAST kullanılarak yapılmıştır.

Bulgular: Ölçeğin 20 maddelik çözümlü Türkçe şekli orjinal ölçekle uyumlu bulunmuştur. Alkol bağımlılarında iç güvenirlik katsayısı (Cronbach alfa) "Çevreye uyma" için 0.794, "Sosyal" için 0.849, "Başetme" için 0.843 ve "Etkiyi arttırma" için 0.789 idi. Her madde için düzeltilmiş madde – toplam korelasyon değerleri 0.652 ile 0.848 arasındaydı (p<0.001). Test–tekrar test korelasyon değerleri "Çevreye uyma" ölçeği için 0.602, "Sosyal" ölçeği için 0.549, "Başetme" ölçeği için 0.657 ve "Etkiyi arttırma" ölçeği için 0.637 olarak bulundu. İNÖ-G dört alt ölçeğinden üçü OKİÖ ve MATT puanları ile p<0.001 düzeyinde anlamlı ilişki gösterirken, "sosyal" nedenler p<0.01 düzeyinde anlamlı ilişki gösterdi.

Sonuç: Bu çalışmada elde edilen bulgular İNÖ-G'nin Türkçe şeklinin yatarak tedavi gören erkek alkol bağımlılarında geçerli ve güvenilir olarak kullanılabileceğini göstermektedir.

Anahtar kelimeler: Alkol bağımlılığı, geçerlilik, güvenirlik, içme nedenleri

ABSTRACT

Factorial structure, reliability and validity of the Turkish version of the drinking motives questionnaire-revised in male alcohol dependent inpatients

Objective: Drinking Motives Questionnaire (DMQ-R) is a 20-item questionnaire that assesses four categories of drinking motives (social, coping, enhancement, and conformity). In the aim of this study, the reliability and validity and factorial structure of the Turkish translation of the DMQ-R in male alcohol dependent inpatients were determined.

Method: The study was conducted with hospitalized patients between August 2008 and March 2009 in Bakirkoy State Hospital for Mental Health and Neurological Disorders, AMATEM (Alcohol and Drug Research, Treatment and Education Center) in Istanbul. Participants were 155 consecutively admitted male alcohol dependents. Patients were investigated with the DMQ-R, the Obsessive–Compulsive Drinking Scale (OCDS) and the Michigan Alcohol Screening Test (MAST). The internal consistency of the Turkish version of DMQ-R was evaluated by the Cronbach's Alpha test, and for validity investigation the OCDS and the MAST was used.

Results: The Turkish version of the scale with 20 item questionnaire was found to be compatible with the original scale. In alcohol dependents, the internal consistency coefficient (Cronbach's alpha) was 0.794 for "Conformity" scale, 0.849 for "Social" scale, 0.843 for "Coping" and 0.789 for "Enhancement". For each of the items, the corrected item-total correlation values were between 0.652 and 0.848 (p<0.001). Test–retest correlations were 0.602 for "Conformity" scale, 0.549 for "Social" scale, 0.657 for "Coping" and 0.637 for "Enhancement". Four subscales of the DMQ-R, total score of the OCDS and the MAST were correlated significantly in the degree of p<0.001, other than "social" motives, which was correlated significantly in the degree of p<0.01.

Conclusions: Results which were obtained in this study suggests that the Turkish version of the DMQ-R was reliable and valid for alcohol dependent inpatients.

Key words: Alcohol dependence, validity, reliability, drinking motives

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INTRODUCTION

The motivational model of drinking proposes that an individual's reasons for drinking are most important in the initiation and maintenance of drinking behavior. "Drinking motives" refer to the basic psychological motivations or reasons for using alcohol (1). Drinking motives, one of the cognitive-motivational predictors of alcohol use, are defined as the final decision whether to drink or not to drink and therefore the most proximal factor for engaging in drinking (1-4). In other words, drinking motives are the final pathway to alcohol use, i.e. the gateway through which more distal influences, such as personality characteristics, are mediated (5-7). However, drinking motives depend on past reinforcement from drinking and might also be used as justification for a certain drinking style (2,4).

Drinking motives are considered more proximal predictors of drinking behavior than alcohol expectancies because expectancies are anticipated consequences of alcohol consumption whereas motives are reasons why an individual consumes alcohol (5). According to Cronin (6), reasons for drinking were better predictors of alcohol use and alcohol-related problems than alcohol outcome expectancies among university students. Also drinking motives have been found to mediate the relationship between alcohol expectancies and drinking in a clinical sample (8).

Early models of drinking motives consisted of two (social and coping) (9) or three (social, enhancement and coping) (10) factors. More recently, inspired by Cox and Klinger's (2) theoretical structure for classifying alcohol-use motives, Cooper (1) posited that a four-factor model might better describe alcohol-use motives, particularly among adolescents. In this four-factor model, motives are categorized according to two dimensions: type of reinforcement (positive or negative) and source of reinforcement (external or internal). The external motives include positive-reinforcement "social" (i.e., drinking to make social occasions more fun or enjoyable) and negative-reinforcement "conformity" (i.e., to fit in with admired group; avoid peer rejection; in response to social pressures) motives. The internal,

or emotional alcohol-use motives include positive-reinforcement "enhancement" (i.e., drinking to induce, increase, or maintain a positive mood) and negative-reinforcement "coping" (i.e., to cope with, or to relieve negative emotional states, including sadness or anxiety) motives. Conceptually, social and enhancement drinking motives suggest that alcohol consumption is positively reinforcing, such that individuals choose to drink in order to socialize or increase positive mood. Alternatively, it is thought that coping and conformity motives reflect negatively reinforcing motives for drinking, provoking decisions to use alcohol as a means to avoid negative emotions or social rejection.

The theoretical structure of the operational model is supported in different age groups, among boys and girls, and in English and non-English samples (1,11). Similarly, MacLean and Lecci (12), examining the DMQ-R in a sample of undergraduates, found that the four-factor model fit the data well and provided a better fit compared to alternative models, including a three-factor model that constrained the external motives onto one factor. Results of previous studies replicated the four-dimensional structure of the DMQ-R in a national representative sample from Switzerland (11) and Hungary (13).

Finally, a cross-cultural study data from Switzerland, Canada, and the United States indicate that the DMQ-R is a valid and reliable instrument to assess drinking motives across cultures (14). There are some studies that evaluated important differences across countries in terms of mean levels of endorsement of different drinking motives (15,16). Nagoshi et al. (15), for example, showed that American college students were more likely to drink for "celebratory" reasons (i.e., enhancement and social motives combined) than were Japanese students. Gire (16) found that American respondents score higher on coping motives and lower on social motives than Nigerian participants. Similarly, using Cooper's (1) four-factor DMQ-R, Theakston et al. (17) showed that Canadian college students of Asian descent were less likely to drink for enhancement motives and more likely to drink for conformity motives than their non-Asian counterparts.

The concept of drinking motives is based on the assumption that people drink in order to attain certain valued outcomes (1,2). It also assumes that drinking behavior is motivated by different needs or serves different functions, and that specific drinking motives are associated with a unique pattern of precursors and consequences. The four drinking motives have unique associations with alcohol use behavior. Social motives appear to be related to nonproblematic "social drinking", in which there may be slight increases in drinking quantity, but not alcohol-related problems (1,18). Both enhancement and coping motives are related to heavier drinking and alcohol-related problems, although coping motives continue to be related to alcohol-related problems when controlling for usual alcohol use (1,10). Conformity motives appear to be positively related to alcohol-related problems, but have a small negative correlation with heavy drinking (1).

It was suggested in previous studies that evaluating drinking motivations to be helpful in adolescents and young adults preventing from developing alcohol use disorders. Evaluating drinking motivations may also help clinicians when planning treatment of alcohol dependency, thus suggesting the importance of drinking motives. In the aim of this study, the reliability and validity and factorial structure of the Turkish translation of the DMQ-R in adult male alcohol dependent inpatients were determined.

METHODS

Participants

The study was conducted in Bakirkoy State Hospital for Psychiatric and Neurological Diseases, Alcohol and Drug Research, Treatment and Training Center (AMATEM) in Istanbul, between January 2008 and January 2009. AMATEM is a specialized center for substance use disorders with 84 inpatient beds, and accepts patients from all over Turkey. The Ethical Committee of the hospital approved the study. Patients' written informed consents were obtained after the study protocol was thoroughly explained.

One hundred eighty consecutively admitted alcohol-dependent inpatients without history of any other substance abuse were considered for participation in the study. All participants fitted in the DSM-IV diagnostic criteria for alcohol dependence. Excluding criteria were illiteracy, mental retardation or cognitive impairment and comorbid psychotic disorder. Five patients were excluded due to illiteracy and three patients due to cognitive deficits. Nine of the patients refused to participate in the study and 8 patients were excluded because they left some parts of the scales unfilled, did not give back their forms or left the treatment program prematurely, i.e. before filling in the forms. A total of 155 alcohol-dependent inpatients participated in the study. Interviews with the study group were conducted after detoxification period, i.e. 4-6 weeks after the last day of alcohol use.

Procedure

The original DMQ-R was independently translated from English into Turkish by two experts of alcoholism. A consensus was reached on a common draft by these experts. This Turkish version was back translated into English by an independent translator. The final Turkish DMQ-R was then first administered to 155 patients, then readministered after 24 hrs to 136 (87.7%) of these 155 patients in a test–retest procedure to assess retest reliability. Although these were alcohol dependent patients at the end of their inpatient treatment, nineteen (12.3%) of these patients could not be re-evaluated because 6 of them dropped out from the study before administering the scale a second time, 4 of them refused to fill in the scale for the second time and the investigator missed to interview 9 patients.

Assessment instruments

All patients were assessed by using a semi-structured socio-demographic form. The diagnosis of alcohol dependence was based on the clinical examination, a screening interview based on the Structured Clinical Interview for DSM-IV (SCID-I), (19) Turkish version, (20) conducted by a trained interviewer (CE).

Drinking Motives Questionnaire (DMQ-R)

Drinking motives were measured by the Drinking Motives Questionnaire (DMQ-R) (1), which is a 20-item questionnaire that assesses four categories of drinking motives (social, coping, enhancement, and conformity). Participants were instructed to consider all the times they had drunk alcohol and to indicate on how many occasions they had drunk for each given motive. Each motive is measured by 5 items that ask how often the respondent drinks for the given reason. Items are rated on a relative frequency scale ranging from 'Never' (coded as 0) to 'Almost always' (coded as 5). The exact Turkish wording of all items is given at the end of the study.

Obsessive–Compulsive Drinking Scale (OCDS)

Obsessive–Compulsive Drinking Scale (OCDS) (21,22), is a standardized self-report measure of certain cognitive and behavioral aspects of craving. Patients rate 14 items regarding thoughts and behaviors related to drinking on a 5-6 point Likert-type scale. Along with a total score, the instrument yields 2 subscale scores which measure obsessive thoughts about alcohol and compulsive drinking urges and behaviors. OCDS is a very effective and useful questionnaire during trials for the treatment of patients with alcohol problems, while also proving to be significantly related to the severity of alcoholism (22-24). The Turkish version of the OCDS is a reliable and valid instrument for evaluation craving in alcohol dependent inpatients (25).

Michigan Alcoholism Screening Test

The MAST was used to assess the severity of dependence (26). It was developed as a rapid and effective screening for lifetime alcohol-related problems and alcoholism for a variety of populations. The MAST consists of 25 brief true-false items that are self-administered in approximately 10 minutes. Scoring is accomplished after reverse scoring 4 of the 25 items and assigning weighted scores. These weighed scores are then summed; the sum represents a total score

reflecting severity of alcohol-related problems. Turkish version of the MAST is valid and reliable for screening severity of dependence in both alcohol and drug dependent patients (27). The Cronbach's alpha was 0.74 in the present study.

Symptom Checklist-Revised (SCL-90-R)

Psychopathologic symptoms were assessed with widely used 90-item Symptom Checklist-Revised (SCL-90-R), a self rating inventory with 9 clinical scales for somatization, obsession and compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism (28). The total score and the global severity index (GSI) were considered as a measure of overall psychopathology. The SCL-90-R is a reliable and valid measure of psychopathology and is widely used in psychosomatic researches. In the present study, the Turkish version of the SCL-90-R was used (29). Cronbach's alpha was 0.98 in the present study.

Statistical Analysis

SPSS statistical package version 15.0 for Windows was used for all analyses. Categorical variables were compared by chi-square test. Student t test was used to compare the groups on continuous variables. Factor analysis for DMQ-R items was performed. Correlation analyses (Pearson, bivariate) between the DMQ-R items and their subscales, test-retest, DMQ-R subscales and amount of alcohol used per day, MAST and OCDS were performed. Predictors of amount of alcohol used in a day, craving, and severity of alcohol related problems were evaluated using stepwise linear regression analysis when four types of drinking motives were taken as independent variables. For all statistical analysis, p values were two-tailed and differences were considered significant at p<0.05.

RESULTS

A total of 155 consecutive alcohol-dependent male inpatients were included in the statistical analyses. The

Table 1: Socio-demographic and clinical characteristics of the Turkish subjects from the present study

		Mean ± S.D.	Minimum-Maximum
Age		44.34±9.37	26.0-66.0
Duration of education		9.36±3.66	5.0-22.0
Age onset of regular alcohol use		25.65±6.72	14.0-45.0
Duration of alcohol consumption		18.69±9.77	2.0-45.0
Amount of alcohol consumption (drinks per day)*		17.48±9.13	4.0-50.0
Number of previous treatment		1.79-1.22	0.0-3.0
		subjects	%
Marital status	Married	102	65.8
	Single	24	15.5
	Divorced	29	18.7
Employment status	Unemployed	68	43.9
	Part-time	39	25.2
	Employed	20	12.9
	Retired	28	18.1

*Alcohol intake during the month before study entry.

mean age of the participants was 44.34 (SD = 9.37, range = 26-66). One hundred two (65.8%) subjects were married, whereas 29 (18.7%) were divorced and 24 (15.5%) were single. Twenty (12.9%) subjects were employed, 38 (25.2%) subjects were part-time workers, 68 (43.9%) subjects were unemployed and 28 (18.1%) were retired. Overall, they had 9.4 years of education (SD = 3.7) in average (Table 1).

The Corrected Item-Total Correlations ranged between 0.45 and 0.72 (Table 2). In the present study, the results from the corrected item-total correlation

analysis demonstrate that DMQ-R is a scale consisting of 20 items assessing the same phenomenon, drinking motives.

Four factor solution was found for the scale in the factor analysis. Items from enhancement motives (item 3), coping motives (item 9) and social motives (item 17) fitted in conformity motives. Also an item (item 8) from coping motives fitted in enhancement motives. Nevertheless, when these 4 items were considered in their original factor structure, statistical values were acceptable. Thus we decided to use the

Table 2: Corrected item-total correlations

DMQ-R

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	51.4968	386.732	0.629	0.923
2	52.0839	383.064	0.605	0.923
3	53.0194	383.253	0.598	0.924
4	51.3161	386.386	0.677	0.922
5	51.2129	401.104	0.446	0.926
6	51.0710	395.794	0.538	0.925
7	50.9806	393.694	0.582	0.924
8	51.1742	393.807	0.591	0.924
9	51.6903	379.163	0.715	0.921
10	50.8968	390.794	0.616	0.923
11	52.6129	393.135	0.505	0.925
12	53.2903	391.480	0.523	0.925
13	52.1161	387.181	0.630	0.923
14	53.0774	387.721	0.583	0.924
15	52.6129	375.979	0.649	0.923
16	51.6387	389.544	0.623	0.923
17	52.1613	384.513	0.653	0.922
18	51.7742	386.734	0.640	0.923
19	51.7290	393.290	0.544	0.925
20	51.4452	389.742	0.669	0.922

Table 3: Factor structure of DMQ-R, mean scores of the items, mean scores and Cronbach's Alphas of four dimensions

| DMQ items | Motives | | | | Mean±SD |
	1 (Conformity) Items 11-15	2 (Social) Items 16-20	3 (Coping) Items 6-10	4 (Enhancement) Items 1-5	
14	0.784				1.52±1.68
3	0.753			0.217	1.58±1.81
15	0.703				1.99±1.95
12	0.653				1.31±1.68
13	0.600				2.48±1.59
17	0.527	0.327			2.44±1.63
11	0.527				1.99±1.68
9	0.498		0.425		2.91±1.69
16		0.809			2.96±1.51
19		0.775			2.87±1.55
18		0.759			2.83±1.58
20		0.714			3.16±1.41
7			0.825		3.62±1.44
6			0.817		3.53±1.45
10			0.772		3.70±1.48
5				0.844	3.39±1.44
2				0.630	2.52±1.80
8			0.435	0.615	3.43±1.41
4				0.546	3.28±1.52
1				0.502	3.10±1.60
Mean±SD	9.29±6.35	14.25±6.07	17.19±5.87	13.87±6.05	
Cronbach's Alpha	0.794	0.849	0.843	0.789	
% of Variance	42.46	8.45	6.92	5.29	

Rotated Component Matrix. Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

same factorial structure as in the original scale. The Turkish version of the scale with 20 item solution was found to be compatible with the original scale. In alcohol dependents, the internal consistency coefficient (Cronbach's alpha) was 0.794 for "Conformity" scale, 0.849 for "Social" scale, 0.843 for "Coping" and 0.789 for "Enhancement" (Table 3).

For each of the items, the corrected item-total correlation values were between 0.652 and 0.848 (p<0.001) (Table 4). The test–retest correlations was 0.602 for "Conformity" scale, 0.549 for "Social" scale, 0.657 for "Coping" and 0.637 for "Enhancement". Four subscales of the DMQ-R, total score of the OCDS and

the MAST were correlated significantly in the degree of p<0.001 (Table 5).

All of the patients in present study could be considered as heavy drinkers since they were treatment seeking population with alcohol dependency diagnosis. Most of the previous studies where the DMQ-R used were conducted among adolescent populations and the mean number of alcohol drinks per day were lower in these studies than the present one. Because the mean number of alcohol drinks per day was 17.48 in the present study, we decided to divide this population as those who drink less than and more than 16 drinks per day. Also, all the four drinking motives (enhancement:

Table 4: Correlations betweens items and subscales that include those items

| Subscales of DMQ-R | | | | | | | |
| Enhancement Motives | | Coping Motives | | Conformity Motives | | Social Motives | |
Items	r	Items	r	Items	r	Items	r
1	0.774	6	0.798	11	0.678	16	0.848
2	0.773	7	0.832	12	0.745	17	0.688
3	0.678	8	0.702	13	0.719	18	0.827
4	0.819	9	0.774	14	0.767	19	0.786
5	0.652	10	0.821	15	0.794	20	0.812

Table 5: Test–retest correlations, correlations of DMQ-R subscales and MAST, GSI of SCL-90, OCDS and amount of drinks per day

	Test-retest correlations	Amount of drinks per day	MAST	GSI of SCL-90	OB	CP	OCDS
	(n=136)	(n=155)	(n=155)	(n=155)	(n=155)	(n=155)	(n=155)
Conformity	0.602*	0.221**	0.320*	0.409*	0.343*	0.334*	0.37*
Social	0.549*	0.274**	0.217**	0.153	0.129	0.267**	0.22**
Coping	0.657*	0.281*	0.300*	0.374*	0.369*	0.429*	0.44*
Enhancement	0.637*	0.260**	0.298*	0.229**	0.311*	0.401*	0.39*

GSI: Global Severity Index, Correlation is significant at the *p<0.001 level (2-tailed), **p<0.01 level (2-tailed).

t=-3.36, p=0.001; coping motives: t=-3.11, p=0.002; conformity: t=-2.59, p=0.011; social: t=-3.70, p<0.001) were higher among those who drink more than 16 drinks a day than those drink less than 16 drinks a day. Nevertheless, among four motives, coping motives were the only one that predicted the amount of drinks per day (B=0.437, SE=0.121, Beta=0.281, t=3.616, p<0.001, F=13.08, df=1, 153, p<0.001, Adjusted R^2= 0.073). Conformity motives were the only one that predicted alcohol related problems (B=0.522, SE=0.125, Beta=0.320, t=4.183, p<0.001, F=17.50, df=1, 153, p<0.001, Adjusted R^2= 0.097). Conformity motives (B=0.033, SE=0.011, Beta=0.288, t=3.03, p=0.003) and coping motives (B=0.024, SE=0.012, Beta=0.190, t=2.00, p=0.047) the severity of psychopathology measured with GSI of SCL-90 (F=17.70, df=2, 152, p<0.001, Adjusted R^2= 0.178). We also evaluated which motives to predict craving; coping motives (B=0.600, SE=0.172, Beta=0.319, t=3.50, p=0.001) and enhancement motives predicted craving (B=0.353, SE=0.166, Beta=0.193, t=2.12, p=0.036) (F=20.79, df=2, 152, p<0.001, Adjusted R^2= 0.204).

Coping motives predicted obsessive craving (B=0.350, SE=0.073, Beta=0.363, t=4.813, p<0.001, F=23.165, df=1, 153, p<0.001, Adjusted R^2= 0.126), whereas coping motives (B=0.331, SE=0.104, Beta=0.293, t=3.196, p=0.002) and enhancement motives predicted compulsive craving (B=0.226, SE=0.100, Beta=0.207, t=2.254, p=0.026) (F=19.39, df=2, 152, p<0.001, Adjusted R^2= 0.193).

CONCLUSION

Main finding of this study is that the Turkish version of the DMQ-R is compatible with original scale and it could be used as a reliable and valid instrument for alcohol dependent inpatients. The internal consistency coefficient ranged between 0.79 and 0.85, the corrected item-total correlation values ranged between 0.65 and 0.85 and test–retest correlations ranged between 0.55 and 0.66 for each of four subscales.

Four factor solution was found for the scale. In factor analysis, items from enhancement motives (item 3), from coping motives (item 9) and from social motives (item 17) fitted in conformity motives. Also an item from coping motives (item 8) fitted in enhancement motives. When the original scale is translated into different languages and cultures, this may negatively effect internal consistency, validity and reliability (30). After translating DMQ-R in to Turkish, some of the statements such as in 3rd item "to get high", "to cheer up, when in a bad mood" and in 17th item "to be sociable" might cause difficulty in understanding and interpretation of these items in Turkish population. Also the scale was used in adolescents or young adults, including both males and females, among general populations earlier and as far as we know, this is the first study conducted among treatment seeking male alcohol dependent inpatients. Nevertheless, since the values for these items are acceptable when they are considered in their original factors, we decided to use these items in their original factors. Indeed, internal consistency coefficients for each subscale were high. Also for each of the items, the corrected item-subscale of that item and the item-total correlation values were high. Moderate test–retest correlations were found for all the subscales.

Four subscales of the DMQ-R and total score of

the MAST were correlated. Also all the four drinking motives were correlated mildly with the amount of drinks per day and were higher among those who drink more than 16 drinks a day. All the patients in the present study can be considered as heavy drinkers since they are treatment seeking population with alcohol dependency diagnosis. In contrast, as most young people drink for social facilitation, improvement of social gatherings, or to get in a party mood, social motives are associated with relatively light, non-problematic drinking among American adolescents (1,4,31,32). In our study sample, although social motives might have important effect on the patients' alcohol use when they started to drink, since they are diagnosed as alcohol dependent at present, least important motives might be social ones. Although social motives were related with amount of alcohol used, alcohol related problems and craving, it was the least correlated one among other motives and did not predict these outcome variables. Enhancement and coping (i.e., internal) motives have been found to be particularly associated with heavy drinking (4). Moreover, conformity and coping (i.e., negative reinforcement) motives are particularly associated with alcohol-related problems, even alter accounting for typical alcohol use (33). Findings of the present study were consistent with these. Particularly coping motives predicted the amount of drinks per day, whereas conformity motives predicted alcohol related problems measured with MAST.

Coping motives and conformity motives are related with both anxiety sensitivity (i.e., the tendency to fear anxiety-related sensations) (34,35) and anxiety- related traits (35,36). Similarly, high neuroticism, a construct correlated with anxiety, is related to coping motives (32,37) and conformity motives (37). Since conformity drinkers among adolescents drink only when they are motivated by the presence of drinking adolescents, they are supposed to have lower drinking levels than otherwise motivated drinkers (11). This might be different in alcohol dependents since they are surrounded by only individuals with alcohol use disorders. Indeed, in the present study, coping motives and conformity motives predicted severity of psychopathology and conformity motives predicted alcohol related problems.

Craving severity was predicted by coping and enhancement motives (i.e., internal), which are related to heavier drinking and alcohol-related problems (1,10). According to the three-patway model of craving three etiological pathways are thought to exist based on the motivating factors underlying the desire to drink. The first of these, "reward" craving, involves those people who consume because of a desire for the positive effects of alcohol (reward drinker). This is consistent with enhancement motives. The second pathway involves those people who consume to relieve tension or arousal, labeled "relief" craving (relief drinker). This is consistent with coping motives. Finally, the third pathway, obsessive craving, involves those who are incapable of controlling intrusive thoughts about drinking, including the amount of time spent in an effort to resist alcohol-related thoughts (38). This finding is important because even deciding which treatment should be used for patients depend on this, i.e. the "relief drinker/craver" may respond to acamprosate whereas the "reward drinker/craver" is mainly associated with response to naltrexone (39). Coping motives predicted the obsessive craving (cognitive aspect of craving), whereas coping and enhancement motives predicted compulsive craving (behavioral aspect of craving). Coping motives are beliefs regarding the use of alcohol as a mean to cope with negative affect and psychological distress (self-medication) (5,40,41). In these studies, coping motives were found to act as a mediator between psychological distress and alcohol use (42). Thus, those alcohol dependents who believe that alcohol is a useful way to cope with negative feelings such as craving are at greatest risk for alcohol use instead of adaptive coping with craving.

Our findings must be understood in the light of several limitations. First, patients included in this study were all male and the study group was restricted to a treatment population. Therefore, it is not possible to generalize the findings to female substance dependent patients and non-treatment groups. A second limitation was that although subjects were not assessed during withdrawal, patients might still have some cognitive problems to evaluate themselves correctly at the time

of the interview. A third limitation was the use of self-report instruments only and not using reliable anxiety and depression scales for correcting the influence of residual anxiety and depressive symptoms. Finally, DMQ-R is a scale that measures the severity of four drinking motives without using the total score. Also there is no other scale, at least in Turkish, that measure

similar concept as DMQ-R. Thus, it was not possible to conduct further analysis such as ROC and use stronger methods for validity analysis. Nevertheless, despite these limitations, results which were obtained in this study suggest that the Turkish version of the DMQ-R could be used as reliable and valid tool in alcohol dependent inpatients.

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İçme Nedenleri Soru Formu – İNSF

Aşağıda insanların alkollü içecekleri içmelerine neden olarak gösterdikleri bir liste bulunmaktadır. Lütfen her neden için, aşağıdaki cevap katagorilerini kullanarak ne sıklıkta içtiğinizi belirtin. Bu sorulara doğru ya da yanlış cevap yok. Biz sadece içtiğiniz zaman içmenize genellikle neden olan sebepler hakkında bilgi edinmek istiyoruz.

	Hiçbir zaman	Neredeyse hiçbir zaman	Bazı zamanlar	Yaklaşık yarısında	Çoğu zaman	Neredeyse her zaman
5. Eğlenceli olduğu için ne sıklıkta içersiniz?	0	1	2	3	4	5
8. Keyfiniz kötü olduğunda neşelenmek için ne sıklıkta içersiniz?	0	1	2	3	4	5
12. İçmiyorsunuz diye diğerleri sizle dalga geçmesin diye ne sıklıkta içersiniz?	0	1	2	3	4	5
19. Partileri ve kutlamaları daha iyi hale getirdiği için ne sıklıkta içersiniz?	0	1	2	3	4	5
2. Heyecan verici olduğu için ne sıklıkta içersiniz?	0	1	2	3	4	5
11. Arkadaşınızın içmeniz için baskı yapması nedeniyle ne sıklıkta içersiniz?	0	1	2	3	4	5
18. Sosyal toplantıları daha eğlenceli hale getirdiği için ne sıklıkta içersiniz?	0	1	2	3	4	5
4. Hoş bir duygu verdiği için ne sıklıkta içersiniz?	0	1	2	3	4	5
10. Sorunlarınızı unutmak için ne sıklıkta içersiniz?	0	1	2	3	4	5
17. Sosyalleşebilmek için ne sıklıkta içersiniz?	0	1	2	3	4	5
7. Mutsuz ya da gergin hissettiğinizde yardımcı olduğu için ne sıklıkta içersiniz?	0	1	2	3	4	5
16. Partiden keyif almanıza yardımcı olduğu için ne sıklıkta içersiniz?	0	1	2	3	4	5
9. Daha fazla kendine güvenli ya da kendinden emin hissettiğiniz için ne sıklıkta içersiniz?	0	1	2	3	4	5
14. Hoşlanılmak için ne sıklıkta içersiniz?	0	1	2	3	4	5
1. Verdiği duygu hoşunuza gittiği için ne sıklıkta içersiniz?	0	1	2	3	4	5
20. Arkadaşlarınızla özel durumları kutlamak için ne sıklıkta içersiniz?	0	1	2	3	4	5
6. Endişelerinizi unutmak için ne sıklıkta içersiniz?	0	1	2	3	4	5
15. Dışlanılmış hissetmemek için ne sıklıkta içersiniz?	0	1	2	3	4	5
3. Yüksek hissetmek için ne sıklıkta içersiniz?	0	1	2	3	4	5
13. Hoşlandığınız bir gruba uyum göstermek için ne sıklıkta içersiniz?	0	1	2	3	4	5