

Alexithymia and Personality in Relation to Dimensions of Psychopathology in Male Alcohol-Dependent Inpatients

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ÖZET:

Yatarak tedavi gören erkek alkol bağımlılarında aleksitimi ve kişiliğin psikopatolojinin boyutlarıyla ilişkisi

Amaç: Bu çalışmanın amacı aleksitiminin diğer kişilik boyutları ve yaşa kıyasla psikiyatrik belirtileri belirleme kapasitesini değerlendirmektir.

Yöntem: Çalışmaya katılanlar ardışık yatan 176 erkek alkol bağımlısı idi. Yatan hastalara, Toronto Aleksitimi Ölçeği (TAS-20), Mizaç ve Karakter Envanteri (MKE) ve Belirti Tarama Ölçeği (SCL-90-R) uygulandı.

Bulgular: Hastaların 53'nün (%30.1) aleksitimik olduğu ve SCL-90 alt ölçekleri ile genel şiddet endeksinin aleksitimik olanlarda olmayanlara göre yüksek olduğu saptandı. TAS-20'nin duyguları tanımadada güçlük faktörü anlamlı düzeyde tüm SCL-90 alt ölçek puanlarını belirlerken, SCL-90 alt ölçeklerinin hiç biri duyguları tanımlamada güçlük veya dış odaklı düşünme faktörleri tarafından belirlenmedi. MKE boyutları, değişik SCL-90 alt ölçekleri için farklı ve yapısal olarak anlamlı belirleyiciler olarak ortaya çıktı. SCL-90 alt ölçeği ile değerlendirilen somatizasyon, alkol bağımlılarında genel psikiyatri hastalarında olduğu kadar duyguları tanımadada güçlük faktörü tarafından güçlü belirlenmiştir.

Sonuç: Bu çalışma şimdiki psikopatolojinin duygusal algıların bilişsel işleyişlerindeki zorluklarla ilişkili olduğu hipotezini alkol bağımlılarında desteklemiştir. Bu çalışmanın şekli çapraz-bölümsel olduğundan, aleksitiminin alkol bağımlılarında psikopatoloji için risk etkeni olup olmadığı daha ileri araştırmalara gereksinim duymaktadır.

Anahtar sözcükler: Alkol bağımlılığı, anksiyete, karakter, depresyon, psikopatoloji, mizaç

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ABSTRACT:

Alexithymia and personality in relation to dimensions of psychopathology in male alcohol-dependent inpatients

Objective: The aim of this study was to examine the capacity of alexithymia to predict psychiatric symptoms relative to other personality dimensions and age.

Method: Participants were 176 consecutively admitted male alcohol dependent inpatients who were administered the Toronto Alexithymia Scale (TAS-20), Temperament and Character Inventory (TCI), and the Symptom Checklist-Revised (SCL-90-R).

Results: Fifty three patients (30.1%) had alexithymia. Means of subscales of SCL-90 and the global severity index were higher among those with alexithymia than those without. The difficulty in identifying feelings factor of the TAS-20 significantly predicted all SCL-90-R subscale scores, whereas none of the SCL-90-R subscales were predicted by difficulties describing feelings or externally orientated thinking. The TCI dimensions emerged as distinct and conceptually meaningful predictors for the different SCL-90-R subscales. Somatization measured by subscale of SCL-90 was not as strongly predictable by difficulty in identifying feelings factor in alcohol dependents as was in general psychiatric patients.

Conclusions: The present study supported the hypothesis that a current psychopathology is associated with difficulties in cognitively processing emotional perceptions among alcohol dependent inpatients. Since this was a study of cross-sectional design, the question of whether alexithymia represents a risk factor for psychopathology among alcohol dependent inpatients requires further evaluation.

Key words: Alcohol dependence, anxiety, character, depression, psychopathology, temperament

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INTRODUCTION

Alexithymia is a multifaceted personality construct defined as the inability to distinguish one's feelings from the accompanying bodily sensations, the inability to communicate feelings to others, and an externally orientated cognitive style reflecting an absence of inner thoughts and fantasies (1). Alexithymia is thought to be a stable personality trait and a predisposing risk factor for a

variety of psychiatric disorders (1). Although alexithymia was first studied in a variety of medical and psychosomatic disorders (2), more recent studies have associated alexithymia with post-traumatic stress disorder (3), dissociation (4), depression (5), obsessive-compulsive disorder (6), hypochondria (2), and eating disorders (7). Studies also suggest relatively high prevalence rates of alexithymia in men with genetically high-risk for alcoholism (8) and in alcohol-related disorders

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(9,10). The prevalence of alexithymia among alcoholic patients has been reported to range from 42% to 79% in several studies (8,10-12). The prevalence of alexithymia is not different in alcohol-dependent Turkish men (48–56%) (13-15).

In previous studies alexithymia had negative relation with the maintenance of abstinence (16) and was associated with poor outcomes in alcoholic inpatients (17,18). Most psychotherapeutic approaches aim to increase the perceptual awareness of emotional processes, to enhance emotional differentiation, and to enable new emotional experiences to help overcome dysfunctional mental states (19). Bagby et al. (20) characterize alexithymic individuals as having little interest in introspective and analytical cognitive activity. Emotional deficits that psychotherapeutic approaches are trying to deal with, through insight or cognitive behavioral strategies, may be in fact described as alexithymia (2). Some studies have reported that alexithymics do not differ from nonalexithymics in terms of treatment success, but that alexithymics perform better in some types of treatments than others do; i.e. alexithymic cocaine abusers had better outcomes in a clinical management condition than in cognitive-behavioral relapse prevention (21).

Individual differences in personality structure such as temperament and character have a strong influence on the risk of all forms of psychopathology, including alcohol dependence (22). Studies suggest that specific patterns of temperament and character potentially influence psychopathology in the community (23). Psychopathology measured with SCL-90 scales and some Cloninger's Temperament and Character Inventory (TCI) personality facets together distinguished dropout from outpatient psychiatric treatment (24). Basiaux et al. (25) reported that the TCI data add to evidence concerning a higher probability of personality disorder in alcohol-dependent patients. Studies also indicate an association between personality dimensions and substance of choice, such as TCI was shown to be an efficient tool in discriminating alcohol and drug dependency (26). Also alexithymia is captured up to 45% by personality models like the five-factor model of personality or TCI (27,28). Other than Grabe's et al.'s study (19) conducted among general psychiatric patients, the contribution of alexithymia in interaction

with common personality traits to psychopathology has not been investigated systematically. In this study, the difficulty in identifying feelings (DIF) factor of the Toronto Alexithymia Scale (TAS-20) significantly predicted all Symptom Checklist-Revised subscale scores and was particularly effective, relative to the personality dimensions of the TCI, in predicting somatization.

Alcohol dependent patients show high rates of comorbidity with other psychiatric conditions. In the treatment of alcohol dependency, it is advantageous to identify patients with comorbid psychiatric disorders because treating comorbid disorders improves outcome (29). In comparison to the limited view provided by using only symptomatology that meets criteria for a diagnosis, the use of continuous measures of psychiatric symptomatology and psychological abnormality yields a much more accurate picture of psychiatric illness co-occurring with alcoholism (30); i.e. higher general severity index of SCL-90-R at the end of therapy increases the relapse risk among alcohol dependents (31). Thus, self-report symptom checklists such as the SCL-90-R may be useful in screening alcohol rehabilitation patients for more detailed psychiatric assessment and may prove clinically useful in the assessment of alcoholic patients (29).

We hypothesized that alexithymia dimensions would predict a broad range of psychopathology among alcohol dependent inpatients. Also we examined if DIF factor of alexithymia is particularly effective in predicting somatization, which is a subscale of SCL-90, in alcohol dependents as in general psychiatric patients (19).

METHODS

Subjects

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 December 2005 and July 2006. AMATEM is a specialized center for substance use disorders with 100 inpatient beds, and accepts patients from all over Turkey. Patients with psychotic disorders, cognitive impairment, and moderate to severe depression or anxiety disorders are not admitted to the clinic if these disorders are primer and not related to

withdrawal syndrome. The detoxification processes of alcohol- and drug-dependent inpatients are different in AMATEM. After the alcohol- and drug-detoxification processes, both patient groups are included in a 28-day residential rehabilitation program.

The Ethical Committee of the hospital approved the study. Patient's written informed consent was obtained after the study protocol was thoroughly explained. Two hundred consecutively admitted alcohol-dependent inpatients without history of any other substance abuse were considered for participation in the study. All participants fit 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. Since the forms were controlled while they were collected, if some parts of the forms were unfilled, clinician would apply these parts to the patient. Some of these patients reported that they were not willing to participate in the study anymore, thus they were excluded from the study. Although none of the patients refused to participate in the study, 16 patients were excluded because they left some parts of the scales unfilled, did not give the forms back or left the treatment program prematurely; i.e. before filling the forms. A total of 176 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. Clinician assessed with clinical examination if withdrawal symptoms has disappeared or not. After semi-structured socio-demographic data form filled by psychiatrist (CE), other scales, which all were self-rated were given to the patients. They were asked to complete the forms in a day. But if they did not succeed, the forms were given another day to complete it. During all this time staff of the clinic accompanied them and patients were able to ask about questions they could not understand.

Measures

Other than the semi-structured socio-demographic data form designed for this study, following measures were used:

(1) Temperament and Character Inventory (TCI): To

evaluate temperament and character traits, the Temperament and Character Inventory (TCI), (32) Turkish version (33) of a 240-item, forced-choice, self-report scale was used. Dimensions of temperament are: (1) harm avoidance (HA) (2), novelty seeking (NS) (3), reward dependence (RD), and (4) persistence (P). Dimensions of character are: (1) self-directedness (S); (2) cooperativeness (C), and (3) self-transcendence (ST).

(2) Toronto Alexithymia Scale (TAS-20): The prevalence of alexithymia was screened using the 20-item version of the Toronto Alexithymia Scale (TAS-20) (34,35). The Turkish version of the TAS-20 has been validated on Turkish population (36). Each TAS-20 item was rated on a five-point (1-5) Likert scale, with total scores ranging from 20 to 100. Three dimensions of TAS-20 are: (I) difficulty in identifying feelings (DIF); (II) difficulty in describing feelings (DDF); (III) externally orientated thinking (EOT). The total scores of the TAS-20 were categorized according to the recommendations of Kose et al. (36); thus a score ≥ 61 indicated alexithymia and < 61 no alexithymia. Cronbach's alpha was 0.76 in the present study.

(3) 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, obsessive compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism (37). 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 Turkish version of SCL-90-R was used (38). Cronbach's alpha was 0.98 in the present study.

Analysis

The statistical package SPSS 11.5 for Windows was used for all the analyses. Frequency and percentage was used for sociodemographic variables. Categorical variables were compared by means of the chi-square statistics. We used Mann-Whitney U test to compare the groups of continuous variables. Correlation

analysis (Pearson, bivariate) between TAS-20 scores and SCL-90 scores was performed. The TCI dimensions, the TAS-20 factors and age were entered blockwise (multivariate) into each of the ten equations as independent variables. The significance of the explained amount of variance (R^2) by the regression equation compared with the total variance of the dependent variable was assessed by using analysis of variance. B indicates the relative magnitude of prediction of each independent variable. The significance of B was evaluated by a t statistic.

RESULTS

Socio-demographic characteristic of participants

The mean age of the participants was 43.1 (SD=8.3,

range=23-70). Hundred one (57.4%) subjects were married, whereas 55 (29.6%) were divorced and 23 (13.1%) were single. Eighty-seven (49.4%) subjects were employed, whereas 57 (32.4%) subjects were unemployed and 32 (18.2%) were retired. Fifty-four (30.7%) had graduated from primary school, 84 (47.8%) from high school, and 38 (21.6%) were university graduates. Overall, they had 9.8 years of education (SD=4.0) in average.

Comparison between alexithymic and non-alexithymic patients

Among 176 alcohol dependents 53 (30.1%) had alexithymia and 123 (69.9%) had no alexithymia. There were no significant differences between groups in terms of age, duration of education, duration of alcohol use, marital status and employment (Table 1).

Table 1: Comparison of alexithymic and non-alexithymic patients

	No Alexithymia (n=123)		Alexithymia (n=53)		z	p
	Mean	SD	Mean	SD		
Age (years)	43.1	7.8	43.0	9.5	-0.17	0.87
Education (years)	10.0	4.2	9.3	3.4	-0.94	0.35
Duration of alcohol use (years)	24.3	8.7	24.6	8.9	-0.15	0.88
Marital status (married) (n, %)	(69, 56.1)		(32, 60.4)		$\chi^2=0.28$ (df=1)	0.60
Employment (working) (n, %)	(66, 53.7)		(21, 39.6)		$\chi^2=2.92$ (df=1)	0.09

Table 2: Comparison of alexithymic and non-alexithymic patients according to SCL-90 dimensions and global severity index

Symptom Checklist-Revised	No Alexithymia (n=123)		Alexithymia (n=53)		z	p
	Mean	SD	Mean	SD		
Somatization	1.13	0.80	1.66	0.90	-3.69	<0.001
Anxiety	1.23	0.88	1.87	1.03	-3.74	<0.001
Obsessionality	1.53	0.70	2.20	0.63	-5.48	<0.001
Depression	1.44	0.83	2.17	0.73	-5.12	<0.001
Interpersonal Sensitivity	1.44	0.73	2.23	0.85	-5.31	<0.001
Psychoticism	0.95	0.62	1.43	0.72	-3.98	<0.001
Paranoia	1.46	0.81	2.00	0.88	-3.78	<0.001
Hostility	1.11	0.84	1.86	0.97	-4.69	<0.001
Phobia	0.81	0.77	1.42	0.99	-4.18	<0.001
Global severity index	1.3	0.7	1.9	0.7	-5.14	<0.001

Table 3: Correlations between TAS-20 and SCL-90

	Difficulties identifying feelings**	Difficulties describing feelings**	Externally orientated thinking	TAS-20**
Somatization	0.50	0.42	0.05	0.45
Anxiety	0.52	0.38	0.12	0.48
Obsessionality	0.60	0.48	0.24*	0.61
Depression	0.58	0.41	0.25*	0.58
Interpersonal Sensitivity	0.59	0.52	0.25*	0.62
Psychoticism	0.56	0.39	0.21*	0.54
Paranoia	0.49	0.36	0.18*	0.48
Aggression	0.51	0.35	0.22*	0.50
Phobia	0.53	0.38	0.18*	0.51
Global Severity Index	0.62	0.47	0.21*	0.60

Correlation is significant at the * <0.01 and ** <0.001 level, (2-tailed).

Means of subscales of SCL-90 and global severity index were higher among those with alexithymia than those without (for all statistical analysis $p < 0.001$) (Table 2).

Correlations between alexithymia and psychopathology

DIF and DDF subscales of TAS-20 and TAS-20 total score were highly correlated with all the subscales of

SCL-90. Other than somatization and anxiety, subscales of SCL-90 were also correlated with EOT (Table 3).

Predictors of SCL-90 subscales

High scores on difficulties identifying feelings (DIF) emerged as a major predictor for current psychopathology on all SCL-90-R subscales (Table 4 and 5). None of the SCL-90-R subscales were predicted

Table 4: Relationship of personality, alexithymia, and age to dimensions of psychopathology in 176 male alcohol dependent inpatients

Predictor	SCL-90-R Subscale									
	Somatization		Obsessionality		Interpersonal Sensitivity		Depression		Anxiety	
	β	t	β	t	β	t	β	t	β	t
Individual variables ^a										
Temperament and Character Inventory Dimensions										
Novelty Seeking (NS)	-0.04	-0.56	0.12	1.88	0.02	0.32	0.13	2.01***	0.06	0.87
Harm Avoidance (HA)	0.13	1.59	0.21	2.99**	0.30	4.49*	0.23	3.33*	0.22	2.77**
Reward Dependency (RD)	0.08	1.21	0.06	1.10	0.03	0.54	0.02	0.29	0.13	2.03***
Persistence (P)	-0.15	-1.92	-0.08	-1.18	-0.10	-1.51	-0.12	-1.79	-0.10	-1.38
Self-directedness (S)	0.05	0.57	-0.11	-1.41	-0.09	-1.19	-0.05	-0.61	-0.04	-0.41
Cooperativeness (C)	-0.12	-1.53	-0.02	-0.29	0.02	0.26	-0.04	-0.61	-0.07	-0.95
Self-transcendence (ST)	0.12	1.60	0.15	2.47***	0.18	3.00**	0.19	3.10**	0.16	2.28***
Toronto Alexithymia Scale										
Difficulties identifying feelings	0.32	3.69*	0.36	4.92*	0.30	4.29*	0.39	5.26*	0.35	4.21*
Difficulties expressing feelings	0.14	1.64	0.06	0.87	0.11	1.67	-0.03	-0.41	0.01	0.07
Externally orientated thinking	-0.12	-1.78	0.03	0.58	0.04	0.63	0.04	0.69	-0.06	-0.88
Age	-0.04	-0.59	0.004	0.07	-0.12	-2.26***	-0.08	-1.41	-0.08	-1.21
	R ²	F	R ²	F	R ²	F	R ²	F	R ²	F
Full model ^b	0.29	7.5*	0.49	16.4*	0.54	19.9*	0.49	16.4*	0.37	10.3*

^aStandardized regression coefficients (β) are presented, which indicate the relative magnitude of prediction for each independent variable.

^bAll individual variables were entered blockwise into a linear regression analysis, with the significance of the explained amount of variance (R^2 , adjusted) for each psychopathology dimension assessed by using analysis of variance ($df=11, 164$). * $p < 0.001$. ** $p < 0.01$. *** $p < 0.05$.

Table 5: Relationship of personality, alexithymia, and age to dimensions of psychopathology in 176 male alcohol dependent inpatients

Predictor	SCL-90-R Subscale									
	Aggression		Phobia		Paranoia		Psychoticism		Global Severity Index	
	λ	t	λ	t	λ	t	λ	t	λ	t
Individual variables ^a										
Temperament and Character Inventory Dimensions										
Novelty Seeking (NS)	0.19	2.78**	0.04	0.61	0.10	1.39	0.03	0.41	0.07	1.15
Harm Avoidance (HA)	0.18	2.34***	0.28	3.63*	0.13	1.60	0.14	1.85	0.23	3.28*
Reward Dependency (RD)	0.03	0.51	0.15	2.41***	0.02	0.35	0.11	1.78	0.08	1.48
Persistence (P)	-0.001	-0.02	-0.04	-0.59	-0.05	-0.65	-0.12	-1.70	-0.11	-1.63
Self-directedness (S)	-0.02	-0.30	0.02	0.25	-0.08	-0.87	-0.11	-1.34	-0.05	-0.67
Cooperativeness (C)	-0.15	-2.11***	-0.06	-0.81	-0.04	-0.57	-0.04	-0.57	-0.07	-1.02
Self-transcendence (ST)	0.11	1.61	0.20	2.98**	0.20	2.85**	0.17	2.55***	0.18	3.02**
Toronto Alexithymia Scale										
Difficulties identifying feelings	0.36	4.47*	0.35	4.30*	0.33	3.84*	0.39	4.96*	0.40	5.52*
Difficulties expressing feelings	-0.05	-0.61	-0.01	-0.09	-0.003	-0.04	-0.03	-0.32	0.03	0.43
Externally orientated thinking	0.06	0.89	0.02	0.27	0.03	0.39	0.03	0.53	0.01	0.09
Age	-0.15	-2.44***	-0.06	-0.92	-0.07	-1.06	-0.03	-0.49	-0.08	-1.46
	R ²	F	R ²	F	R ²	F	R ²	F	R ²	F
Full model ^b	0.40	11.6*	0.38	10.9*	0.32	8.5*	0.40	11.7*	0.51	17.7*

^aStandardized regression coefficients (λ) are presented, which indicate the relative magnitude of prediction for each independent variable.

^bAll individual variables were entered blockwise into a linear regression analysis, with the significance of the explained amount of variance (R^2 , adjusted) for each psychopathology dimension assessed by using analysis of variance ($df=11, 164$). * $p < 0.001$. ** $p < 0.01$. *** $p < 0.05$.

by difficulties describing feelings (DDF) or externally orientated thinking (EOT). A considerable degree of variance (29%–54%) of the SCL-90-R subscales could be explained by the predictors.

DISCUSSION

The present study documented that, among male alcohol-dependent patients, the alexithymic subgroup had significantly higher psychopathology than the non-alexithymic subjects. The DIF factor of the TAS-20 was a highly significant predictor of all SCL-90-R subscale scores in multivariate analysis, whereas none of the SCL-90-R subscales were predicted by DDF or EOT. Thus, alexithymia, particularly DIF factor, and psychopathology in general are interrelated among alcohol-dependent men. Also the TCI dimensions emerged as distinct and conceptually meaningful predictors for the different SCL-90-R subscales. The present study supported the hypothesis that a current psychopathology is associated with difficulties in cognitively processing emotional perceptions, among alcohol dependents.

In the present study, high scores on DIF emerged as a major predictor for current psychopathology on all SCL-90-R subscales in male alcohol dependent inpatients. Same results were found in Grabe et al.'s (19) study, which was conducted among general psychiatric population. Again consistent with this study, none of the SCL-90-R subscales were predicted by either DDF or EOT. But different from that study, DIF was not particularly effective in predicting "somatization" in the present study; instead DIF predicted all SCL-90-R subscales, including global severity index, similarly. In fact somatization was the least predicted subscale among other subscales of SCL-90. Reasons of this difference might be that in the present study all the patients were male and the study population was alcohol dependent inpatients. Thus, important finding in the present study is that prediction of somatization by DIF might change according to the gender and type of the population that is studied. The results of the present study support our hypothesis that the alexithymia, particularly DIF feature of alexithymia, strongly predicts a broad range of "state" levels of psychopathology.

Finding the similar results, Grabe et al. (19) suggested that many mentally ill patients are faced with confusing and strange emotional perceptions that cannot be transformed into meaningful feelings.

Because the current study utilized a cross-sectional research design, it is not possible to make conclusive statements about the temporal order between the measures of psychopathology and alexithymia or personality dimensions. Thus, we cannot conclude that alexithymia or personality dimensions represents as a risk factors for the development of mental disorders in alcohol dependents. However, following the considerations of Taylor and Bagby (2), it was hypothesized that preexisting DIF and DDF predispose someone to emotional dysregulation in stressful situations or relationships, thus creating emotional confusion followed by inadequate behavioral responses (19). On the other hand, it seems that dysfunctional psychopathological states additionally alter the ability to cognitively process emotional information (5). Nevertheless, some studies also suggest that alexithymia is associated with poorer outcome (2). This finding was also supported by studies conducted among alcohol dependents (12). Therefore, specific psychotherapeutic techniques improving affect differentiation (2,39), additional to the treatment of alcohol dependency and comorbid psychopathology, should be evaluated.

Our study has several limitations. First of all, we did not screen the prevalence of psychiatric disorders as a diagnostic group; i.e. somatization, anxiety and depression were assessed as quantitative variables. Second, the assessment of personality was limited to the dimensions of temperament and character, but not to a personality disorders such as classification of present and absent. Thus, in the present study it was not possible to control the presence of comorbid Axis I and Axis II diagnoses that might have impact on variables evaluated in present study. The scales used in this study were self-reported. Although the study was conducted after detoxification, recently detoxified patients might still have some cognitive problems that might affect their evaluation of themselves correctly. Alexithymic subjects might also have been unable to express themselves correctly because of their difficulties in cognitive processing of emotions. Other

limitations of the present study is that all the patients were male and also the study group was restricted to a treatment seeking population, and therefore it is not possible to generalize the findings to female patients and non-treatment groups.

Despite these limitations these results suggested strong connections between the DIF feature of alexithymia and some TCI dimensions with different "state" psychopathologies measured by SCL-90-R subscales, rather than the severity of other factors of alexithymia in patients with alcohol dependency. Comorbid psychopathology and variables that are

related with these state psychopathologies are important for treatment plans and determining the future course of the disorder among alcohol dependent population (29). Different from general psychiatric population (19) among alcohol dependents DIF was not particularly effective in predicting "somatization". Nevertheless, our findings require replication in order to determine the strength and stability of the present results in different populations and longitudinal studies may be necessary to make stronger causal attributions about the effects of alexithymia and personality on psychopathology in alcohol dependents.

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