

## Regular Article

## Dissociation and alexithymia among men with alcoholism

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**Aim:** The aim of the present study was to evaluate the relationship between alexithymia and dissociation among men with alcoholism.

**Methods:** Participants were 176 patients consecutively admitted to the inpatient unit of an addiction treatment center. The Toronto Alexithymia Scale, the Symptom Checklist-Revised, the Dissociative Experiences Scale, the Beck Depression Inventory, the Spielberger State-Trait Anxiety Inventory, and the Michigan Alcoholism Screening Test were administered to all participants.

**Results:** Fifty-three patients were considered as having alexithymia. The alexithymic group had a significantly higher rate of dissociative taxon members (patients with pathological dissociation; 62.3%)

according to Bayesian probability. Trait anxiety, overall psychiatric symptom severity, and pathological dissociation predicted alexithymia on covariance analysis. A multivariate analysis of covariance demonstrated that these predictors were related only to difficulty of identifying feelings, whereas trait anxiety was a significant covariant for difficulty of expressing feelings as well.

**Conclusion:** Alexithymic phenomena are interrelated with dissociation and chronic anxiety among men with alcoholism. The relevance of this triad for prevention and treatment of alcoholism deserves interest in further research.

**Key words:** alcohol dependence, alexithymia, anxiety, dissociation.

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 oriented cognitive style reflecting an absence of inner thoughts and fantasies.<sup>1</sup> Alexithymia is thought to be a stable personality trait and a predisposing risk factor for a variety of psychiatric disorders.<sup>1</sup> Manifestation of alexithymic features might also be a transitory reaction evoked by stressful situations and accompanying

depression and anxiety, and is called 'secondary alexithymia'.<sup>2</sup>

Relatively high prevalence rates of alexithymia have been reported among men with genetically high risk for alcoholism<sup>3</sup> and in alcohol-related disorders.<sup>4,5</sup> The prevalence of alexithymia among patients with alcoholism has been reported to be 42–79%.<sup>3,5–8</sup> These rates are close to those found among men with alcoholism in Turkey (48–56%).<sup>9–11</sup> Alexithymia may be a risk factor for alcoholism and it also may affect treatment results.<sup>12</sup> However, little is known about how to approach alexithymia in this patient group.

Dissociation has been investigated as one of the correlates of alexithymia in various studies. Both dissociation and alexithymia are known as strategies to alleviate painful emotions.<sup>13,14</sup> Although an enhanced coexistence has been found between dissociation and alexithymia, some studies indicate that

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they are two distinct phenomena.<sup>15,16</sup> A sizable proportion of treatment-seeking substance abusers have elevated levels of dissociative symptoms<sup>17–21</sup> and dissociative disorders also.<sup>22</sup> Given these associations of both alexithymia and dissociation with substance use, the aim of the present study was to determine the relationship between alexithymia and dissociation in a patient group with alcoholism. In order to eliminate possible effects of alcohol use on measures, we conducted the study after completion of the detoxification period.

For any study investigated the possibility of an association between alexithymia and dissociation, the negative affect, particularly anxiety, should be controlled.<sup>13,23</sup> Also depressed mood might potentiate both alexithymia and dissociation scores.<sup>15,16</sup> Thus, in order to eliminate possible influences of the overall severity of the psychiatric condition and of the comorbid psychiatric disorders, we also screened for state and trait anxiety, depression, severity of alcohol use, and the overall psychiatric symptom severity. We decided to study male patients with alcohol dependence because they have a high risk for alexithymia.<sup>9–11</sup>

## METHOD

### Settings

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, and has 100 inpatient beds and accepts patients from all over Turkey. The Ethics Committee of the hospital approved the study. Patients' written informed consent were obtained after the study protocol was thoroughly explained.

### Participants

Two hundred consecutively admitted alcohol-dependent inpatients without a history of any other substance abuse were considered for participation in the study. All participants fitted the DSM-IV diagnostic criteria for alcohol dependence. Five patients were excluded due to illiteracy and three patients due to cognitive deficits. 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, that is, before filling out the forms. A total of 176 alcohol-dependent inpatients participated in the study. Interviews with the study group were conducted after the detoxification period, that is, 4–6 weeks after the last day of alcohol use. The total scores of the Toronto Alexithymia Scale (TAS-20) were dichotomized such that a score of  $\geq 61$  indicated alexithymia and a score of  $< 61$  indicated no alexithymia.

A total of 101 subjects (57.4%) were married, 52 subjects (29.6%) were divorced or separated, and 23 subjects (13.1%) were single. Eighty-seven subjects (49.4%) were employed, whereas 57 subjects (32.4%) 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  $9.8 \pm 4.0$  years of education on average.

## Instruments

### Structured Clinical Interview for DSM-IV

The substance dependence section of the Structured Clinical Interview for DSM-IV (SCID-I)<sup>24</sup> was administered to all patients by a psychiatrist who was experienced with this instrument (C.E.). The Turkish version of the instrument was used in the present study.<sup>25</sup>

### Dissociative Experiences Scale

Dissociative symptoms were assessed using the 28-item self-report Dissociative Experiences Scale (DES).<sup>26</sup> The DES is not a diagnostic tool but serves as a screening device for chronic dissociative disorders. Responders are asked to rate various dissociative experiences that are occurring in their daily life when they are not under the influence of alcohol or drugs. For each item possible scores range from 0 to 100. The DES is a highly reliable and internally consistent questionnaire. The Turkish version of the scale has reliability and validity as high as its original form.<sup>27,28</sup> Cronbach's alpha was 0.95 in the present study. There is also a taxon form of the scale (DES-T) derived from eight of the original items. Taxometric analysis of these items yields a high probability that an individual is in one of two discrete categories: normal or suffering from pathological dissociation.<sup>29</sup> The DES-Taxon has the potential to be used as a dimensional measure, but may also be used as a

categorical index of high and low dissociators.<sup>30</sup> Cronbach's alpha was 0.86 for DES-T in the present study.

### Toronto Alexithymia Scale

The prevalence of alexithymia was screened using the 20-item version of the Toronto Alexithymia Scale (TAS-20),<sup>31,32</sup> Turkish version.<sup>33</sup> The Turkish version of the TAS-20 has been validated on a Turkish population. Each TAS-20 item was rated on a 5-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); and (iii) externally oriented thinking (EOT). The total scores of the TAS-20 were categorized according to the recommendations of Kose *et al.*,<sup>33</sup> thus a score  $\geq 61$  indicated alexithymia and  $< 61$  no alexithymia. Cronbach's alpha was 0.76 in the present study.

### Symptom Checklist-Revised

Psychopathologic symptoms were assessed with the widely used 90-item Symptom Checklist-Revised (SCL-90-R), a self-rating inventory with nine clinical scales for somatization, obsessive compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism.<sup>34</sup> 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 research. In the present study the Turkish version of the SCL-90-R was used.<sup>35</sup> Cronbach's alpha was 0.98 in the present study.

### Michigan Alcoholism Screening Test

The severity of dependence was assessed with the Michigan Alcoholism Screening Test (MAST),<sup>36</sup> which was developed as a 'rapid and effective screening for lifetime alcohol-related problems and alcoholism' for a variety of populations. It consists of 25 brief true–false items that are self-administered in approximately 10 min. Scoring is accomplished after reverse scoring four of the 25 items and assigning weighted scores. These weighted scores are then summed; the sum represents a total score reflecting severity of alcohol-related problems. The Turkish version of the MAST is valid and reliable for screening severity of

dependence in both alcohol- and drug-dependent patients.<sup>37</sup> The Cronbach alpha was 0.74 in the present study.

### State–Trait Anxiety Inventory

As a measure of state and trait anxieties, the State–Trait Anxiety Inventory (STAI) was used.<sup>38</sup> It is a four-item self-report instrument. Participants indicate their agreement with each item on a Likert scale ranging from 1, 'not at all' to 4, 'very much so'. The STAI has good reliability and validity.<sup>38</sup> The Cronbach alpha was 0.91 for State Anxiety and 0.87 for Trait Anxiety in the present study.

### Beck Depression Inventory

Symptoms and severity of depression were evaluated using the Turkish version<sup>39</sup> of the Beck Depression Inventory (BDI).<sup>40</sup> The Cronbach alpha was 0.90 for the BDI in the present study.

### Data analysis

The statistical package SPSS 11.5 for Windows was used for all the analyses (SPSS, Chicago, IL, USA). Categorical variables were compared using the  $\chi^2$  test. Odds ratios and 95% confidence intervals were calculated. The *t*-test was used to compare the groups on continuous variables. Multivariate analysis of covariance was used to identify factors independently associated with alexithymia. For all statistical analysis *P* was considered significant at *P* < 0.05.

## RESULTS

Fifty-three patients (30.1%) had alexithymia and 123 patients (69.9%) had no alexithymia according to the cut-off point suggested by Kose *et al.*<sup>33</sup> There were no significant differences between alexithymic and non-alexithymic patients on age, education, and duration of alcohol use (Table 1). Among patients with alexithymia 33 (62.3%) reported pathological dissociation, whereas this number was only 25 (20.3%) among non-alexithymic patients ( $\chi^2 = 29.49$ , d.f. = 1, *P* < 0.001; OR [95%CI]: 6.47 [3.19–13.13]). Thus, the alexithymic group had a significantly higher rate of dissociative taxon members (patients with pathological dissociation) according to Bayesian probability.

**Table 1.** Patient data

	No alexithymia		Alexithymia		<i>t</i> (d.f. = 174)	<i>P</i>
	<i>n</i> = 123	SD	<i>n</i> = 53	SD		
Age	43.1	7.8	43.0	9.5	0.04	0.970
Education (years)	10.0	4.2	9.3	3.4	1.22	0.230
Duration of alcohol use (years)	24.3	8.7	24.6	8.9	0.22	0.830
Beck Depression Inventory	14.2	9.3	22.4	9.7	−5.27	<0.001
STAI-I (State Anxiety)	39.6	10.0	46.6	10.9	−4.15	<0.001
STAI-II (Trait Anxiety)	47.7	8.1	56.8	8.6	−6.72	<0.001
Global severity index (SCL-90-R)	1.3	0.7	1.9	0.7	−5.70	<0.001
Michigan Alcohol Screening Test	28.55	10.23	30.81	9.41	−1.38	0.170
Dissociative Experiences Scale	20.50	15.57	34.63	20.87	−4.43	<0.001
Dissociative Experiences Scale–Taxon Score	14.79	15.89	31.79	23.18	−4.87	<0.001

SCL-90-R, Symptom Checklist–Revised; STAI, State–Trait Anxiety Inventory.

TAS-20 total score and the DIF and DDF subscales were positively correlated with all scale scores used in the present study (Table 2). An analysis of covariance (ANCOVA) was performed to assess whether dissociative taxon membership predicted alexithymia while controlling for state and trait anxiety, depression, psychiatric symptom severity and severity of alcoholism (Table 3). Trait anxiety, psychiatric symptom severity and dissociative taxon membership predicted higher total alexithymia scores.

A multivariate analysis of covariance (MANCOVA) was performed to determine if dissociative taxon membership had different effects on various dimensions of alexithymia as measured with the three TAS-20 subscales, whereas the levels of state and trait anxiety, depression, psychiatric symptom severity and severity of alcoholism were entered also as inde-

pendent variables. The trait anxiety was a significant covariant both for TAS-DIF (difficulty of identifying feelings) and TAS-DDF (difficulty of describing feelings), and the global severity index was a covariant for TAS-DIF. The overall main effect of dissociative taxon membership was significant only for TAS-DIF (Table 4).

## DISCUSSION

The present study suggests that dissociation and difficulty of identifying feelings are interrelated among male alcohol-dependent patients as assessed after a detoxification period. Trait anxiety and overall symptom severity were also significant covariates of alexithymia. Because this was a cross-sectional study conducted on male patients, gender-specific aspects

**Table 2.** Correlations between alexithymia (TAS-20 total and its subscales) scores and other clinical measures

	TAS-20	DIF	DDF	EOT
Age	−0.03	−0.03	−0.07	0.03
Beck Depression Inventory	0.49*	0.48*	0.37*	0.21**
STAI-I (State anxiety)	0.43*	0.47*	0.29*	0.15***
STAI-II (Trait anxiety)	0.64*	0.64*	0.51*	0.25**
Global severity index (SCL-90-R)	0.60*	0.62*	0.47*	0.21**
Michigan Alcohol Screening Test	0.26**	0.28*	0.23**	0.04
Dissociative Experiences Scale	0.50*	0.52*	0.34*	0.20**
Dissociative Experiences Scale – Taxon Score	0.51*	0.51*	0.34*	0.26**

Correlation is significant at the \*0.001 level, \*\*0.01 level and \*\*\*0.05 level (2-tailed).

DIF, difficulty in identifying feelings; DDF, difficulty in describing feelings; EOT, externally oriented thinking; SCL-90-R, Symptom Checklist–Revised; STAI, State–Trait Anxiety Inventory; TAS-20, Toronto Alexithymia Scale.

**Table 3.** Univariate covariance analysis

Source	Type III sum of squares	d.f.	Mean square	F	P
Corrected model	10316.209 <sup>†</sup>	7	1473.744	23.300	<0.001
Intercept	1023.441	1	1023.441	16.181	<0.001
Age	200.896	1	200.896	3.176	0.077
Michigan Alcohol Screening Test	15.970	1	15.970	0.252	0.616
STAI-I (State anxiety)	46.928	1	46.928	0.742	0.390
STAI-II (Trait anxiety)	1485.989	1	1485.989	23.493	<0.001
Beck depression inventory	100.623	1	100.623	1.591	0.209
Global severity index	265.381	1	265.381	4.196	0.042
Dissociative taxon membership	524.610	1	524.610	8.294	0.004

<sup>†</sup>R<sup>2</sup> = 0.49 (adjusted R<sup>2</sup> = 0.47).

Alexithymia (TAS-20) score as dependent variable and dissociative Taxon membership as covariate.

STAI, State-Trait Anxiety Inventory; TAS-20, Toronto Alexithymia Scale.

**Table 4.** Multivariate covariance analysis

Source	Dependent variable	Type III sum of squares	d.f.	Mean square	F	P
Corrected model	DIF	3368.277 <sup>†</sup>	7	481.182	23.044	<0.001
	DDF	785.407 <sup>‡</sup>	7	112.201	10.394	<0.001
	EOT	304.465 <sup>§</sup>	7	43.495	2.506	0.018
Intercept	DIF	1.644	1	1.644	0.079	0.779
	DDF	52.846	1	52.846	4.896	0.028
	EOT	549.407	1	549.407	31.656	<0.001
Age	DIF	62.107	1	62.107	2.974	0.086
	DDF	3.116	1	3.116	0.289	0.592
	EOT	20.500	1	20.500	1.181	0.279
STAI-I (state anxiety)	DIF	1.095	1	1.095	0.052	0.819
	DDF	29.947	1	29.947	2.774	0.098
	EOT	5.877	1	5.877	0.339	0.561
STAI-II (trait anxiety)	DIF	343.439	1	343.439	16.448	<0.001
	DDF	168.544	1	168.544	15.614	<0.001
	EOT	49.477	1	49.477	2.851	0.093
Beck Depression Inventory	DIF	6.693	1	6.693	0.321	0.572
	DDF	11.088	1	11.088	1.027	0.312
	EOT	16.926	1	16.926	0.975	0.325
Michigan Alcohol Screening Test	DIF	1.610	1	1.610	0.077	0.782
	DDF	1.023	1	1.023	0.095	0.759
	EOT	13.978	1	13.978	0.805	0.371
Global Severity Index	DIF	145.893	1	145.893	6.987	0.009
	DDF	15.652	1	15.652	1.450	0.230
	EOT	0.065	1	0.065	0.004	0.951
Dissociative taxon membership	DIF	147.440	1	147.440	7.061	0.009
	DDF	17.221	1	17.221	1.595	0.208
	EOT	43.719	1	43.719	2.519	0.114

<sup>†</sup>R<sup>2</sup> = 0.49 (adjusted R<sup>2</sup> = 0.47); <sup>‡</sup>R<sup>2</sup> = 0.30 (adjusted R<sup>2</sup> = 0.27); <sup>§</sup>R<sup>2</sup> = 0.10 (adjusted R<sup>2</sup> = 0.06).

Three alexithymia dimensions (TAS-20 subscale scores) as dependent variables and dissociative Taxon membership as covariate.

DIF, difficulty in identifying feelings; DDF, difficulty in describing feelings; EOT, externally oriented thinking; STAI, State-Trait Anxiety Inventory; TAS-20, Toronto Alexithymia Scale.

and stability of these findings in longitudinal course need further inquiry. Female patients may have a different profile concerning both dissociative experiences<sup>22</sup> and alexithymia.<sup>41</sup>

In a mixed group of psychiatric patients and non-clinical subjects and in the general population, dissociation was highly associated with alexithymia.<sup>42,43</sup> In contrast, in a group of hospitalized self-mutilating patients,<sup>44</sup> in psychiatric outpatients,<sup>13</sup> and among adolescents,<sup>23</sup> no relationship was found between dissociation and alexithymia. In non-clinical samples, alexithymia and dissociation appear as interrelated but distinct phenomena.<sup>14,45–47</sup> Other studies found also that dissociation and alexithymia were correlated but fundamentally different phenomena.<sup>15,16,48</sup> The present study indicated that alexithymia, dissociation, and chronic anxiety are interrelated among men with alcoholism. The relevance of this triad for prevention and treatment of alcohol dependence requires attention in further studies.

Alexithymia is a complex phenomenon consisting of at least three dimensions. Sayar *et al.* found a high association between dissociative experiences and 'difficulty in identifying feelings' (DIF).<sup>49</sup> Similarly, in a British undergraduate sample, although the general measure of alexithymia was linked to dissociation, dissociative experiences were predicted only by DIF but not by other dimensions of alexithymia.<sup>41</sup> In line with these observations, the present study also demonstrated an association between dissociation and DIF but not with the other dimensions. This is not at odds with contemporary definitions of dissociation as a mental mechanism characterized by a disruption of the usually integrated psychological functions of the individual. It is possible that dissociation is the main mechanism leading to alexithymia, which is rather a result of broken psychological links.

The present study found that alexithymia is also associated with trait anxiety. Unlike dissociation, trait anxiety was related to 'difficulty in expressing feelings' as well. Thus, dissociation does not seem to prevent expression of affectivity but it is related rather to the identifying phase of the centrifugal information processing. Alcohol alleviates anxiety temporarily,<sup>50</sup> whereas it can trigger state dissociation chemically.<sup>18</sup> Overcoming chronic anxiety may simulate a transient relief with a better 'identification and expression of feelings'.

The present study measured chronic (trait) dissociation rather than acute and transient dissociative

states.<sup>51</sup> Although chronic dissociation contributes obviously to difficulties in identifying feelings, paradoxically, chemically (alcohol)-induced transient dissociative states may be considered as an effort to identify and express feelings in a fragmented way that are otherwise difficult to access. Thus, alcohol seems to influence the interplay between anxiety, dissociation, and alexithymia. This interplay may be an important factor in prevention and treatment of alcoholism among the male population.

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