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# Distress intolerance in substance dependent patients

Kadir Özdel[a,*], Suat Ekinci[b]

[a]Department of Psychiatry, Diskapi YB Teaching and Research Hospital, Ankara, Turkey
[b]Department of Psychiatry, Addiction Services, Balikli Rum Foundation Hospital, Istanbul, Turkey

**Abstract**

This study seeks to extend the literature by examining distress tolerance (DT) levels for a substance dependent group of individuals. Next, it considers the potential relationship of DT levels with substance dependence features and finally, it compares those factors with a healthy control group. This study included 93 individuals (49 substance dependent and 44 healthy controls). Participants were evaluated using the Structured Clinical Interview for DSM-IV Axis I Diagnosis (SCID-I) and given the Distress Tolerance Scale (DTS), Beck Depression Inventory (BDI), and State & Trait Anxiety Inventory (STAI). Consistent with our expectations, the substance dependent group showed higher scores on the BDI and STAI, and lower scores on the DTS. There was no difference between the single drug dependent group and multiple substance-dependent groups, and their DT levels were not correlated with the duration of substance use, nor with the age of first substance use. Instead, DT was strongly correlated with trait anxiety, state anxiety, and depressive symptoms. The DT levels of this group of substance dependent individuals were very low in comparison to controls and to other groups reported in the literature. Our results suggest that distress tolerance may represent a therapeutic target factor in substance dependency treatment. Limitations and future research directions are also discussed.


## 1. Introduction

Distress tolerance (DT) is a well established psychological construct that is defined as an individual's perceived capacity to withstand negative emotional states [1,2]. Although this construct shares some qualities with frustration or discomfort tolerance, it is a unique concept related to tolerance for negative psychological distress [1,3].

The early literature on distress tolerance dates back to the 1980's. As described in Linehan's work, DT was originally considered most relevant to borderline personality disorder [4]. Marsha Linehan has highlighted the importance of DT as a factor in the treatment of challenging psychological problems in her dialectical behavioral therapy (DBT) [5]. According to DBT, a promising therapy modality for borderline personality disorder (BPD), an individual's low distress tolerance is one of the main contributors to disruptive behaviors. At the same time, one of the main purposes of DBT treatment is to boost the distress tolerance level of a patient [6]. In the last decade, primarily as related to an individual's capacity to withstand emotional distress, DT has been a focus of research in the area of substance use [2,7,8] and other psychological disorders such as major depressive disorder, eating disorders and anxiety disorders [9–13].

Previous research has primarily been conducted in normal populations in addition to a few disordered populations. This research suggests that distress tolerance has a relationship with depression and anxiety symptoms, and also shows an independent association with the symptom measurements of various anxiety disorders [13–15]. In addition to anxiety disorders, Ellis et al. [12] found that decreased distress tolerance, along with increased anger and blunted physiological arousal, distinguished depressed and non-depressed individuals. DT has been found, either directly or indirectly, to be related to suicidal behavior, smoking relapse, risky sexual behavior and eating disorders [11,16–18]. In addition, some have suggested that DT may be specifically related to the motives for alcohol use [19] and cannabis abuse [20]. Although there are some theoretical studies in this area, to the best of our knowledge, there has been no study with a control group conducted on a substance dependent group of individuals.

* Corresponding author at: Diskapi Yildirim Beyazit Egitim ve Arastirma Hastanesi, Psikiyatri Klinigi, 06010 Altindag/Ankara, Turkey. Tel.: +90 3125962000; fax: +90 312318 66 90.
*E-mail address:* kadirozdel@gmail.com (K. Özdel).

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Therefore the purpose of this study is twofold: first, to compare distress tolerance levels and factors as well as anxiety and depressive symptom levels between a substance dependent group and non-substance abusing healthy controls and second, to investigate whether there is a relationship between substance use features and distress tolerance levels.

## 2. Methods

### 2.1. Participants

The study sample was composed of 93 individuals (49 residential patients with substance dependence diagnoses and 44 psychologically healthy controls). The patient group was recruited from among patients who presented to a residential substance abuse treatment facility in Istanbul (Balikli Rum Foundation Hospital). Individuals in the control group were recruited from the same hospital's staff and their acquaintances. No compensation was given to any participants. Study participants were primarily male (89.8% for the patient group and 91.1% for the control group) and single (73.5% for the patient group and 57.8% for the control group).

### 2.2. Procedures

All patients were substance dependent individuals. To minimize the possible effects of the clinical symptoms that might be associated to early abstinence, all nominees were invited to participate in the study after their detoxification period. Patients who agreed to participate were enrolled in the study on the condition that they fulfilled the inclusion criteria. The criteria were as follows: at least 18 years of age, showing no mental retardation, and demonstrating enough literacy to fill out the measurement instruments. Participants were excluded if they 1) would not commit to future abstinence, 2) were unable to read or speak Turkish, 3) had cognitive difficulties that impaired accurate recall (memory impairment, a diagnosis of schizophrenia, schizoaffective, delusional disorder, or an active psychotic episode), or 4) showed any remaining withdrawal symptoms. After participants read and signed the consent form, they completed the self-report measures. The relevant SCID (Structured Clinical Intervention for DSM-IV) form was used to confirm a clinical diagnosis and to filter the control group for psychiatric diagnoses. All participants were administered a sociodemographic data form, the Beck Depression Inventory (BDI), the State-Trait Anxiety Inventory (BAI), and the Distress Tolerance Scale (DTS).

### 2.3. Measures

#### 2.3.1. Assessment of demographic information

All participants completed a demographics and clinical information form assessing age, marital status, education, and employment status as well as clinical information such as age at first onset of substance use, number and variety of substances used, history of legal involvement, and history of suicidal ideation and attempts.

#### 2.3.2. The Beck Depression Inventory (BDI)

This is a 21-item scale measuring emotional, cognitive, somatic and motivational symptoms and is based on data obtained from clinical observations. This Inventory was developed by Beck et al. [21]. In the Turkish version of this test, 17 is considered the cut off point for validity and reliability [22].

#### 2.3.3. The State Trait Anxiety Inventory (STAI)

This scale was developed by Spielberger (1987) [23]. The STAI consists of two sub-scales, each composed of 20-items, measuring state and trait anxiety. The STAI state sub-scale (STAI-S) asks respondents to rate how they feel 'right now… at this moment' using a 4-point scale (1 = not at all, 4 = very much so) in response to a series of self-descriptive statements. The STAI trait subscale (STAI-T) asks respondents to rate how they feel 'in general' using a 4-point scale (1 = almost never, 4 = almost always) in response to relevant statements ($\alpha = 0.90$). The Turkish version of the STAI has been demonstrated to be valid and reliable ($\alpha = .94$) [24].

#### 2.3.4. The Distress Tolerance Scale (DTS)

This scale was created by Simons and Gaher (2005) to measure perceived distress tolerance and the Turkish version's reliability and validity were demonstrated by Sargin et al. (2012) [2,25]. On the original scale four subscales were proposed, to tolerate emotional distress (measured by the DTS-T with statements like "I can't handle feeling distressed or upset"), subjective appraisal of distress (measured by the DTS-Ap with statements like "My feelings of distress or being upset are not acceptable"), the attention absorbed by negative emotions (measured by the DTS-Ab with statements like "When I feel distressed or upset, I cannot help but concentrate on how bad the distress actually feels"), and regulation efforts to alleviate distress (measured by the DTS-R with statements like "When I feel distressed or upset I must do something about it immediately").

#### 2.3.5. The Structured clinical interview for DSM-IV-TR axis I disorders. Non-patient Edition (SCID-I/NP) and Structured clinical interview for DSM-IV axis I disorders. Clinician version (SCID-CV)

The clinician version of this instrument was used to make a DSM-IV clinical diagnosis [26]. The non-clinical version was used to rule out any history of Axis I diagnosis in the healthy control group [27].

### 2.4. Procedure

#### 2.4.1. Statistical procedure

The statistical analysis used SPSS 15.0 for windows (SPSS, Chicago, IL). For parametric variables, student t tests were used to compare means, and for the non-parametric tests, the Mann–Whitney U was performed. Frequencies