

COPING STRATEGIES RELATED TO TREATMENT IN SUBSTANCE USE  
DISORDER PATIENTS WITH AND WITHOUT COMORBID DEPRESSION

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## ABSTRACT

Coping strategies exert an important influence in the development and course of both substance use disorder (SUD) and major depressive disorder (MDD) and its treatment outcomes. We examined, for the first time, the coping strategies related to treatment in SUD and SUD-MDD patients and their associations with clinical characteristics. Forty SUD and 40 SUD-MDD males, each group composed by 20 therapeutic community and 20 ambulatory treatment patients, were assessed through the Coping Strategies Inventory and clinical characteristics questionnaires. SUD-MDD patients scored higher in Disengagement strategies such as Social Withdrawal and lower in Engagement ones such as Problem Solving, Cognitive Restructuring and Social Support, as well as in self-perceived capacity for coping. No differences for treatment were found. SUD and, specially, SUD-MDD patients scored higher than norms in maladaptive strategies. Time of abstinence, age of onset and severity of SUD were related to maladaptive coping. SUD and SUD-MDD patients are prone to employ Disengagement coping strategies and SUD-MDD patients coping repertory is more maladaptive than the SUD ones. Likewise, clinical characteristics associated to maladaptive coping differ by diagnosis and modality of treatment. These findings could be taken in account for the treatment design and to improve the recovery and prevent relapses.

**Keywords:** Coping strategies; Dual diagnosis; Major depressive disorder; Substance use disorder; Treatment modality.

## **1. Introduction**

Coping strategies, defined as the cognitive and behavioral efforts aimed to manage the internal and external demands of a person or environment (Lazarus and Folkman, 1984), are classified as engagement, which are adaptive and targeted to deal with the stressor or/and their related emotions, and disengagement, maladaptive and directed to avoid the stressful situation and/or their related emotions (Carver and Connor-Smith, 2010; Skinner et al., 2003; Tobin et al., 1989). Both groups may also be subdivided in two groups depending on the focus, which could be the problem or the emotion.

Coping strategies are considered as an important influence in the development, course and treatment outcome of diverse mental disorders such as substance use disorder (SUD) (Kommesch et al., 2016; Marquez-Arrico et al., 2015). Several studies have observed that SUD patients tend to show a lower use of adaptive coping strategies as compared to normal population (Coriale et al., 2012; Marquez-Arrico et al., 2015; Pence et al., 2008), Likewise, there has also been observed a relationship between the use of adaptive coping strategies and a lower substance use, better adherence to treatment (Chung et al., 2001; Forys et al., 2007; Hasking et al., 2011), and lower relapse rates (Anderson et al., 2006; Kiluk et al., 2011). Moreover, the use of maladaptive strategies was linked to the increase of dependence (Hruska et al., 2011).

Among the SUD population there can be found a noteworthy group with any other comorbid mental disorder which is known as dual diagnosis (Nesvåg et al., 2015; Toftdahl et al., 2016). Dual diagnosis patients tend to show higher use of medical services (Martín-Santos et al., 2006), higher rates of mortality (Hjorthøj et al., 2015) and treatment failure (Carey et al., 2001; Lambert et al., 2005), higher cognitive

impairment (Benaiges et al., 2013) and a lower quality of life (Benaiges et al., 2012) as compared to the SUD ones.

Major depressive disorder (MDD) is considered as a major world problem affecting more than 350 million people around the world and it is also the worldwide first cause of disability (Marcus et al., 2012). Diverse studies have observed associations between depressive symptoms and the use of maladaptive coping strategies (Bettis et al., 2016; Kiral et al., 2015). Likewise, some studies have found associations between the use of adaptive coping strategies and a lower depressive symptomatology (Kiral et al., 2015; Morris et al., 2014). Moreover, the use of disengagement coping strategies have been associated with the risk for the development (or relapse) of a MDD (Aarts et al., 2015; Morris et al., 2014).

One of the comorbid mental disorders suffered by SUD patients is the MDD, with comorbidity around the 11-27% in community studies (Kessler et al., 2003; Nesvåg et al., 2015). The co-occurrence of a SUD with a MDD (SUD-MDD) is associated with higher impairment and worse course of both disorders, worse functioning, and higher risk of suicide as compared to patients without comorbidity (Antúnez et al., in press; Blanco et al., 2012; Conway et al., 2006; Hasin et al., 2002; Magidson et al., 2013; Worley et al., 2012).

Currently, there are two main ways for treating SUD and its comorbidity: Therapeutic community and ambulatory treatment. The first is based in a living-learning situation (Kennard, 2004) where everything that happens, mainly crisis, between the community members is employed as a learning opportunity (Magor-Blatch et al., 2014). Ambulatory treatment, by the other hand, provides a situation where the patient lives in his habitual ambient and which is close to the treatment location. Both modalities are

focused on psychosocial treatments which included group and individual sessions (Kleber et al., 2006).

Considering the importance of coping strategies to the treatment in SUD and MDD this study aims, for first time, to examine the coping strategies employed by male SUD and SUD-MDD individuals, in both therapeutic community and ambulatory treatment. Furthermore, we explore the relationships between coping strategies and clinical variables associated to diagnosis and type of treatment.

## **2. Method**

### *2.1. Participants*

Eighty male patients ( $40.05 \pm 9.29$  years) under SUD treatment were enrolled in a cross-sectional design and divided into two groups: one with SUD without comorbid psychopathology ( $n = 40$ ) and another with SUD and comorbid major depressive disorder (SUD-MDD;  $n = 40$ ). Each group included 20 patients from therapeutic community and 20 from ambulatory treatment.

### *2.2. Materials and measures*

Current diagnosis of SUD and MDD was confirmed using the Structural Clinical Interview for the DSM-IV Axis I Disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 1999), which was previously provided by the psychologist of each center. Sociodemographic (age, marital status, social class, schooling and economic status) and clinical variables (psychiatric and substance use family history, age of onset of each disorder, relapses, abstinence periods, drugs used, suicidal attempts, presence of organic pathology and medication consumption) were collected with the SCID-I and a clinical interview designed for our study.

Severity of SUD was assessed using the Drug Abuse Screening Test-20 (DAST-20; Skinner & Goldberg, 1986) through its Spanish version, which provides a total score from 0 to 20 (0 no addiction, 1-5 low, 6-10 intermediate, 11-15 substantial, and 16-20 severe addiction). Depressive symptomatology in MDD patients was assessed using the Hamilton Depression Rating Scale (HDRS; Hamilton, 1967) through its Spanish version, which provides a total scoring from 0 to 52 (0-7 absence, 8-13 low, 14-18 moderate, 19-22 substantial, and 22-52 severe depression).

Coping strategies were assessed by means of the Coping Strategies Inventory (CSI; Tobin et al., 1989) in its Spanish version (Cano et al., 2007). This inventory requires the evocation of any stressful situation, which had to be related to the treatment according to our study aim, for answering the 41 self-reported items. This inventory assesses a total amount of eight primary scales (Problem Solving, Cognitive Restructuring, Social Support, Express Emotions, Problem Avoidance, Wishful Thinking, Social Withdrawal, and Self-Criticism) as well as the ability to cope or not the evoked situation. There are four secondary scales: Problem Focused Engagement (composed by Problem Solving and Cognitive Restructuring), Emotion Focused Engagement (Social Support and Express Emotions), Problem Focused Disengagement (Problem Avoidance and Wishful Thinking) and Emotion Focused Disengagement (Social Withdrawal and Self Criticism). Finally, there are two tertiary scales: Engagement (composed by Problem and Emotion Focused Engagement) and Disengagement (Problem and Emotion Focused Disengagement).

### *2.3. Procedure*

Participants were included according to these inclusion criteria: 1) male gender; 2) aged 19-55; 3) According to DSM-IV-TR criteria (American Psychiatric Association, 2000) current diagnosis of a SUD, in remission and without relapses for at least three

months and for the SUD-MDD group the additional criterion of MDD stabilized. Exclusion criteria were: 1) presence of any other psychopathology different from SUD or MDD (the latter only for the SUD-MDD group); 2) altered consciousness status, global cognitive deterioration, language comprehension problems or any other problem which could difficult the assessment. Patients were recruited until we reached the  $n = 20$  for each condition, derived by the clinicians of the centers according to the inclusion and exclusion criteria. The assessment protocol was approved by the Research Committee of the University of Barcelona, the present study complied with the tenets of the Declaration of Helsinki and all patients signed the informed consent prior their inclusion in the study.

#### *2.4. Data analysis*

Group differences in demographic and clinical variables were explored with independent sample t-test for continuous data, and Chi-square test for categorical variables. Three multivariate analyses of covariance (MANCOVA), considering the primary, secondary and tertiary scales of the CSI as dependent variables, were performed with the diagnosis (SUD and SUD-MDD) and the type of treatment (ambulatory and therapeutic community) as independent variables. Age and time of abstinence were considered as a covariate to control for possible effects. Post hoc comparisons were adjusted by Bonferroni's correction. Data were also compared to the Spanish norms available for the primary scales (Cano et al., 2007). The partial eta square  $\eta_p^2$  was obtained as a measure of the MANCOVA effect size and Cohen's  $d$  for the t-test. Correlations between coping strategies and clinical characteristics (age of substance use or depression onset, severity of addiction or depression, abstinence period and daily amount of medication) considering each groups were employed as a screen method to choose the variables for included in the performed regression analyses.

Statistical analyses were carried out using the SPSS/PC+ statistics package (version 17.0), and statistical tests were bilateral with the type I error set at .05.

### **3. Results**

#### *3.1. Sociodemographic and clinical characteristics.*

Diagnostic groups showed no differences in marital status, years of schooling, abstinence period, and SUD onset. Nevertheless, SUD patients were more likely to receive a disability pension, while SUD-MDD were more likely to be older and to receive an elderly pension. Moreover, SUD-MDD patients showed a higher percentage of medical disease comorbidity and suicidal attempts, more use of daily number of medication as well as a higher variety of substance use (hallucinogen, opioid and sedative drugs) as compared to SUD patients (see Table 1).

Insert Table 1 here.

On the other hand, the only differences observed between the treatment groups were that therapeutic community patients were more likely to be unemployed and to have a lower time of abstinence than the ambulatory ones.

Attending to the DAST-20 (see Table 1), no differences were found by diagnostic nor by treatment groups. Likewise, no differences by treatment were found in HDRS scores of SUD-MDD patients (see Table 1).

#### *3.2. Coping strategies.*

Results in the primary scales (see Table 2) indicated that SUD patients tend to a higher use, as compared to SUD-MDD, of Problem Solving ( $p = .029$ ), Cognitive Restructuring ( $p = .003$ ) and Social Support ( $p = .045$ ), and they also showed a higher



capacity to engage the problem ( $p = .017$ ). On the other hand, SUD-MDD patients exhibited a higher use of Social Withdrawal ( $p < .001$ ).

Regarding secondary scales, SUD patients showed a higher use of Problem Focused Engagement ( $p = .003$ ) and Emotion Focused Engagement ( $p = .030$ ), while SUD-MDD patients had a higher use of Emotion Focused Disengagement ( $p = .005$ ). Finally, attending to tertiary scales, SUD patients displayed a higher use of Engagement strategies ( $p = .004$ ) while SUD-MDD showed a higher use of Disengagement strategies ( $p = .030$ ).

No main effects for the type of treatment nor interactive effects between diagnosis and type of treatment were found.

The comparisons of the group means with the Spanish normative data (see Table 2) revealed diverse significant differences. Attending to diagnosis, SUD patients scored higher in Cognitive Restructuring ( $t = 2.70$ ;  $p = .007$ ; Cohen's  $d = 0.466$ ), Express Emotions ( $t = 2.21$ ;  $p = .028$ ; Cohen's  $d = 0.345$ ), Wishful Thinking ( $t = 4.27$ ;  $p < .001$ ; Cohen's  $d = 0.769$ ), Social Withdrawal ( $t = 4.67$ ;  $p < .001$ ; Cohen's  $d = 0.783$ ) and Self Criticism ( $t = 8.73$ ;  $p < .001$ ; Cohen's  $d = 1.449$ ), while SUD-MDD patients scored lower in Problem Solving ( $t = 2.28$ ;  $p = .023$ ; Cohen's  $d = 0.392$ ) and higher in Problem Avoidance ( $t = 3.07$ ;  $p = .002$ ; Cohen's  $d = 0.446$ ), Wishful Thinking ( $t = 2.32$ ;  $p = .021$ ; Cohen's  $d = 0.382$ ), Social Withdrawal ( $t = 10.11$ ;  $p < .001$ ; Cohen's  $d = 1.840$ ) and Self Criticism ( $t = 8.79$ ;  $p < .001$ ; Cohen's  $d = 1.456$ ). Attending to treatment, ambulatory patients scored higher in Problem Avoidance ( $t = 2.21$ ;  $p = .027$ ; Cohen's  $d = 0.331$ ), Wishful Thinking ( $t = 4.08$ ;  $p < .001$ ; Cohen's  $d = 0.690$ ), Social Withdrawal ( $t = 8.13$ ;  $p < .001$ ; Cohen's  $d = 1.434$ ) and Self Criticism ( $t = 8.57$ ;  $p < .001$ ; Cohen's  $d = 1.396$ ), while therapeutic community patients scored higher in Wishful Thinking ( $t =$

2.47;  $p = .014$ ; Cohen's  $d = 0.431$ ), Social Withdrawal ( $t = 6.48$ ;  $p < .001$ ; Cohen's  $d = 1.040$ ) and Self Criticism ( $t = 8.95$ ;  $p < .001$ ; Cohen's  $d = 1.512$ ).

Insert Table 2 here

### *3.3. Associations between coping strategies and clinical characteristics.*

Regression models (see Table 3) in the SUD group showed that the SUD severity explained the 12.8% of the variance in Wishful Thinking, the time of abstinence explained the 8.4% of Problem Focused Disengagement, and the age of SUD onset explained the 13.8% of Self Criticism and the 8.4% of Emotion Focused Disengagement. Considering the models in the SUD-MDD group, we observed that the age of SUD onset explained the 7.6% of the variance in Social Support, the daily amount of medication explained the 9.2% of Wishful Thinking, and the depressive symptomatology (HDRS) explained the 8.9% of the variance in capacity to engage the problem and the 10.8% of Emotion Focused Disengagement.

Insert table 3 here

Regarding the ambulatory group, regression models (see Table 3) showed that the depressive symptomatology (HDRS) explained the 22.4% of the variance in capacity to engage the problem. For the therapeutic community group, the regression model indicated that the SUD severity explained the 23.1% of Cognitive Restructuring, the age of SUD onset explained the 9.7% of Cognitive Restructuring and the 10.5% of Social Support, the daily amount of medication explained the 8.5% of Cognitive Restructuring, the 9.6 of Social Support, the 11.3% of Problem Focused Engagement and the 7.7% of Engagement. Finally, the age of depression onset explained the 16.6% of the variance in Problem Avoidance, the 22% of Social Withdrawal, the 29.5% of Emotion Focused Disengagement, and the 29.6% of Disengagement.

## **4. Discussion**

### *4.1. Coping strategies*

This study examined, for the first time, the coping strategies used by SUD and SUD-MDD patients to deal with treatment by considering its modality (ambulatory and therapeutic community). Our findings are in agreement with previous studies with SUD (Coriale et al., 2012; Marquez-Arrico et al., 2015; Pence et al., 2008) and MDD non-comorbidity patients (Bettis et al., 2016; Kiral et al., 2015) that showed a tendency to maladaptive coping in both disorders. Moreover, we found several differences in coping strategies between SUD and SUD-MDD patients which were not influenced by the type of treatment. In addition, and due to the notable implications of coping strategies during the course of the treatment as well as for the relapse prevention (Anderson et al., 2006; Chung et al., 2001; Forsys et al., 2007; Hasking et al., 2011; Hruska et al., 2011; Kiluk et al., 2011), take into consideration these data could constitute a relevant resource for the successful treatment.

Our results indicated that both diagnostic groups used a high amount of maladaptive coping strategies such as the desire that the stressful event would not ever happened (Wishful Thinking), avoid any contact with those persons related to the stressful situation (Social Withdrawal), and self-blame for the stressful event that happened (Self Criticism), which constitute an important risk to achieve the recovery and to avoid relapses (Aarts et al., 2015; Hruska et al., 2011; Kiluk et al., 2011; Morris et al., 2014). Therefore, this usage of disengagement strategies may be taken in account throughout the treatment process, and psychotherapeutic programs should be developed in an attempt to substitute them for other adaptive coping strategies.

Although SUD patients use several Disengagement coping strategies, they also showed, as compared to normal population and in agreement with Marquez-Arrico et al.

(2015), a higher use of some Engagement strategies such as those oriented to express the emotions that occur during the stressful event (Express Emotions) and also strategies to modify the meaning of the stressful situation in an attempt to make it less stressful (Cognitive Restructuring). Both strategies are one of the most trained during the therapeutic process for the SUD treatment (DiClement and Holmgren, 2010; Kleber et al., 2006) and could be used by health professionals as a strength for the treatment and relapse prevention, as they may constitute a great resource for the recovery.

Regarding to SUD-MDD patients, their coping strategies profile was clearly inclined for the use of Disengagement strategies, mainly Emotion Focused (Problem Avoidance, Wishful Thinking, Social Withdrawal and Self Criticism), together to a lack of Engagement ones (Problem Solving and Cognitive Restructuring) and low perceived self-efficacy to cope, compared with the SUD patients and normal population. These results could be linked to the depressive symptomatology, similarly as it has been described with other mental disorders (Jáuregui Lobera et al., 2009; Wesner et al., 2015). Therefore, Cognitive Restructuring and Problem Solving would be related to fatigue or energy loss as well as the feels worthlessness and concentration difficulties while the low perceived self-efficacy could be linked to the symptom of worthlessness feeling.

Moreover, the maladaptive coping strategies profile observed in SUD-MDD patients may increase the relapse risk (Aarts et al., 2015; Morris et al., 2014) due to the higher impairment and worse course which has been associated to this comorbid diagnosis (Antúnez et al., in press; Blanco et al., 2012; Conway et al., 2006; Hasin et al., 2002; Worley et al., 2012). On the whole, SUD-MDD patients could be involved into a vicious circle which may require higher efforts from them as well as from the therapists to leave this situation as compared with SUD non-comorbidity patients.

Nevertheless, and considering the benefits of the Engagement coping strategies for the SUD (Hasking et al., 2011; Kiluk et al., 2011) and MDD (Kiral et al., 2015), the training, teaching and, finally, the use of adaptive coping strategies in this population could become as an inflection point, by breaking the circle and leading patients to a better and more stable recovery both of SUD and MDD.

#### *4.2. Associations between coping strategies and clinical characteristics.*

Our results suggest that considering the diagnosis and type of treatment several clinical characteristics were related to a maladaptive coping. Specifically, it has been associated with high severity, early onset and low time of abstinence in SUD patients, while in SUD-MDD ones with an early SUD onset, elevated amount of daily medication and high depressive symptomatology. Similarly, it has been found in ambulatory patients that a high depressive symptomatology is related to an impaired self-perceived capacity to cope with the stressful events. Likewise, maladaptive coping was associated to an early SUD and MDD onset, higher SUD severity and high daily amount of medication in therapeutic community patients. The knowledge of these associations between clinical characteristics and coping strategies in SUD and SUD-MDD patients, which is in line with previous studies (Bettis et al., 2016; Bowen and Enkema, 2014; Kiral et al., 2015; Marquez-Arrico et al., 2015; Morris et al., 2014), could become a keystone for the treatment design for these populations. Likewise, ambulatory treatments should develop strategies aimed to improve the self-perceived capacity to cope with stressful events in those patients with higher depressive symptomatology, while therapeutic community interventions should pay special attention to patients with early SUD and MDD onset, high SUD severity and more daily medication, as these characteristics could be considered as a risk factor for a maladaptive coping. Although further studies are needed, our results suggest that

treatment programs should emphasize the need to improve and avoid concrete coping strategies depending on the clinical characteristics of the patients.

#### *4.3. Limitations and future research*

This study has some limitations. One is the characteristic of the sample, which is relatively small and it is composed only by male patients with a range of high ages which is not representative of the entire studied population. The second limitation is the cross-sectional study design, which does not allow us to establish casual relationships between the studied variables and factors. Another limitation is that the study was performed, partially, with retrospective and self-reported information which is susceptible to recall bias and that it was not always able to be contrasted. Moreover, the variety of the substance use in the sample could be a confounding factor which was difficult to control. Likewise, the absence of a MDD non-comorbidity sample limited us to show a complete vision of this issue, even though we compared our results with the Spanish normative data. Finally, although we observed several significant results in the regression analyses, conclusions derived from those should be taken with caution because of the low explanatory power obtained. Longitudinal studies should be developed in order to obtain a more complete vision of the relationships between the coping strategies and the SUD and SUD-MDD, as well as to increase the knowledge of the therapeutic programs designed to improve the cope strategies and their impact in symptomatology, treatment course and relapse in these patients.

#### *4.4. Conclusions*

Differences in coping strategies related to treatment were found between SUD and SUD-MDD patients. Moreover, these differences were not influenced by the type of treatment. SUD-MDD patients showed a higher use of maladaptive coping strategies, a lesser use of adaptive ones, and a lesser self-perceived capacity to cope with the

stressful event, as compared to SUD ones. In addition, SUD and MDD clinical characteristics (v. g. severity and age of SUD onset) were related to maladaptive coping strategies in SUD and SUD-MDD patients. Likewise, MDD severity in ambulatory patients and SUD severity together with early MDD onset in therapeutic community ones were related to the use of maladaptive coping strategies. Although further studies are needed, the consideration of our data in treatment for SUD or SUD-MDD patients, by emphasizing the use of adaptive coping strategies and the avoidance of those which are maladaptive, could become relevant for the better treatment course as well as for the relapse prevention.

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### **Contributors**

A.A. conceived the original idea for the study, sought funding and wrote the protocol. A.A., J.F.N. and J.M.A. managed the day-to-day running of the study, carried out the statistical analyses, wrote the manuscript and have approved the final manuscript.

### **Conflict of interests**

None.

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Table 1. Sociodemographic and clinical data. Means and standard deviation or percentages, and statistical contrasts.

	SUD	SUD-MDD	Statistical contrast	Ambulatory	Therapeutic Community	Statistical contrast
<b>Sociodemographic data</b>						
Age (yr)	36.73 ± 10.40	43.38 ± 6.64	$t_{(78)} = 3.41^{**}$	41.83 ± 9.35	38.28 ± 9.00	$t_{(78)} = 1.73$
Marital status			$\chi^2_{(4)} = 8.89$			$\chi^2_{(4)} = 6.32$
Single	40%	45%		40%	45%	
Stable partner	17.5%	2.5%		12.5%	7.5%	
Married	22.5%	12.5%		25%	10%	
Separated/divorced	20%	37.5%		20%	37.5%	
Widower	0%	2.5%		2.5%	0%	
Years of schooling	10.95 ± 2.64	10.23 ± 2.74	$t_{(78)} = 1.21$	10.83 ± 2.80	10.35 ± 2.61	$t_{(78)} = 0.79$
Economic situation			$\chi^2_{(4)} = 12.64^*$			$\chi^2_{(4)} = 10.21^*$
Active	15%	10%		20%	5%	
Unemployed	35%	37.5%		30%	42.5%	
Disability pension	22.5%	7.5%		10%	20%	
Elderly pension	5%	32.5%		27.5%	10%	
No income	22.5%	12.5%		12.5%	22.5%	
<b>Clinical data</b>						
Medical disease comorbidity	20%	50%	$\chi^2_{(1)} = 7.91^{**}$	42.5%	27.5%	$\chi^2_{(1)} = 1.98$
Hypercholesterolemia	0%	15%		10%	5%	
Respiratory system disease	10%	12.5%		15%	7.5%	
Hepatitis	5%	12.5%		12.5%	5%	
Diabetes	0%	10%		7.5%	2.5%	
AID	2.5%	5%		5%	2.5%	
Other	10%	27.5%		17.5%	20%	
Daily number of medication	0.50 ± 0.96	2.00 ± 1.39	$t_{(78)} = 5.60^{***}$	1.42 ± 1.51	1.07 ± 1.29	$t_{(78)} = 0.27$
Substance use <sup>a</sup>			$t_{(78)} = 3.58^{**}$			$t_{(78)} = 0.23$
Alcohol	72.5%	87.5%		87.5%	72.5%	
Cocaine	75%	77.5%		72.5%	80%	



Cannabis	45%	35%		42.5%	37.5%	
Hallucinogen	7.5%	15%		12.5%	10%	
Opioid	5%	30%		15%	20%	
Sedative	2.5%	20%		10%	12.5%	
DAST-20	14.10 ± 2.94	15.07 ± 2.67	$t_{(78)} = 1.38$	13.94 ± 3.07	14.97 ± 2.61	$t_{(78)} = 1.49$
Number of suicidal attempts	0.18 ± 0.56	0.68 ± 1.19	$t_{(78)} = 2.39^{**}$	0.26 ± 0.55	0.60 ± 1.22	$t_{(78)} = 1.63$
Mean abstinence period (months)	8.30 ± 5.40	7.73 ± 5.76	$t_{(78)} = 0.46$	10.28 ± 6.18	5.75 ± 3.71	$t_{(78)} = 3.97^{***}$
Substance use disorder onset (year)	19.33 ± 6.52	18.03 ± 6.48	$t_{(78)} = 0.90$	19.28 ± 7.09	18.08 ± 5.86	$t_{(78)} = 0.83$
Major depressive disorder onset (year)		32.00 ± 9.08		32.05 ± 8.94	31.95 ± 9.45	$t_{(38)} = 0.034$
HDRS		8.18 ± 6.84		7.25 ± 7.87	9.10 ± 5.68	$t_{(38)} = 0.85$

SUD: Substance use disorder.

SUD-MDD: Substance use disorder with comorbid depression.

<sup>a</sup> Percentages will not equal 100 as each participant may take more than one substance.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Table 2. Descriptive statistics (mean and standard deviation), normative data, F and eta square ( $\eta p^2$ ) tests according to the groups and to the coping strategies.

	Normative data	SUD	SUD-MDD	F	$\eta p^2$	Ambulatory	Therapeutic Community	F	$\eta p^2$
<b>Primary scales</b>									
Problem Solving	14.25 ± 5.01	14.05 ± 4.73	12.35 ± 4.69	4.97*	.063	13.40 ± 4.75	13.00 ± 4.81	0.11	.002
Cognitive Restructuring	10.17 ± 4.94	12.38 ± 4.53	8.98 ± 5.20	9.15**	.110	10.78 ± 5.39	10.58 ± 4.94	0.20	.003
Social Support	10.93 ± 5.12	11.83 ± 4.60	9.33 ± 5.24	4.18*	.053	11.55 ± 4.86	9.60 ± 5.13	2.34	.031
Express Emotions	8.98 ± 5.05	10.88 ± 5.92	8.73 ± 5.37	2.43	.032	9.78 ± 5.88	9.83 ± 5.63	0.04	.001
Problem Avoidance	5.81 ± 3.89	6.35 ± 4.46	7.90 ± 5.36	2.48	.032	7.30 ± 5.03	6.95 ± 4.95	0.01	.001
Wishful Thinking	11.66 ± 5.05	15.20 ± 4.11	13.63 ± 5.27	2.10	.028	15.10 ± 4.93	13.73 ± 4.55	0.95	.013
Social Withdrawal	3.93 ± 5.53	8.25 ± 5.50	13.10 ± 4.37	19.19***	.206	11.35 ± 4.79	10.00 ± 6.13	2.16	.028
Self-Criticism	5.11 ± 5.05	12.50 ± 5.15	12.55 ± 5.17	0.20	.003	12.40 ± 5.39	12.65 ± 4.92	0.09	.001
Capacity to engage the problem		2.90 ± 1.33	2.40 ± 1.13	5.95*	.074	2.58 ± 1.32	2.73 ± 1.20	0.43	.006
<b>Secondary scales</b>									
Problem focused engagement		26.43 ± 7.63	21.38 ± 7.35	9.45**	.113	23.73 ± 8.35	24.08 ± 7.45	0.02	.001
Emotion focused engagement		22.70 ± 8.56	18.05 ± 8.54	4.87*	.062	21.33 ± 8.97	19.43 ± 8.66	0.57	.008
Problem focused disengagement		21.58 ± 5.97	22.60 ± 8.89	0.32	.004	23.25 ± 8.48	20.93 ± 6.36	0.76	.010
Emotion focused disengagement		20.75 ± 8.15	25.50 ± 8.11	8.51**	.103	23.60 ± 7.89	22.65 ± 9.01	0.42	.006
<b>Tertiary scales</b>									
Engagement		49.13 ± 14.18	39.43 ± 13.81	8.86**	.107	45.05 ± 15.46	43.50 ± 14.14	0.14	.002
Disengagement		42.30 ± 10.67	47.60 ± 13.41	4.87*	.062	46.33 ± 12.21	43.58 ± 12.46	0.67	.009

SUD: Substance use disorder.

SUD-MDD: Substance use disorder with comorbid depression.

\*p < .05; \*\*p < .01; \*\*\*p < .001

Table 3. Change statistics ( $R^2$ ,  $\beta$  and F) from multiple regressions performed between the Coping Strategies Inventory (CSI) scales, substance use disorder and major depressive disorder clinical variables in all the groups.

		SUD			SUD-MDD			Ambulatory			Therapeutic community		
		$R^2$	$\beta$	F	$R^2$	$\beta$	F	$R^2$	$\beta$	F	$R^2$	$\beta$	F
<b>Primary scales</b>													
Cognitive Restructuring	Severity of addiction (DAST-20)										.231	-.503	11.52**
	Age of substance use onset										.097	.347	5.21*
	Daily amount of medication										.085	-.330	4.53*
Social Support	Age of substance use onset				.076	.316	4.23*				.105	.358	5.60*
	Daily amount of medication										.096	-.346	5.03*
Problem Avoidance	Age of depression onset										.166	-.459	4.79*
Wishful Thinking	Severity of addiction (DAST-20)	.128	.388	6.73*									
	Daily amount of medication				.092	.340	4.84*						
Social Withdrawal	Age of depression onset										.220	-.511	6.36*
Self-Criticism	Age of substance use onset	.138	-.400	7.26*									
Capacity to engage the problem	Severity of depression (HDRS)				.089	-.335	4.81*	.224	-.515	6.49*			
<b>Secondary scales</b>													
Problem Focused Engagement	Daily amount of medication										.113	-.370	5.86*
Problem Focused	Time of abstinence	.084	.238	4.57*									
Disengagement													
Emotion Focused	Age of substance use onset	.084	-.327	4.56*									
Disengagement	Severity of depression (HDRS)				.108	.361	5.70*						
	Age of depression onset										.295	-.576	8.95**
<b>Tertiary scales</b>													
Engagement	Daily amount of medication										.077	-.318	4.18*

Disengagement	Age of depression onset			
		.296	-.577	8.97**

SUD: Substance use disorder.

SUD-MDD: Substance use disorder with comorbid depression.

DAST-20: Drug Abuse Screening Test-20; HDRS: Hamilton Depression Rating Scale.

\* $p < .05$ ; \*\* $p < .01$