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Cognitive Distortions among Depressed and Suicidal Drug Abusers

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Abstract

A very high proportion of drug abusers have psychiatric problems, with depressive symptoms particularly common. Nonabusing depressed patients have been found to demonstrate elevated levels of cognitive distortions, relative to normals, and to benefit from therapies that address such cognitive distortions. The present study investigated the prevalence of cognitive distortions in a sample of 52 inpatient depressed and/or suicidal drug abusers. Levels of cognitive distortion were found to be comparable to those reported in other studies for noninpatient depressed subjects, but lower than those of nonabusing depressed inpatients. Within the present relatively homogeneous sample, degree of cognitive distortion was nevertheless related to levels of depression, hopelessness, and suicidality. It is concluded that cognitive therapy may be indicated for depressed drug abusers.

Many psychiatric patients use and abuse nonprescription drugs, and many addicted patients also have psychiatric problems. The number of patients with such dual diagnoses appears to have increased in recent years (Gottheil, McLellan, and Druley, 1978). Rounsaville, Weissman, Kleber, and Wilber (1982) reported that 69% of a sample of 533 addicts in treatment had also met criteria

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for another psychiatric disorder at some time. Depressive symptoms are particularly prevalent among this population. Indeed, in the Rounsaville et al. (1982) study, almost 48% of the addicts were diagnosed as having a major depressive disorder currently or in the past. Furthermore, the presence of a depression is associated with poorer outcomes in drug abuse treatment (Rounsaville et al., 1982). The suicide rate among substance abusers is also particularly high, estimated at 5 to 17 times higher than among the general population (O'Donnell, 1964; Frederick, Resnick, and Wittlin, 1973). Tables 1 and 2 summarize the results of studies on depression and suicidal behavior among drug abusers, published since 1973.

In view of the propensity of drug abusers to abuse prescribed antidepressant medications, alternative treatments for depression are particularly needed for these patients. Cognitive therapy of depression (Beck, Rush, Shaw, and Emery, 1979) has been shown to be as effective as, or even more effective than, standard antidepressant medications for nonaddicted patients (Blackburn, Bishop, Glen, Whalley, and Christie, 1981; Kovacs, Rush, Beck, and Hollon, 1981), and has also been specifically adapted to the treatment of drug abuse (Beck and Emery, 1977). The basic tenet of the cognitive approach is that depression is primarily a disorder of thinking, in which negative cognitive schemata about the self, the world, and the future lead the individual to distort the nature of his or her experience so that it is perceived as congruent with the contents of those schemata. Specific types of cognitive distortions include overgeneralization, selective abstraction, arbitrary inference, dichotomous thinking, minimization of positive consequences or assets, and maximization of negative consequences or liabilities. Feelings of deprivation, defeat, worthlessness, and hopelessness are seen as the products of such cognitive processes. Shaw, Steer, Beck, and Schut (1979) found that the most important dimension of the depressive syndrome in heroin-addicted men was "cognitive-affective" in nature, but there is generally little empirical evidence about cognitive distortions among drug abusers. The present study was designed to collect such information.

One cognitive-affective variable in which there has been considerable interest is perceived hopelessness, since it has been repeatedly shown to be superior to depression level as a predictor of suicidal intent and of completed suicides among those reporting suicidal ideation (e.g., Beck, Steer, Kovacs, and Garrison, 1985). Among drug abusers, hopelessness also appears to be a better predictor of suicidal intent than either depression (Emery Steer, and Beck, 1981) or drug abuse status (Weissman, Beck, and Kovacs, 1979).

The goals of the present study were: (1) to assess the degree of depressive cognitive distortion on a standardized questionnaire demonstrated by a sample of depressed and/or suicidal drug abusers, relative to nonabusing depressed and nondepressed samples; and (2) to determine the extent to which cognitive distortions predict levels of depression, hopelessness, and suicidal intent among depressed and/or suicidal drug abusers.

Table 1

Resource Table: Depression and Drug Abuse

Author(s)	Year	Subjects	Instrument(s)	Findings
Blatt, Rounsaville, Eyre, and Wilber	1984	86 substance abusers applying for treatment at New Haven drug dependence unit. 47 were opiate addicts and 39 were non-opiate substance abusers.	Hamilton Rating Scale for Depression Symptom Checklist (SCL-90) Depressive Experiences Questionnaire (DEQ) Raskin Scale Interview	1. Opiate addicts were consistently more depressed than nonopiate substance abusers on all measures. 2. On DEQ opiate addicts were more depressed than normals and psychiatric patients. 3. Depression focused on issues of self-criticism, guilt, and shame. 4. Depression which focused on self-criticism on DEQ was significantly correlated with extent to which the nonopiate substance abusers began to experiment with opiates. 5. Suggests that intense depression particularly depression focused on issues of self-criticism has important role in opiate addiction.
Dorus and Senay	1980	432 substance abusers applying for treatment at the Illinois Drug Abuse Program, Chicago Central Intake Unit. 366 were opiate addicts. 66 abused nonopiates	Beck Depression Inventory (BDI) Hamilton Rating Scale for Depression (HRS) Current and Past Psychopathology Scales (CAPPS)	At intake, 46% of subjects reported moderate or high levels of depression on BDI, and 29% scored in high or moderate range of depression on HRS. Depression scores were significantly lower after 8 months regardless of treatment.
Ginsburg, Allison, and Hubbard	1984	12,000 clients in cities in the U.S. treated in drug abuse programs (outpatient detoxification, methadone maintenance, and residential and outpatient drug-free) in 1979-1981.	Treatment Outcome Prospective Study Scale (TOPS—Interview designed for large longitudinal descriptive study of the effects of drug abuse programs.	Depressive symptoms are prevalent among clients in drug abuse treatment, especially young women and those who use 2 or more nonopiates on weekly basis. Depressive symptoms fade rapidly for many clients, but at the same time, substantial proportions of clients continued to manifest depressive symptoms.

(continued)

Table 1 (continued)

Author(s)	Year	Subjects	Instrument(s)	Findings
Rounsaville, Weissman, Kleber, and Wilber	1982	157 opiate addicts at entrance to a multimodality drug treatment program and 6 months later. Most were polydrug users.	Schedule for Affective Disorders and Schizophrenia—Lifetime version (SADS-L) Research Diagnostic Criteria (RDC) Symptom Checklist (SCL-90) Beck Depression Inventory (BDI)	1. 17% of subjects were having an episode of major depression, defined by RDC, and 60% had at least mildly elevated depressive symptoms at entrance to treatment. 2. Substantial improvement found at 6 month follow-up with rates of major depression and elevated symptoms down to 12% and 31%, respectively. 3. Symptomatic improvement related to retention in treatment, but did not differ across treatment modalities. 4. Starting treatment during depressive episode was predictive of poorer outcome in areas of illicit drug use and psychological symptoms, but was unrelated to occupational functioning, legal problems, and program retention.
Schuckit	1982	964 male students and nonacademic staff aged 21-25 years at the Uni-	Survey Questionnaire—mailed to subjects	173 (18%) had a history of depression, including 69 (7%) whose depressions resulted in major life upset. 318 (33%) with alcohol- or drug-related life impairment were unevenly distributed among 3

		versity of California, San Diego.		depressive history groups with 44-48% of those with depression also representing substance abuse problems, while same was true for only 30% of depression free men.
Weissman, Slobetz, Prusoff, and Mesritz	1976	106 young lower-social-class men in methadone maintenance treatment. Subjects had at least 2-year history of addiction to opiates.	Raskin Depression Scale Hamilton Rating Scale for Depression Symptom Checklist (SCL-90) Social Adjustment Scale	One-third of subjects were moderately to severely depressed as assessed on standard rating scales of depression. Depressive symptoms were associated with a decrease in social functioning, an increase in stress in 6-month period, and a history of alcohol abuse.
Weiland and Sola	1970	196 outpatients in methadone program of West Philadelphia Mental Health Consortium.	Zung Self-Rating Depression Scale (SDS) Beck Depression Inventory (BDI) Symptom Checklist (SCL-35)	Opiate-dependent patients in methadone treatment manifest more severe dysphoric symptoms than "normals" but less severe than neurotics or psychotics. Dysphoria was found to be qualitatively different than neurotics and psychotics. Opiate addicts experienced more irritability, performance difficulties and negative outlook, whereas neurotics and psychotics experienced more of a depressive mood with guilt or agitation.

Table 2

Resource Table: Suicide and Drug Abuse

Author(s)	Year	Subjects	Instrument(s)	Findings
Emery, Steer, and Beck	1981	191 daily heroin users commited for methadone maintenance treatment at the Drug Abuse Rehabilitation Program of the West Philadelphia Community Mental Health Consortium. There were 145 men (75.9%) and 46 women (24.1%). Less than 6% reported polydrug use.	Beck Depression Inventory (BDI) Hopelessness Scale (HS) Suicide Contemplation Scale (SCS)	Suicide intent was found to be significantly correlated with hopelessness, but not with depression.
Frederick et al.	1973	268 subjects aged 15-26 years from District of Columbia and suburban Maryland. The 268 were broken down into following groups: Methadone, $N = 78$ Abstinence, $N = 20$ Controls, $N = 170$	Morbidity Attitude Survey Scale Zung Depression Scale	Distinct evidence of depression found among addicted groups compared with controls. Suggests that suicide attempts among young people—particulary drug addicts—are greater than commonly believed.
Hankoff and Einsidler	1976	141 suicide attempters commited to a community general hospital.	Interviews with patients and relatives. Follow-up information after 1 year obtained through patients seen in outpatient treatment, emergency room records, following reattempt and contact with various community agencies.	1. Drug abusers were found to account for 23% of suicide attempt study group, as contrasted with 10% in general psychiatric clinic population. 2. Drug abusers had significantly higher past history of attempts than nonabusers. 3. Drug abusers had significantly more reattempts during 1-year follow-up study.

Harris, Linn, and Hunter	1979	166 male veterans with a diagnosis of drug addiction admitted to an inpatient substance abuse unit in a VA hospital during 1975-1977. 76% were addicted to heroin. The rest were barbiturate, amphetamine, alcohol, or poly-drug abusers.	Hopkins Symptom Checklist (HSCL) Social Dysfunction Rating Scale Semantic Differential	26% reported having made a suicide attempt. These subjects were significantly more depressed, angry, insecure, and anxious than the non-suicide-attempt drug abusers.
Moore, Judd, Zung, and Alexander	1979	278 patients at intake for methadone maintenance program: 180 men, 98 women. 207 controls in normal control group; 63 men, 143 women.	Index of Potential Suicide (IPS)	87% of methadone patients and 98% of normal control subjects were correctly identified on the basis of IPS data. Suggests that similar risk factors are operative in overt suicidal behavior and opiate addiction.
Morris, Kovacs, Beck, and Wolffe	1974	236 cases ruled as suicide by the Medical Examiner in Philadelphia in 1972. 103 were males, 63 were females.	Epidemiological study—data extracted from reports of medical examiner. Suicide Intent Scale, Part I (SIS)	Of the 236 cases, 10% were known to have abused drugs, 9% were alcoholic or excessive drinkers. Preference for drug overdose by female suicides.
Murphy, Rounsaville, Eyre, and Kleber	1983	533 subjects evaluated at the Yale University Drug Dependence Unit.	Schedule for Affective Disorders and Schizophrenia (SADS) Research Diagnostic Criteria (RDC) CODAP ratings Addiction Severity Index Michigan Alcohol Screening Test (MAST) Social Adjustment Scale—self-report Maudsley Personality Inventory	1. 17.3% of sample reported having made at least 1 suicide attempt. Rate is 4 times higher than found in a community survey. 2. Compared to addicts with no history of suicide attempts, those who had attempted suicide reported more drug overdoses and had a clinical profile characterized by fewer resources and greater liabilities. 3. Compared to other addicts, suicide attempters had childhood history of more family disturbance, disruptive behavior, higher rate of depression and alcoholism in family.

(continued)

Table 2 (continued)

Author(s)	Year	Subjects	Instrument(s)	Findings
			Beck Depression Inventory (BDI) Global Assessment Scale Wechsler Adult Intelligence Scale (WAIS)	4. Suicide attempters had a history of heavier alcohol, sedative and, amphetamine abuse. 5. Suicide attempters had higher rate of psychiatric disorders especially of depression, severe personality disorders, and poorer social and psychological functioning.
Ward and Schuckitt	1980	155 consecutive new admissions to a drug free therapeutic community residential drug treatment program in Seattle.	1-hour structured interview	Drug use patterns that were associated with serious suicidal behavior included preference for depressant drugs, history of withdrawal from barbiturates, and lower frequency of PCP use. Diagnostic factors associated with increased suicidal behavior included a history of depression in subject's mother, and a diagnosis of antisocial personality in subjects themselves.
Weissman, Beck, and Kovacs	1979	160 male and 224 female suicide attempters admitted to two large metropolitan hospitals. 30 were dependent on narcotics, 19 were polydrug abusers, 14 used hallucinogens, 14 used sedatives, 9 used stimulants.	Suicide Intent Scale (SIS) Beck Depression Inventory (BDI) Hopelessness Scale (HS)	Stepwise multiple regression analysis of SIS revealed that drug abuse status was not a significant contributor to severity of suicidal intent. Hopelessness accounted for a significant proportion of variance of intent, suggesting that hopelessness among drug abusers is important target for therapeutic intervention.

METHOD

Procedure

Data for this study were collected over the course of 6 months from patients admitted to a joint psychiatric/substance abuse inpatient unit, where the typical patient has a history of numerous such hospitalizations. Average length of stay is about 3 weeks. The present sample consisted of 52 patients who met DSM-III criteria (APA, 1980) for major depression (37%), or adjustment disorder with depressed mood (28%), and/or had recently made a suicide attempt or had significant suicidal ideation (71%). Patients with signs of a schizophrenic or organic brain disorder were excluded. Patients were selected for the study based on information from charts and from the house staff. Table 3 shows the characteristics of the sample. Diagnoses and ratings of suicidal intent were established based on semistructured interviews. The suicide intent ratings (SR), based on the admission note and the semistructured interview, were assigned as follows: 0 = no suicide attempt or suicidal ideation; 1 = suicidal ideation at admission, no attempt; and 2 = suicide attempt prior to admission. Following the interview, patients were asked to complete several self-report questionnaires, described in the next section.

Table 3

Background Characteristics of Present Sample

	%[a]
Sex (N = 52)	
Male	61.5
Female	38.5
Race (N = 52)	
White	55.0
Black	25.0
Hispanic	19.0
Age (N = 52)	
19-30	34.7
30-60	65.3
Marital status (N = 39)	
Single	38.9
Separated, widowed, or divorced	25.4
Married	23.6
Cohabiting	12.1
Legal status (N = 39)	
Voluntary	92.3
Involuntary	7.7

(continued)

Table 3 (continued)

	%[a]
Religion (N = 39)	
Protestant	12.2
Catholic	61.0
Jewish	12.2
Other	14.6
Last grade completed (N = 39)	
Grade school or less	20.0
High school	65.0
College or more	15.0
Employment status (N = 39)	
Unemployed, retired, housewife	76.3
Employed	23.7
Living situation (N = 39)	
Domiciled	66.6
Undomiciled	33.4
Drug use history	
Age of initial use (N = 39)	
12-15	25.6
16-20	41.8
21-25	10.2
26-30	20.5
30+	2.0
Polydrug abusers	74.0
Drugs used in addition to opiates	
Cocaine	44.4
Alcohol	38.8
Valium	22.2
Placidal	13.8
Marijuana	11.1
Amphetamines	11.1
Barbiturates	84.0
Used opiates for 5 years or more	84.0

[a]Percentages shown are of the number of cases where this information was known.

Measures

The *Cognitive Bias Questionnaire* (CBQ; Krantz and Hammen, 1979) consists of six short descriptions of potentially problematic situations, each followed by three or four statements concerning the central character's feelings, thoughts, and expectations. Each statement (23 in all) is followed by four re-

sponse options, representing the two crossed dimensions of depressed versus nondepressed in tone, and distorted versus nondistorted in terms of logical inference from the information provided in the story. Subjects are asked to imagine themselves as the central character and to choose the option that best represents their own response. The measure is scored for the number of depressed distorted responses selected. The possible range of scores is 0 to 23. Krantz and Hammen (1979) reported moderate internal consistency and extensive evidence of both concurrent and discriminant validity in normal, outpatient and inpatient psychiatric samples. Norman, Miller, and Klee (1983) have presented further validational support.

The *Beck Depression Inventory* (BDI; Beck and Beck, 1972) employed here was the 13-item short form of this self-report questionnaire. Items evaluate a wide range of symptoms of depression, with responses rated 0-3 and a potential range of 0-39 total score. Beck and Beck (1972) found that the short form correlated .96 with the longer form, and .61 with clinicians' ratings.

The *Hopelessness Scale* (HS; Beck, Weissman, Lester, and Trexler, 1974b) is a set of 20 true-false items designed to assess a respondent's negative expectations and beliefs about the future. Nine items are keyed false, and 11 items are keyed true. The possible range of scores is 0-20. Beck et al. (1974) reported very high internal consistency and strong correlations with clinicians' ratings. It has demonstrated validity in predicting suicide attempts.

RESULTS

Complete data on all measures were not available for all subjects. The number of subjects on which computations were based is therefore reported with each result. The BDI mean score was 21.0 ($SD = 8.8, N = 48$), the HS mean score was 9.4 ($SD = 6.1, N = 48$), the SR mean was 1.3 ($SD = .63, N = 41$), and the CBQ mean was 3.7 ($SD = 3.9, N = 38$). These scores indicate high levels of depression, hopelessness, suicidal intent, and cognitive distortion, which analyses of variance showed to be unrelated to both diagnosis and sex.

The degree of cognitive distortion present in this sample and their level of depression were compared to those found in clinical and nonclinical samples described by Krantz and Hammen (1979), using two-tailed Student's t tests (see Note 1). Means and standard deviations of each group are shown in Table 4. Subjects in the present sample were significantly more depressed than the nondepressed psychiatric inpatients [$t(56) = 3.33, p < .01$], were less depressed than the depressed psychiatric inpatients [$t(56) = 2.32, p < .05$], and did not differ from the depressed outpatient sample [$t(75) = 0.30$]. On the CBQ, the present sample scored lower than Krantz and Hammen's depressed inpatients [$t(46) = 2.32, p < .05$), but did not significantly differ from the outpatient depressed group [$t(65) = 0.65$]. They scored significantly higher than the normal

Table 4

Comparisons of Mean Scores for Depression (BDI) and Cognitive Distortion (CBQ) of Drug Abuse Sample with Depressed and Nondepressed Nonabusers

	Chabon and Robins (this study)		Krantz and Hammen (1979)[e]							
	Drug abuse inpatients (N = 52) Depressed		Student sample 2 (N = 315)		Outpatients (N = 29) Depressed		VA psychiatric inpatients (N = 10) Nondepressed		(N = 10) Depressed	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
BDI	21.0	8.8			20.4	7.9	10.8[c]	7.9	28.2[b]	9.5
CBQ	3.7	3.9	2.0[d]	2.1	4.3	3.5	1.5[a]	2.0	7.0[b]	4.4

[a] $p < .10$.
[b] $p < .05$.
[c] $p < .01$.
[d] $p < .001$.
[e] p values (noted a-d) calculated by t test of difference from Chabon and Robins (this study) mean score.

Table 5

Pearson Correlations among Measures of Cognitive Bias (CBQ), Depression (BDI), Hopelessness (HS), and Suicidal Intent (SR)

Variable	1	2	3	4
CBQ	–	.47[b] (33)[d]	.50[c] (35)	.26[a] (29)
BDI		–	.66[c] (44)	.12 (37)
HS			–	.22[a] (37)
SR				–

[a] $p < .10$.
[b] $p < .01$.
[c] $p < .001$.
[d] Number of cases on which correlation is based is shown in parentheses.

Student sample [$t(351) = 4.38$, $p < .001$], and demonstrated an even greater mean CBQ difference from the nondepressed inpatients. The very small inpatient sample size ($N = 10$), however, rendered this effect statistically unreliable [$t(46) = 1.72$, $p < .10$].

Pearson correlations among the variables BDI, HS, CBQ, and SR are shown in Table 5. Cognitive bias scores were significantly and moderately strongly related to depression level and to hopelessness, and demonstrated a positive relationship to suicide ratings that fell just short of statistical significance. Unexpectedly, suicide ratings were not significantly associated with either depression or hopelessness scores, though again the relationship with hopelessness fell just short of conventional significance levels.

DISCUSSION

The results support the hypothesis that depressed drug abusers demonstrate cognitive distortions in their evaluations of situations. In comparisons with the samples of Krantz and Hammen (1979), the present sample showed elevated levels of depression and cognitive distortion equivalent to those of the outpatient depressed sample, but lower levels of both depression and cognitive distortion than the psychiatric inpatients. It should be noted that members of the present sample were all selected as depressed or suicidal, thus restricting the range on these variables. Degree of cognitive distortion was nevertheless significantly related to levels of both depression and hopelessness even within this fairly homogeneous sample, suggesting the utility of the Cognitive Bias Questionnaire for the assessment of cognitions in depressed substance abusers in future research.

The lack of significant relationship between suicidal intent and either depression or hopelessness in this study was somewhat surprising in light of prior findings. It should be noted that the suicide ratings analyzed here did not evaluate the severity of an attempt, but merely whether or not an attempt was made or whether there was ideation. In addition, it was not uncommon for these patients to feign suicidality to gain admission to the hospital. The accuracy and sensitivity of our suicidality ratings may therefore have been poor. A more sensitive indicator, such as the Suicidal Intent Scale (Beck, Schuyler, and Herman, 1974a) might demonstrate stronger relationships (Note 2). The variable with the strongest relationship to suicidal intent was cognitive bias. If this relationship is replicated and found to be significant in a larger sample, it underlines the central role played by cognitive processes in experiences of depression, hopelessness, and suicidality among substance abusers.

It cannot be determined, from the present correlational design, whether or not cognitive biases play a causal role in the onset of depressive symptoms (Coyne and Gotlib, 1983). Prospective longitudinal and experimental studies are needed to more adequately address causal hypotheses. Studies that include nondepressed drug abuse comparison groups are also needed in order to determine whether elevated levels of cognitive distortion are specific to depression or are simply associated with psychopathology in general.

The present findings have several potential implications for drug abuse treatment planning. At intake, attention should be directed toward the possibility of a concurrent diagnosis of depression. When such a diagnosis is appropriate, it may be of great value in treatment planning to assess cognitive style using measures such as the Cognitive Bias Questionnaire or others (e.g., Hollon and Kendall, 1980; Weissman and Beck, 1978) which measure different levels of cognitive processing. The type of cognitive therapy described in manuals by Beck, Rush, Shaw, and Emery (1979), and Beck and Emery (1977) appears to be of value in such cases. In view of the finding that drug abuse treatment during a depressive episode results in poorer outcome (Rounsaville et al., 1982), the depression should be an immediate treatment target. The manuals cited here are quite detailed, but staff training may be enhanced by designating one staff member to participate in workshops on cognitive therapy available at conventions and elsewhere, and to then pass this training on to others. The success of this treatment approach may be evaluated not only by scores on the Beck Depression Inventory or similar measures, but also by changes in attitude and cognitive style on the same types of instruments employed at intake.

In summary, the present results demonstrate that depressed substance abusers show elevated levels of cognitive distortion similar to those found in noninpatient depressed subjects, and that such distortions are related to their degree of depression, hopelessness, and suicidality. It is likely that this population would greatly benefit from learning skills that enable them better to label,

interpret, and integrate their experiences, and to thereby alter excessive or inappropriate emotional reactions and behavior patterns.

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NOTES

1. Krantz and Hammen (1979) did not report mean BDI scores for their Student Sample 2 as a whole. BDI scores were reported for depressed (BDI > 9) and nondepressed (BDI < 9) students separately, but not the number of subjects in each group. We therefore make comparisons only on the CBQ for this group, where the N was known. It should also be noted that comparisons with Krantz and Hammen's smaller (N = 212) Student Sample 1 gave essentially the same results as for their sample 2. For simplicity, only the latter are reported here.
2. It had been intended in this study to also measure suicidality using the Suicide Intent Scale. Problems incurred in administration, however, rendered the data unusable.

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