

Short communication

Difficulties in emotion regulation and impulse control in recently abstinent alcoholics compared with social drinkers

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Abstract

Background: Early abstinence from chronic alcohol dependence is associated with increased emotional sensitivity to stress-related craving as well as changes in brain systems associated with stress and emotional processing. The aim of the current study was to examine potential difficulties in emotion regulation during early alcohol abstinence using the recently validated Difficulties of Emotion Regulation Scale (DERS).

Method: Recently abstinent treatment-seeking alcohol abusers ($n=50$) completed the DERS during their first week of inpatient treatment and at discharge (5 weeks later). These responses were compared to a group of social drinkers ($n=62$).

Results: Compared with social drinkers, alcohol-dependent patients reported significant differences in emotional awareness and impulse control during week 1 of treatment. Significant improvements in awareness and clarity of emotion were observed following 5 weeks of protracted abstinence. However, significant difficulties with impulse control persisted until discharge.

Conclusion: Findings from the DERS indicate protracted stress-related impulse control problems in abstinent alcoholics, which may contribute to increased relapse vulnerability.

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Keywords: Alcohol; Emotion Regulation; Impulse Control; Abstinence; Distress

1. Introduction

Early abstinence from alcohol is associated with changes in neural stress and reward systems that can include atrophy in subcortical and frontomesal regions (Bartsch et al., 2007). Moreover, recent imaging

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studies have shown that these brain regions are also associated with the experience and regulation of emotion (Ochsner & Gross, 2005). While alcohol-related changes in emotion, stress and reward-related brain regions have been well documented difficulties in emotion regulation (ER) have not been fully assessed.

Common definitions of ER relate to the way in which humans control their experience and expression of emotion under distress by employing strategies such as suppression, repression and cognitive reappraisal (Gross, 2002). Notably, these strategies are psychologically effortful and a conflict in different regulatory goals may occur during stress, shifting attention towards more immediate and often pleasure-seeking goals (Tice, Bratslavsky, & Baumeister, 2001). This conflict may in turn jeopardize volitional behavior through loss of impulse control (Kuhl & Koole, 1994).

The neuropathology of ER and the manner in which it is compromised may therefore have important implications for treatment outcome in abstinent alcoholics. Impulsivity has often been associated with relapse in various drugs of abuse (Evenden, 1999), and increased sensitivity to stress and alcohol craving has been observed during early abstinence (Fox, Berquist, Hong, & Sinha, 2007a). To date, however, the construct has not been assessed in alcoholics, partly due to its complexity, and partly due to the lack of a validated scale. This study aims to examine ER in early abstinent alcohol-dependent individuals compared with social drinkers using the Difficulties in Emotion Regulation Scale (DERS).

The DERS is an inclusive scale and defines ER in terms of four major factors: the understanding of emotion, the acceptance of emotion, the ability to control impulsive behavior and the ability to access ER strategies benefiting the individual and the specific goals of the situation. The scale has recently been validated in cocaine dependent patients (Fox, Axelrod, Paliwal, Sleeper, & Sinha, 2007b), however, its validity and functionality as a diagnostic tool in alcohol abusing populations, has not been examined.

2. Method

2.1. Participants

Fifty treatment-seeking alcohol dependent (AD) individuals (41M/9F) and 62 social drinkers (SDs; 30M/32F) were recruited through local advertisements. AD patients met DSM-IV criteria for current alcohol dependence and tested positive in a urine toxicology screen upon entry into a locked inpatient facility. Exclusion criteria included dependence on substances other than alcohol or nicotine. SDs with current or past diagnoses of any substance dependence were also excluded. All participants were excluded if they met current DSM-IV criteria for other Axis I psychiatric disorders and required psychiatric medications or were not in good health. The study was approved by the Human Investigation Committee of the Yale University School of Medicine.

2.2. Procedures

The DERS was administered between Days 4 and 7 of inpatient treatment and alcohol abstinence and between weeks 5 and 6, prior to discharge. Patients remained on the unit for an average of 36 days. Breathalyzer and urine toxicology screens were used regularly in order to confirm abstinence. SDs participated in a face-to-face single interview appointment in order to complete psychiatric interviews and the DERS.

2.2.1. Measures

Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004): Participants rate how often statements such as “I feel at ease with my emotions” apply to them, where 1 is “almost never (0–10%),” 2 is “sometimes (11–35%),” 3 is “about half the time (36–65%),” 4 is “most of the time (66–90%),” and 5 is “almost always (91–100%).” Subscales and sample items from each subscale are shown in Table 1.

2.3. Statistical analyses

Independent *t*-tests or chi-squares were used to assess group differences in alcohol use and demographics. Analyses of Co-variance (ANCOVAs) were used to assess group differences on the DERS at baseline and at discharge. Age, years of education and gender were covaried. Paired *t*-tests were used to compare baseline and discharge scores within the AD sample. As emotion dysregulation is central to the pathophysiology of Borderline Personality Disorder (BPD) and BPD is frequently co-morbid with alcohol abuse (Linehan, 1993) we also conducted the same analyses excluding the subgroup of AD patients who met DSM-IV criteria for BPD ($n=11$).

3. Results

3.1. Participants

AD patients were significantly older (37.5 ± 8.2 versus 33.7 ± 9.4 ; $p=0.03$), less educated (12.9 ± 1.7 versus 14.9 ± 2.0 ; $p<0.0001$) and comprised significantly fewer females compared with the SDs (21.9% versus 78.1%; $p=0.0002$). They also reported significantly greater years of alcohol use (18.2 ± 8.4 versus

Table 1
DERS subscales and sample items

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| Nonacceptance of emotional responses (NONACCEPTANCE) |
| “When I’m upset, I feel ashamed at myself for feeling that way.” |
| “When I’m upset, I become angry with myself for feeling that way.” |
| Difficulties engaging in goal-directed behavior (GOALS) |
| “When I’m upset, I have difficulty focusing on other things.” |
| “When I’m upset, I have difficulty getting work done.” |
| Impulse control difficulties (IMPULSE) |
| “When I’m upset I lose control over my behaviors.” |
| “I experience my emotions as overwhelming and out of control.” |
| Lack of emotional awareness (AWARENESS) |
| “I pay attention to how I feel.” (Reverse-scored) |
| “When I am upset, I take time to figure out what I’m really feeling.” (Reverse-scored) |
| Limited access to emotion regulation strategies (STRATEGIES) |
| “When I’m upset, I believe there is nothing I can do to make myself feel better.” |
| “When I’m upset, I believe that wallowing in it is all I can do.” |
| Lack of emotional clarity (CLARITY) |
| “I have difficulty making sense out of my feelings.” |
| “I have no idea how I am feeling.” |

From Gratz and Roemer, 2004.

8.2 ± 8.1 ; $p=0.0001$) and number of days of alcohol use in the past month (23.5 ± 9.3 versus $4.6 \pm 6.1\%$; $p<.0001$). Both groups were well matched for lifetime prevalence of mood disorder (AD: 8.9% versus SD: 5.4%). However, a higher number of AD patients met lifetime criteria for DSM-IV anxiety diagnoses with PTSD (9.8% versus 4.5%; $p<.04$) and without PTSD (6.3% versus 0%; $p=.002$).

For SDs, Cronbach's coefficient alpha was .80 for Total DERS, .86 for Nonacceptance, .84 for Goals, .80 for Impulse, .86 for Awareness, .69 for Strategy, and .85 for Clarity. For AD patients, Cronbach's coefficient alpha was .83 for Total DERS, .87 for Nonacceptance, .84 for Goals, .90 for Impulse, .75 for Awareness, .87 for Strategy, and .87 for Clarity.

3.2. DERS in alcohol patients and social drinkers at baseline and discharge (see Figs. 1 and 2)

At baseline, AD patients reported greater overall difficulty regulating their emotions compared with SDs: Total DERS score [$df=1$; $F=5.0$; $p<.03$]. A Group baseline difference for emotional Awareness also approached significance [$df=1$; $F=3.7$; $p<.06$]. Group differences were also observed on the Impulse subscale both at baseline [$df=1$; $F=9.8$; $p<.002$] and discharge [$df=1$; $F=8.5$; $p=.004$]. Following 5 to 6 weeks of abstinence, patients improved their ratings on the Total DERS score [$df=45$; $F=2.6$; $p=.01$], Awareness [$df=45$; $F=2.6$; $p=.01$], Clarity [$df=45$; $F=3.2$; $p<.003$] and Non-Acceptance [$df=45$; $F=2.8$; $p<.007$] scales (Figs. 1 & 2).

Following the omission of BPD patients from the AD sample ($n=11$), baseline differences were altered slightly. Differences in Awareness were more robust [$df=1$; $F=3.8$; $p=.05$] and differences on the Impulse scale approached statistical significance [$df=1$; $F=3.5$; $p=.06$]. No changes were observed at discharge. Improvement was only observed on the Awareness [$df=35$; $t=2.5$; $p<.02$] and Clarity [$df=35$; $t=2.0$; $p=.05$] subscales.

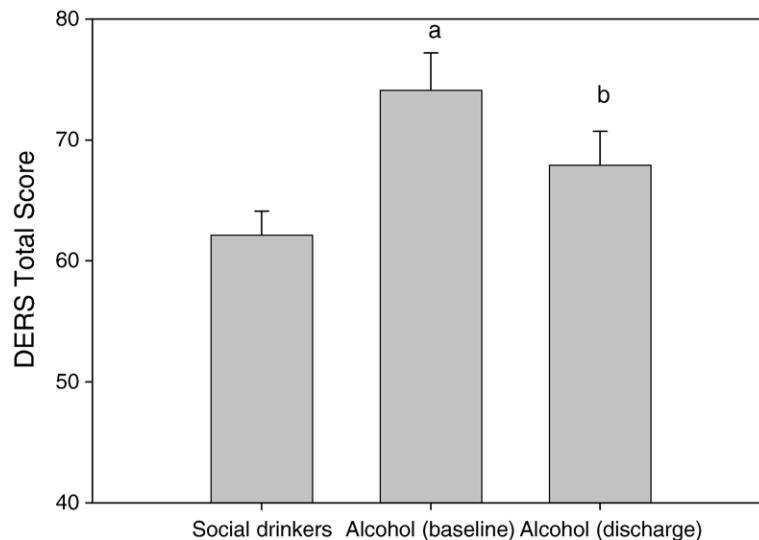


Fig. 1. DERS total score (means and SE) for social drinkers and alcohol patients at baseline and discharge. a: Alcohol (baseline) > Social drinkers; $p<.03$ b: Alcohol (baseline) > Alcohol (discharge); $p=.01$.

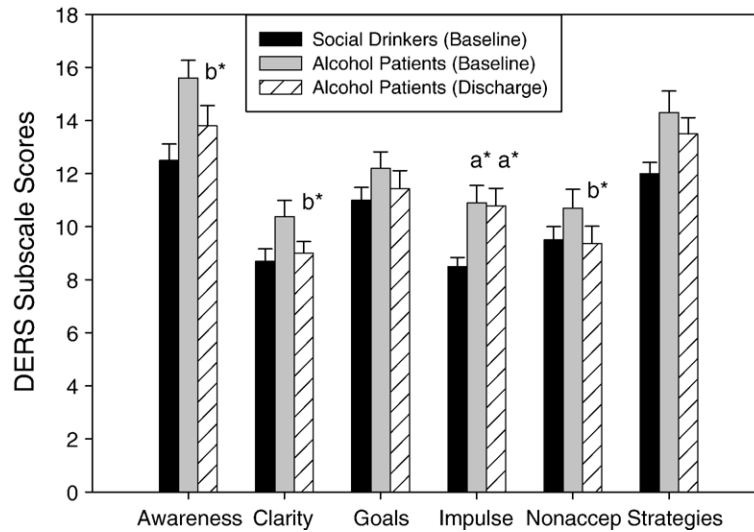


Fig. 2. DERS subscales (means and SE) for social drinkers and alcohol patients at baseline and discharge. a: Alcohol patients > Social drinkers, $p < .05$ b: baseline > discharge, $p < .05$. a*: Alcohol patients > Social drinkers, $p < .01$ b*: baseline > discharge, $p < .01$.

A secondary analysis was conducted excluding the sub-sample of AD patients meeting criteria for lifetime anxiety disorder without PTSD ($n = 7$)¹. Findings were unaltered.

4. Discussion

This is the first study to examine ER difficulties in treatment-engaged AD patients during a period of early abstinence that is marked by an overall distress state. AD patients reported an overall problem with emotion regulation compared with SDs in the first few days of abstinence; in particular with emotional awareness and impulse control. Awareness of emotional states has been widely associated with alcoholism through the facilitation of avoidant coping (Hasking and Oei, 2007) which, in turn, has been related to shorter periods of remission (Moos and Moos, 2006). AD patients also reported lower scores on the Impulse subscale of the DERS compared with SDs, although this difference approached significance once BPD individuals were omitted from the sample. This again supports extensive research indicating that impulse control disorders may affect the occurrence, course, and treatment of substance abuse (Evenden, 1999).

Following protracted abstinence, AD patients without concurrent BPD significantly improved awareness and clarity of their emotional experience, and only significant problems with impulse control persisted. This is consistent with neuro-imaging studies showing chronic alcohol abuse to be associated with stress and cue-related neuroadaptations in the medial prefrontal and anterior cingulate regions of the brain (Sinha and Li, 2007), which are strongly implicated in the self-regulation of emotion and behavioral self-control (Beauregard, Lévesque, & Bourgouin, 2001). As impulsivity in distress states may reflect a change in priority from self-control to affect regulation (Tice et al., 2001), persistent impulse-related

¹ As there is a marked overlap in symptoms between anxiety-related PTSD and BPD (Bolton, Mueser, & Rosenberg, 2006), this discrepancy was largely accounted for by removing the BPD participants from the AD sample.

problems during abstinence may render alcoholics susceptible to poor decision-making and increased vulnerability to relapse. This may also support the need for treatments that place emphasizes on coping skills-based treatments. For example, cue exposure treatment alongside the teaching of urge-specific and maladaptive pleasure-seeking coping strategies have been associated with reduced drinking (Rohsenow et al., 2001).

Research caveats include the fact that the observed improvement with abstinence was limited to the first 4 weeks following withdrawal from chronic alcohol abuse. It is possible that the pattern of improvement in ER would have continued with sustained abstinence. Second, baseline difficulties in impulse control only approached statistical significance following omission of participants with comorbid BPD. However, as impulse problems persisted, these findings may suggest a loss of power due to the removal of eleven subjects from the analyses.

Despite these limitations, findings from the present study suggest that the DERS shows discriminatory ability between AD individuals and SDs as well as sensitivity to detect changes in ER during protracted alcohol abstinence. The scale also demonstrates good internal consistency within alcohol abusing and social drinking samples, indicating that it may be an appropriate tool for assessing the ER construct within treatment-seeking alcoholics as well as being a potentially valuable treatment outcome measure within substance abuse clinical research.

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