

BRIEF COMMUNICATION

Dysphoria: self-devaluative and affective components in recovered depressed patients and never depressed controls

JOHN D. TEASDALE¹ AND SALLY G. COX

From the Medical Research Council Cognition and Brain Sciences Unit, Cambridge

ABSTRACT

Background. The Interacting Cognitive Subsystems analysis of cognitive vulnerability to depression predicts that subjective experiences of dysphoria in recovered depressed patients will be qualitatively different from those of controls. This study tested this prediction using a new instrument, the Depressed States Checklist.

Methods. Twenty-three recovered recurrently depressed patients and 54 never depressed controls rated the affective and self-devaluative components of a dysphoric experience.

Results. Groups reported similar levels of affective component but recovered depressed patients reported higher self-devaluative dysphoric experience. At zero affective component of dysphoria neither group reported any self-devaluative feelings. With increasing affective component of dysphoria, the self-devaluative component increased significantly more in recovered patients than in controls. The ratio of self-devaluative to affective components of dysphoria significantly differentiated recovered depressed patients from controls.

Conclusions. As predicted, dysphoria in recovered depressed patients is qualitatively different from controls in ways that increase vulnerability to major depression. The Depressed States Checklist is a new, brief, measure of cognitive vulnerability to depression that may be particularly useful in large, prospective, epidemiological studies.

INTRODUCTION

Beck's cognitive model suggests that vulnerability to depression depends on stable, general, underlying dysfunctional assumptions (Beck *et al.* 1983, p. 2). However, studies using a questionnaire measure of such assumptions, the Dysfunctional Attitude Scale (DAS) (Weissman & Beck, 1978), provide little evidence of persistent dysfunctional attitudes in vulnerable individuals; scores are elevated in acutely depressed patients, but, on recovery, return to levels similar to controls (Haaga *et al.* 1991).

Persons & Miranda's (1992) mood-state hypothesis and Teasdale's (1983, 1988) differential

activation hypothesis suggest that vulnerability may be related to differences in patterns of thinking activated in dysphoria, rather than to trait-like differences in underlying beliefs, apparent in euthymic mood. These hypotheses predict that individuals vulnerable to depression (e.g. those who have recovered from major depression) will differ from the less vulnerable (e.g. those who have never been depressed) on measures of negative cognition administered in dysphoric mood, when the same measures, administered in euthymic mood, do not differentiate these groups.

Increasing evidence (reviewed in Ingram *et al.* 1988; Segal & Ingram, 1994; Miranda *et al.* 1998) supports these predictions. Two main investigative paradigms have been used. In one, the extent of self-description and incidental

¹ Address for correspondence: Dr John D. Teasdale, MRC Cognition and Brain Sciences Unit, 15 Chaucer Road, Cambridge CB2 2EF.

recall of globally negative trait adjectives (e.g. pathetic, useless) in vulnerable and control groups is compared in euthymic and experimentally induced depressed moods (e.g. Teasdale & Dent, 1987; Kelvin *et al.* 1999). In the other, effects of naturally occurring dysphoria on DAS scores of vulnerable and control groups are compared (e.g. Miranda & Persons, 1988; Miranda *et al.* 1990). Studies generally find that recovered depressed individuals score higher than never depressed individuals on measures of negative thinking administered in dysphoric mood, even when the groups do not differ in euthymic mood.

The present investigation extends this line of research using a new paradigm suggested by the Interacting Cognitive Subsystems (ICS) (Teasdale, 1993; Teasdale & Barnard, 1993) analysis of depressive thinking. Specifically, the study examines the prediction, derived from ICS, that depressed moods experienced by recovered depressed and never depressed individuals will be qualitatively different.

ICS suggests that certain negative moods reflect the activity of self-perpetuating information processing configurations that can contribute to the escalation of dysphoria to major depression at times of potential relapse. ICS suggests that the feeling tone of such mood states reflects the depressogenic themes (such as globally negative views of self) encoded in the underlying schematic mental models that maintain these vulnerability-related processing configurations. This analysis predicts that the subjective experience of dysphoric mood will differ between those more and less vulnerable to depression, reflecting differences in underlying processing configurations. Specifically: 'Although the depressed moods of the more vulnerable may be rated similarly to those of the less vulnerable on adjectives such as "gloomy", "despondent" or "fed up", the ICS analysis predicts differences if more discriminating adjectives such as "worthless" or "hopeless" are used to rate the quality of subjective mood, or "sense"' (Teasdale & Barnard, 1993, p. 220).

We tested this prediction by having recovered recurrently depressed patients and never depressed controls describe a recent experience of dysphoria using a specially designed mood adjective checklist. This checklist included both purely affective adjectives (e.g. 'miserable',

'sad') and adjectives with both affective and globally self-devaluative content (e.g. 'pathetic', 'useless'). (Dykman (1996) has used a related methodology in a study comparing the self-descriptions of dysphoric and nondysphoric students.) By contrast with the methodology used in tests of the differential activation hypothesis (e.g. Teasdale & Dent, 1987), in the present study participants were asked how much they felt 'pathetic' or 'useless' rather than whether or not such words described them as a person.

Specific predictions tested were: (1) in describing a recent experience of dysphoria, recovered depressed patients and never depressed controls will differ more on mood descriptors with implicit globally self-devaluative meanings than on mood descriptors with purely affective content i.e. the group (recovered depressed *v.* never depressed) \times descriptor type (mood *v.* self-devaluative) interaction will be significant; (2) differences between recovered depressed patients and normal controls on self-devaluative descriptors will be mood-dependent i.e. with no dysphoria, endorsement of self-devaluative descriptors will be similar in the two groups, but, with increasing scores on purely affective descriptors of dysphoria, recovered depressed patients will show greater increases in self-devaluative scores than never depressed controls (i.e. regressions of self-devaluative scores on affective scores will have *y*-intercepts of zero for both recovered depressed and never depressed groups, but the slope will be significantly greater in the recovered depressed group).

METHOD

Participants

Recovered depressed patients

Twenty-three recovered recurrently depressed patients meeting the following criteria were recruited in a clinical trial (Teasdale *et al.* 2000) (these represented all eligible patients at one trial site): (1) age 18–65 years; (2) history of DSM-III-R (American Psychiatric Association, 1987) Recurrent Major Depression – two or more previous episodes of major depression without mania or hypomania; (3) previous treatment by antidepressant medication, but off antidepressant medication, and in recovery/remission for the preceding 12 weeks; (4) 17-

item Hamilton Rating Scale for Depression (Hamilton, 1960) score < 10; (5) Beck Depression Inventory (Beck *et al.* 1961) score \leq 10. Exclusion criteria were: history of schizophrenia or schizoaffective disorder; current substance abuse, eating disorder, obsessive-compulsive disorder; organic mental disorder, pervasive developmental delay, or borderline personality disorder; dysthymia before age 20.

Never depressed controls

Fifty-four volunteers from a subject panel, matched for age and gender with the patients, met the criteria: (1) negative response to the screening question (Schedule for Affective Disorders and Schizophrenia – life-time Version, Endicott & Spitzer, 1978), ‘Has there ever been a time that lasted at least a week when you felt extremely depressed or sad, that you didn’t care any more or didn’t enjoy anything?’; (2) BDI score \leq 10.

Measures

Hamilton Rating Scale for Depression (HRSD)

The 17-item HRSD (Hamilton, 1960), is a widely used interview measure of depressive symptomatology.

Beck Depression Inventory (BDI)

The BDI (Beck *et al.* 1961), is a widely used 21-item self-report measure of depressive symptomatology.

Depressed States Checklist (DSC)

In this checklist respondents describe how they felt at times when their mood started to go down during the preceding month, by checking: Not at all; Slightly; Moderately; Very; or Extremely, against 28 adjectives, arranged in alphabetical order. Fourteen adjectives, derived from existing mood adjective checklists, describe purely affective components of depressed mood (*defeated, dejected, depressed, despondent, downhearted, gloomy, helpless, hopeless, low, miserable, sad, sluggish, tired, unhappy*). Fourteen adjectives, related to depressed mood, also imply a globally negative view of self (*abandoned, a failure, inadequate, incompetent, a loser, a mess, pathetic, rejected, stupid, unacceptable, unlovable, unwanted, useless, worthless*). Eight of these self-devaluative words, used here as mood de-

scriptors, were used by Teasdale & Dent (1987) as globally negative descriptors of personality. Remaining words were chosen for thematic similarity. Allocation of words to affective or self-devaluative categories was by consensus between two clinical psychologists with extensive experience of cognitive therapy of depression and of Beck’s cognitive model (Beck *et al.* 1979). These categorizations were confirmed by principal components analysis of DSC administered to 122 volunteers from a subject panel. A two factor unrotated solution yielded a general factor (accounting for 45% of variance) on which all words loaded positively (> 0.44). A second factor, accounting for 9% of variance, contrasted the two *a priori* categories of words, 13 out of 14 self-devaluative descriptors loading positively, and 12 out of 14 affective descriptors loading negatively (reverse loadings of exceptional words were low: *abandoned* -0.056 ; *defeated* 0.027 ; and *hopeless* 0.104). This analysis justified the *a priori* categorization, which was retained to create total scores for each word type, affective and self-devaluative (possible ranges 0 to 56). Cronbach’s alpha was 0.93 for both affective and self-devaluative scales in the principal components analysis sample.

Procedure

Questionnaire measures were administered in individual sessions; for patients, this was at baseline assessment before treatment began. Patients were interviewed to establish history of depression, inclusion and exclusion criteria, and HRSD score.

RESULTS

Basic characteristics

Recovered depressed patients and never depressed controls were very similar in age (means (s.d.s), respectively, 45.3 (12.0) and 43.7 (11.9)) and gender distribution (both 83% female). There was a small but statistically significant difference in BDI, recovered patients scoring higher (mean 6.26 (s.d. 2.82)) than controls (mean 4.54 (s.d. = 2.68)), ($t(75) = 2.54$, $P < 0.02$), although both means were within the normal range. Patients’ median HRSD score was 2.00 (interquartile range 3.00). Patients had experienced a median 3.00 previous episodes of major depression, mean period of remission/

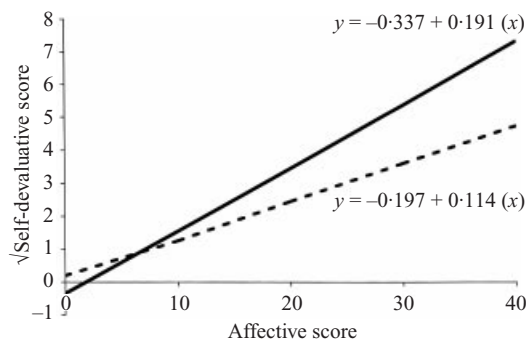


FIG. 1. Regression of square-root of Depressed States Checklist self-devaluative score on Depressed States Checklist affective score in Recovered Depressed (—) and Never Depressed (---) groups.

recovery from last episode being 53 weeks (s.d. 27).

DSC – affective and self-devaluative scores

Mean DSC affective scores were 18.09 (s.d. 8.92) for recovered depressed patients and 17.87 (s.d. 10.12) for never depressed controls. Mean self-devaluative scores were 13.83 (s.d. 12.31) for recovered depressed patients and 7.83 (s.d. 12.31) for controls. Self-devaluative scores for controls were not normally distributed. Accordingly, both self-devaluative and affective scores were subjected to square-root transformations to normalize before repeated measures ANOVA with group (recovered depressed *v.* never depressed) as between-subject factor and word type (affective *v.* self-devaluative) as within-subject factor. This ANOVA yielded a non-significant effect of group, $F(1, 75) = 1.69$, $P > 0.1$, a significant effect of word type, $F(1, 75) = 70.61$, $P < 0.001$, and, as predicted, a significant group \times word type interaction, $F(1, 75) = 7.06$, $P = 0.01$. Recovered depressed patients and never depressed controls had very similar affective scores, $F(1, 75) = 0.01$, $P > 0.1$, but patients had higher self-devaluative scores, $F(1, 75) = 3.92$, $P = 0.051$.

Regression of self-devaluative scores on affective scores

Regression of self-devaluative scores (square-root transformed) on affective scores was examined separately in never depressed controls and recovered depressed patients. Fig. 1 shows the resulting equations and estimated regression lines. The slope of the regression was significantly different from zero for both controls ($t(52) =$

6.59, $P < 0.001$) and patients ($t(21) = 6.79$, $P < 0.001$), indicating significant relationships between self-devaluative and affective scores in both groups. The slope of the regression was significantly greater in patients than controls ($z = 2.35$, $P < 0.02$), indicating that, as predicted, the increase in self-devaluative scores with increasing affective scores was greater in patients than controls. (Note that Fig. 1 plots square-roots of self-devaluative scores. Consequently, the difference in slopes is less than if raw self-devaluative scores were used.)

Fig. 1 shows that, for both patients and controls, at affective scores of zero, estimated self-devaluative scores also approximated zero; in neither patients nor controls did the estimated *y*-intercept differ significantly from zero, $t < 1.0$. As predicted, in the absence of any purely affective dysphoria, recovered depressed patients did not report any self-devaluative feelings. That is, differences between recovered depressed and control groups in mean self-devaluative scores were mood-dependent, and did not reflect persisting, mood-independent, characteristics of recovered depressed patients.

Self-devaluative/affective ratio (S-D/A)

The slope of the regression of self-devaluative scores on affective scores differed significantly between recovered depressed patients and controls (Fig. 1). This suggested the possibility of creating an individual difference variable, reflecting the relative magnitude of self-devaluative and affective components of dysphoria, by calculating the ratio of self-devaluative to affective score (S-D/A) for each individual.

Mean S-D/A was significantly higher in recovered depressed patients than controls (patients, mean 0.659 (s.d. 0.496); controls, mean 0.384 (s.d. 0.331); $F(1, 73) = 7.89$, $P < 0.01$). This difference remained significant when BDI was included as covariate ($F(1, 72) = 5.42$, $P < 0.025$), indicating that the difference in self-devaluative relative to affective scores could not be attributed to the small, but statistically significant, group difference in BDI.

DISCUSSION

The present findings suggest that the experience of dysphoria is different in patients who have recovered from two or more previous episodes

of major depression than in never depressed controls. Although the two groups experienced very similar average levels of dysphoria, as indicated by adjectives with purely affective content, recovered depressed participants reported greater average levels of self-devaluative dysphoric experience. Regression analyses indicated that, in the absence of any purely affective dysphoria, neither recovered depressed nor never depressed participants reported experiencing any self-devaluative feelings. With increasing levels of the affective component of dysphoria, increases in the self-devaluative component were significantly greater in recovered depressed patients than in controls. A measure of the ratio of self-devaluative to purely affective dysphoric feelings significantly differentiated recovered depressed patients from controls, independently of the slight difference in scores on the BDI.

The recovered depressed group, by selection, had been in recovery or remission for at least 3 months prior to inclusion in this study, and BDI scores were in the normal range. Consequently, these patients' reports on the DSC reflected their 'normal' experience of dysphoria during the preceding month rather than residual features of a depressive episode.

Our findings relied on retrospective reports covering the preceding month; replication of these findings on measures administered closer in time to the experiences being reported (e.g. by using the DSC on a daily basis) would be desirable.

The pattern of results in Fig.1 is similar to previous studies, described in the introduction; no difference between recovered depressed and never depressed groups on measures of negative thinking in euthymic mood, coupled with increasing differentiation of these groups on such measures with increasing dysphoria. Our results support the suggestions, derived from the ICS framework (Teasdale, 1993; Teasdale & Barnard, 1993), that the kind of subjective feelings experienced in dysphoria can provide evidence on the nature of underlying vulnerability-related processing, and that dysphoric moods are *qualitatively* different in those cognitively vulnerable to depression and those less vulnerable.

The DSC has attractions as a method for assessing cognitive vulnerability. It focuses on

naturally occurring, rather than experimentally induced, dysphoria, and so removes the need for experimental induction of mood states. The DSC affective score provides an 'integral' measure of mood that can be used to adjust, on an individual-by-individual basis (e.g. as in the DSC S-D/A measure), for effects of variations of purely affective dysphoria on self-related negative cognition. Such effects are often substantial and may otherwise inflate or obscure differences in measures of self-related negative cognition. The DSC may be particularly useful in large prospective population studies of the kind necessary to advance further our understanding of cognitive vulnerability to depression.

We are most grateful to Valerie A. Ridgeway, who collected data on the patient sample, to Hilary Green, who assisted with statistical analyses and figure preparation, to Peter Watson, who provided statistical advice, and to Richard Moore, who assisted with categorization of mood adjectives.

REFERENCES

- American Psychiatric Association (1987). *Diagnostic and Statistical Manual of Mental Disorders, 3rd edn. Revised*. American Psychiatric Association: Washington, DC.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J. & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry* **4**, 561–571.
- Beck, A. T., Rush, A. J., Shaw, B. F. & Emery, G. (1979). *Cognitive Therapy of Depression*. Guilford Press: New York.
- Beck, A. T., Epstein, N. & Harrison, R. (1983). Cognitions, attitudes and personality dimensions in depression. *British Journal of Cognitive Psychotherapy* **1**, 1–16.
- Dykman, B. M. (1996). Negative self-evaluations among dysphoric college students: a difference of degree or kind? *Cognitive Therapy and Research* **20**, 445–464.
- Endicott, J. & Spitzer, R. L. (1978). A diagnostic interview: the Schedule for Affective Disorders and Schizophrenia. *Archives of General Psychiatry* **35**, 837–844.
- Haaga, D. A. F., Dyck, M. J. & Ernst, D. (1991). Empirical status of cognitive theory of depression. *Psychological Bulletin* **110**, 215–236.
- Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery and Psychiatry* **23**, 56–62.
- Ingram, R. E., Miranda, J. & Segal, Z. V. (1988). *Cognitive Vulnerability to Depression*. Guilford: New York.
- Kelvin, R. G., Goodyer, I. M., Teasdale, J. D. & Brechin, D. (1999). Latent negative self schema and high emotionality in well adolescents at risk for psychopathology. *Journal of Child Psychology and Psychiatry* **40**, 959–968.
- Miranda, J. & Persons, J. B. (1988). Dysfunctional attitudes are mood-state dependent. *Journal of Abnormal Psychology* **97**, 76–79.
- Miranda, J., Persons, J. B. & Byers, C. N. (1990). Endorsement of dysfunctional beliefs depends on current mood state. *Journal of Abnormal Psychology* **99**, 237–241.
- Miranda, J., Gross, J. J., Persons, J. B. & Hahn, J. (1998). Mood matters: negative mood induction activates dysfunctional attitudes in women vulnerable to depression. *Cognitive Therapy and Research* **22**, 363–376.

- Persons, J. B. & Miranda, J. (1992). Cognitive theories of vulnerability to depression: Reconciling negative evidence. *Cognitive Therapy and Research* **16**, 485–502.
- Segal, Z. V. & Ingram, R. E. (1994). Mood priming and construct activation in tests of cognitive vulnerability to unipolar depression. *Clinical Psychology Review* **14**, 663–695.
- Spitzer, R. L., Williams, J. B. W., Gibbon, M. & First, M. B. (1992). The Structured Clinical Interview for DSM-III-R (SCID). I: History, rationale, and description. *Archives of General Psychiatry* **49**, 624–629.
- Teasdale, J. D. (1983). Negative thinking in depression: cause, effect or reciprocal relationship? *Advances in Behaviour Research and Therapy* **5**, 3–25.
- Teasdale, J. D. (1988). Cognitive vulnerability to persistent depression. *Cognition and Emotion* **2**, 247–274.
- Teasdale, J. D. (1993). Emotion and two kinds of meaning: cognitive therapy and applied cognitive science. *Behaviour Research and Therapy* **31**, 339–354.
- Teasdale, J. D. & Barnard, P. J. (1993). *Affect, Cognition and Change: Re-modelling Depressive Thought*. Lawrence Erlbaum: Hove.
- Teasdale, J. D. & Dent, J. (1987). Cognitive vulnerability to depression: an investigation of two hypotheses. *British Journal of Clinical Psychology* **26**, 113–126.
- Teasdale, J. D., Segal, Z. V., Williams, J. M. G., Ridgeway, V. A., Soulsby, J. M. & Lau, M. A. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology* **68**, 615–623.
- Weissman, A. & Beck, A. T. (1978). The Dysfunctional Attitudes Scales. Paper presented at the annual meeting of the Association for the Advancement of Behavior Therapy, November, 1978, Chicago.