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SHORT REPORTS

Dysfunctional Attitudes Are Mood-State Dependent

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Abstract

To test the hypothesis that self-report of dysfunctional attitudes is mood-state dependent, dysfunctional attitudes were assessed in 43 women before and after they received a depressed or elated mood induction. As predicted, the mood induction produced reliable changes in mood and in dysfunctional attitudes, although the increase in dysfunctional attitudes following the negative mood induction was not large enough to be statistically significant. We also tested the

hypothesis, from the cognitive theory of depression, that subjects with previous episodes of depression would report more dysfunctional attitudes than would subjects without such a history.

As predicted, subjects who reported previous episodes of depression endorsed more dysfunctional attitudes than did subjects who did not report such a history. However, this effect occurred only for subjects who were in a negative mood state when their dysfunctional attitudes were assessed. These findings support the proposition of the cognitive theory that dysfunctional attitudes are traits but suggest that these traits are mood-state dependent.

Cognitive theories of depression (Abramson, Seligman, & Teasdale, 1978; Beck, 1972) propose that certain types of cognitions, such as dysfunctional attitudes or attributional styles, are trait like attributes that predispose vulnerable individuals to depression. Contrary to the theory, several studies have shown that dysfunctional thinking "remits" as patients recover from depression (Eaves & Rush, 1984; Hamilton & Abramson, 1983; Persons & Rao, 1985; Silverman, Silverman, & Eardley, 1984; Simons, Garfield, & Murphy, 1984). Furthermore, Lewinsohn, Steinmetz, Larson, and Franklin (1981) demonstrated that individuals who later developed a clinical depression were no more likely to have previously exhibited dysfunctional thinking than were individuals who did not become depressed. In the present study, we proposed and tested a perspective that accounts for these negative findings within the framework of the cognitive theory.

Research findings indicate that some cognitive processes are mood-state dependent (Bower, 1981; Johnson & Magaro, 1987). We hypothesized that dysfunctional attitudes are also influenced by current mood state. Specifically, we proposed that dysfunctional attitudes are stable vulnerability factors for depression but that an individual's ability to access and report these attitudes is mood-state dependent. To test this hypothesis, we assessed dysfunctional attitudes before and after subjects experienced either a negative or an elated mood induction. We predicted that subjects who received the depressed mood induction would show an increase in dysfunctional attitudes and subjects who received the elated mood induction would show a decrease in dysfunctional attitudes.

According to the cognitive theory of depression, dysfunctional attitudes are stable traits that predispose one to depression and should be present in individuals who have suffered a previous episode of depression. We propose that dysfunctional attitudes are unlikely to be reported unless the individual is in a depressed, negative mood state at the time the attitudes are assessed. To test this hypothesis, we assessed dysfunctional attitudes, current mood state, and history of previous depressive episodes. We predicted that only subjects who had a history of depression and who were in a negative mood state at the time of assessment would score high on a measure of dysfunctional attitudes.

Method

Subjects

The 43 women who served as subjects responded to notices at San Francisco General Hospital offering visitors and staff \$10 to participate in a study relating to depression. The average age of the subjects was 35.9 years; 6 subjects were married, 4 separated, 19 divorced, 1 single, and 13 widowed. Four subjects worked in professional positions, 19 had skilled jobs, 11 were semiskilled, 7 were unskilled, and 2 were unemployed. All subjects had a Beck Depression Inventory (BDI; Beck, 1967) score of 13 or less; subjects with higher BDI scores did not participate in the study because we believed it was unethical to give a depressed individual a negative mood induction. A total of 68 women responded to the notices: 19 were excluded because of elevated BDI scores, and data from 6 were discarded because they were incomplete.

Measures

BDI. The BDI (Beck, 1967) was used to eliminate applicants who were clinically depressed. The mean BDI score for participants was 6.23 (SD= 3.18).

Mood state. A revised form of the Multiple Affect Adjective Check List (MAACL; Zuckerman & Lubin, 1965) was used as a measure of mood state. We chose 20 of the 40 total items that most closely measured elated and depressed mood. Subjects responded to each item on a 5-point scale ranging from Right now I feel very much like this (1) to Right now /feel not at all like this (5).

Dysfunctional thinking. The Dysfunctional Attitude Scale (DAS; Weissman, 1979; Weissman & Beck, 1978) was used to assess dysfunctional thinking. The scale consists of two equivalent 40-item questionnaires that were administered in random order and that measure (on a 7-point scale) subjects' agreement with items assessing dysfunctional thoughts, such as perfectionistic performance standards, rigid ideas about the world, and concern about the judgments of others. A sample item is "If I fail at my work, then I'm a failure as a person."

History of depression. Subjects responded to a written questionnaire asking whether they had ever experienced a 2-week period during which they were continually depressed or had lost interest or pleasure in all or almost all activities. They also indicated any other symptoms of depressive disorder, as defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III), that they had experienced during this period, such as appetite disturbance, insomnia or hypersomnia, fatigue, psychomotor retardation or agitation, worthlessness or guilt, trouble concentrating, diminished libido, or thoughts about death or suicide. Subjects who reported such a 2-week period of sadness or lack of pleasure and who checked at least four depressive symptoms were scored as having had a previous episode of depression. Thirty subjects had a history of depression; 13 were never depressed.

Procedure

Subjects were tested in a quiet hospital meeting room. They first completed the BDI and pretest measures of mood (MAACL) and dysfunctional thinking (DAS). Subjects were randomly assigned to receive either an elated or a depressed mood induction. Subjects next used headphones to listen to tape recordings of a modified version of the Velten mood-induction procedure (Velten, 1968). The procedure began with a short relaxation sequence, followed by mood-inducing statements. Examples of statements to produce a sad mood are "I'm discouraged and unhappy about myself" and "The way I feel now, the future looks boring and hopeless." An example of a statement to induce an elated mood is "I'm full of energy, and I like the things I'm doing." Subjects were asked to feel each statement as intensely as possible and to remember past incidents in their lives when they experienced similar feelings.

Following the mood induction, subjects completed posttest measures of mood (MAACL) and dysfunctional thinking (DAS), as well as demographic items and an assessment of past history of depression. After debriefing, subjects were paid \$10. The experimental session lasted approximately 1 hr.

Results

Mean scores for all subjects on measures of mood state and dysfunctional attitudes are presented in Table 1.

Manipulation Check

In order to determine whether the mood inductions were effective, a repeated measures analysis of variance (ANOVA) was computed with type of mood induction (depression, elation) as the independent variable and with pre- and post-manipulation mood (MAACL) as the repeated dependent measures. No main effects were significant, but the interaction of type of mood manipulation and time of measurement was statistically significant, $F(1, 41) = 16.84, p < .001$. As shown in Table 1, both the positive and negative mood inductions produced statistically significant changes in mood.

Changes in Dysfunctional Thinking as a Result of Mood Change

In order to test the hypothesis that dysfunctional attitudes are a function of current mood state, a repeated measures ANOVA was computed. Order of presentation of DAS Forms A and B and type of mood induction (depression, elation) were the independent variables, and pre- and post manipulation DAS scores were the repeated dependent measures. There were no significant main effects. As predicted, the interaction of type of mood manipulation and time of measurement was significant, $F(1, 41) = 6.16, p = .02$. As shown in Table 1, subjects in the elated mood condition reported significantly lower mean DAS scores following the mood induction. Although subjects in the depressed mood condition did report increased DAS scores following the manipulation, the increase was not statistically significant.

Relationship of Dysfunctional Thinking to Mood and History of Depression

To test the hypothesis that dysfunctional attitudes are present in individuals who report previous episodes of depression but are accessible only when the individual is in a negative mood, we performed a multiple regression analysis predicting DAS scores with current mood (MAACL), past history of depression, and the interaction of current mood (MAACL) and past history of depression. In order to test the interaction of current mood (MAACL) and past history of depression, subjects who had a history of depression were coded "1" on that variable, and subjects without a history of depression were coded "-1". All scores in this analysis were premanipulation scores because there were too few subjects who both received the negative mood induction and had no history of depression to conduct the analysis using postmanipulation scores.

Results showed that neither current mood nor history of depression made statistically significant contributions to DAS score, $t(40) = .22$ and $.03$, respectively. However, as predicted, the Current Mood X History of Depression interaction was statistically significant, $t(40) = 4.09, p < .001 (r = .54)$.

Figure 1 depicts the estimated regression lines for the relationship of dysfunctional attitudes (DAS) to current mood state (MAACL) for subjects with and without a history of previous depression. As can be seen, for subjects reporting a history of depression, dysfunctional attitude scores increased as negative mood scores increase. For subjects without a history of depression, mood scores were not related to dysfunctional attitude scores.

Table 1
Means and Standard Deviations on the MAACL and the Dysfunctional Attitude Scale Pre- and Postmanipulation to Either Elated or Depressed Mood

	Elated mood ($n = 23$)				Depressed mood ($n = 20$)			
	Premanipulation	Postmanipulation	$t(22)$	p	Premanipulation	Postmanipulation	$t(19)$	p
MAACL ¹								
<i>M</i>	44.0	39.2	2.21	.04	34.7	48.9	3.30	.003
<i>SD</i>	13.7	14.7			12.6	21.3		
Dysfunctional								
Attitude Scale ²								
<i>M</i>	114.0	100.5	2.30	.03	110.9	115.2	1.19	.12
<i>SD</i>	32.3	29.4			25.6	31.9		

Note. MAACL = Multiple Affect Adjective Check List.

1 Higher scores reflect more negative mood.

2 Higher scores indicate more dysfunctional thinking.

Discussion

In this study we tested the hypothesis that dysfunctional attitudes are stable vulnerability factors for depression but that an individual's ability to access and report dysfunctional attitudes is mood-state dependent. As predicted, subjects' reports of dysfunctional attitudes were influenced by a mood induction. In addition, subjects with a previous episode of depression endorsed more dysfunctional attitudes than did subjects without such a history, but, as predicted, this effect was a function of current mood state. For previously depressed subjects, dysfunctional attitudes were positively related to negative mood. For subjects without a history of depression, dysfunctional attitudes were low, regardless of current mood.

Results of the present study suggest a way to account for earlier findings that appeared to disconfirm the predictions of the cognitive theory. Previous studies that failed to find differences in dysfunctional attitudes between recovered depressives and controls (Hamilton & Abramson, 1983; Hollon, Kendall, & Lumry, 1986; Silverman et al., 1984) and studies reporting that dysfunctional attitudes "remit" when clinical depression remits (Eaves & Rush, 1984; Hamilton & Abramson, 1983; Persons & Rao, 1985; Silverman et al., 1984; Simons et al., 1984) may have failed to observe actual differences between groups because subjects were not tested in a mood state that would allow these differences to be reported. Thus, all of these findings are consistent with our proposal that dysfunctional attitudes are mood-state dependent traits and that accessibility of these attitudes varies as a function of mood.

In spite of their potential importance, the findings of the present study must be viewed as tentative for several reasons. First, although our results show that dysfunctional attitudes change following a mood induction, we cannot assert that we have shown that mood changes cause cognitive changes. A careful inspection of the mood induction procedure shows that cognitions were used to manipulate mood. Second, the use of several selection criteria limits the generalizability of results from the sample studied here. Only women who were not currently depressed were studied, and the sample over represents women with a history of depression. Furthermore, Clark and Teasdale (1985) found that women are more sensitive than men to some forms of negatively biased recall, so it is important to replicate these results with a male sample. Third, subjects' reports of mood, dysfunctional attitudes, and past history of depression may have been influenced by demand characteristics following the mood manipulation. Fourth, the subjects' reports of previous history of depression may have been influenced by the mood manipulation. Finally, although the F test showed that dysfunctional attitudes were affected by the mood manipulation, the change in dysfunctional attitudes associated with the negative mood induction was not large enough to be statistically significant.

These limitations point to the need for replication of these findings, which we are currently working to do. If replicated, the present findings offer important clinical and theoretical implications. Clinically, these results suggest that therapeutic attempts to change dysfunctional attitudes are unlikely to succeed unless the patient is experiencing a negative mood state that facilitates access to the attitudes. Theoretically, they suggest that cognitive theories be modified to state that dysfunctional thoughts are stable vulnerability factors for depression but that an individual's ability to access these thoughts is mood-state dependent.

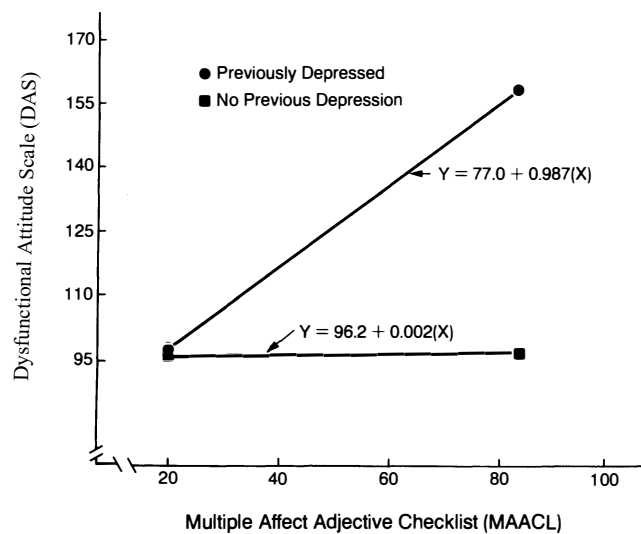


Figure 1. Estimated regression lines: relation of dysfunctional attitudes (DAS) to current mood state (MAACL) for subjects with and without a history of previous depression.

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