Behavioral and Cognitive Approaches

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Essential Papers on Depression

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Behavioral models of depression are relatively new, compared to the psychodynamic formulations that have just been presented. The behavioral perspective on psychopathology developed later, but it is also true that behaviorists at first neglected the subject of depression. A few papers appeared in the late sixties (Burgess, 1968; Lazarus, 1968), but they were highly speculative and lacked any rigorous definition or analysis of depressive behavior.

The behavioral perspective emphasizes the analysis of psychopathology in terms of observable behavior in relation to preceding and consequential events in the environment—

controlling stimuli and reinforcement consequences. Yet a behavioral definition of depression has remained rather elusive. Depression does not refer to a single response class; at least, as it has traditionally been defined, its primary symptom is a state of subjective distress. It is often the case that depressed persons do not exhibit any marked changes in overt behavior despite their considerable distress and sense of personal inadequacy. As a group, depressed persons do not share much in common in terms of specific behavioral excesses or deficiencies. Furthermore, depression often seems to involve change in behaviors without any apparent change in the conditions that have previously maintained them (Costello, 1972). For instance, upon learning that his former girl friend back home has become engaged to someone else, a college student might stop eating regularly,

withdraw from his friends on campus, and neglect his studying.

Of necessity, the two most influential behavioral formulations of depression (see Lewinsohn; Miller, Rosellini & Seligman, this volume) involved the introduction of some concepts that go substantially beyond the usual analysis of reinforcement contingencies. Consistent with more general trends is psychology, they both also were later modified to include an emphasis on cognition.

Lewinsohn developed a model of depression that was an extension of an earlier model presented by Ferster (1973, 1974), in which the central feature of the disorder was identified as a reduction in the emission of positively reinforced behavior. A major innovation in the Lewinsohn formulation was its emphasis on the concept of

total amount of response-contingent positive reinforcement "resconposre". The emission of some given adaptive behavior is seen as not being merely a function of specific rewards available for it. Rather, it is also a function of the *overall* amount of positive reinforcement that is available as consequences for any available response. It is not a matter of this reinforcement being available but of its being contingent upon the person making a response. Thus, according to Lewinsohn, a retired person who receives a paycheck without having to work may emit less adaptive behavior and become depressed.

Depression is conceptualized as a low rate of behavior and a state of dysphoria that occur when there is a low rate of resconposre. There is a potential for a vicious cycle to develop, with a lower rate of positive reinforcement leading to a lower rate of adaptive behavior, leading to a

further reduction in reinforcement, and so on. Expression of distress may be met with reassurance, and in this way depressive behavior can become the primary way of obtaining reinforcement.

The rate of response-contingent reinforcement available is dependent upon three sets of factors: the events that are potentially reinforcing to a person; of these, those that are available in the immediate environment; and the extent to which the person possesses the necessary skills to receive this reinforcement. Events that precipitate depression may do so by affecting one or more of these factors. For instance, for a man who has just become divorced, the availability of reinforcing events has been changed, and if he may lack the skills to meet someone new and to form a relationship, he may become depressed.

The Lewinsohn model has been the basis for the development of an extensive research program and a behavioral approach to therapy for depression that includes a self-treatment course (Lewinsohn, et al., 1978). The article in this volume reviews some of the early research on the relationship between positive events and mood, as well as the assessment of social skills. Lewinsohn subsequently posited a relationship between the total number of aversive events in a person's life and depression, and developed an instrument assessing unpleasant events that paralleled the earlier *Pleasant Events Schedule* (Lewinsohn & Takington, 1979). In his most recent work, Lewinsohn has become more eclectic in both his model of therapy and his research program (Lewinsohn & Hoberman, 1982) and has given attention to the role of cognition in depression. However, he has assumed that the complaints of

depressed persons are not necessarily distortions and that they may instead reflect depressed persons' inability to obtain valued rewards. His research has even been interpreted as suggesting that depressed persons are more accurate in their self-perceptions than nondepressed persons are (Lewinsohn, et al., 1980).

Lewinsohn cites one study in particular as a major reason for his shift to a more eclectic and a more cognitive model. Zeiss, Lewinsohn, and Munoz (1979) compared social skills training, the scheduling of pleasant activities, and cognitive therapy as treatments for depression. The results of the study indicated that not only were these treatments equally effective in reducing depression, but that they were not specific (i.e., cognitive therapy had as much effect on pleasant activities as did the scheduling of these activities).

By now, it should have become apparent that the phenomena of depression are vaguely delineated and poorly understood. Seligman and his colleagues (see Miller, Rosellini, & Seligman, this volume) have provided a fine example of a strategy for dealing with this problem: the construction of a laboratory model or analogue, within which greater precision can be achieved.

The term "learned helplessness" was first used in connection with laboratory experiments in which dogs were exposed to shock from which they could not escape (Overmier & Seligman, 1967). After repeated trials, the dogs tended to sit passively when the shock came on. Exposed to a new situation from which they could escape a shock by jumping over a barrier, they failed to initiate the appropriate response. Some would occasionally jump over the barrier and escape, but they would generally revert to taking the shock

passively. For the purposes of constructing an analogue of clinical depression, the behavior of the dogs is significant in suggesting that exposure to uncontrollable aversive events may lead to a failure to initiate appropriate responses in new situations and an inability to learn that responding is effective.

The linchpin of the analogy to depression is the view of the disorder as being fundamentally a matter of depressed persons being passive—i.e., as failing to initiate appropriate responses to cope with their predicaments—and unable to perceive that their responses make a difference. Thus, whereas Lewinsohn invoked the concept of the total amount of response-contingent reinforcement to explain the rather generalized problems of depressed persons, Seligman and his colleagues introduce the notions of a generalized inhibition of response and an acquired perception

of response-reinforcement independence.

The analogy to depression was bolstered by initial findings that in a variety of task situations, depressed human subjects resembled nondepressed subjects who had received repeated failure experiences. For instance, compared to nondepressed subjects who had not received repeated failure experiences, these two groups of subjects took longer to solve anagrams and apparently failed to perceive the pattern underlying their successful solution (Klein & Seligman, 1976). As described in the article by Miller, Rosellini, and Seligman, other research suggested that the parallels between laboratory learned helplessness and depression were not limited to similarities in behavior. Promising leads were also established with regard to etiology, treatment, and prevention.

The original learned helplessness model stimulated a large body of research and considerable controversy (Buchwald, Coyne, & Cole, 1978; Costello, 1978). Ultimately, the accumulated research led to questions about both the adequacy of the learned-helplessness explanation for the behavior of nondepressed subjects who had been exposed to failure as well as the appropriateness of learned helplessness as an analogue of depression. For instance, it was shown that the performance deficits of subjects who had been given a typical learned helplessness induction were very much situation-specific (Cole & Coyne, 1977), and that these deficits might better be explained as the result of anxious self-preoccupation, rather than the perception of response-reinforcement independence (Coyne, Metalsky, & Lavelle, 1980). Furthermore, the characterization of depressed persons as passive

and lacking in aggression was challenged. Difficulties with the original learned helplessness model led to a major reformulation (see Abramson, Seligman, & Teasdale, this volume) that will be discussed below.

Rehm's (this volume) self-control model of depression is less developed than either of the preceding two models, but it adds an additional dimension to the discussion of the role of cognition in depression. Rehm draws on the work of Kanfer (1970) and others in suggesting that depression is a matter of some interrelated problems in self-control. Briefly, the self-control model assumes that people may regulate their own behavior in a way that allow them to be somewhat independent of their immediate environment and the controlling stimuli and reinforcement contingencies that it offers. *Self-monitoring* involves attending to one's own

behavior and its antecedents and consequences. *Self-evaluation* is a matter of interpreting one's behavior and comparing it to internal standards. Attributional processes are one set of determinants of the evaluations that are made. *Self-reinforcement* involves administering reinforcement to oneself, just as one could administer a reinforcement to someone else. Furthermore, self-reinforcement can be covert or cognitive, in the sense that one can praise or criticize one's own behavior privately or to oneself.

Depression may be seen as a reflection of deficiencies in one or more of these self-control processes. First, the self-monitoring of depressed persons may be maladaptive in that they selectively attend to negative aspects of their own behavior and ignore positive accomplishments. Their self-evaluations may involve an attributional

bias so that they are excessively blamed for failures and take insufficient credit for successes. They may employ overly harsh or stringent standards in evaluating themselves. Finally, they may be stingy in rewarding themselves or overly self-punishing.

Rehm is explicit in his indebtedness to other cognitive and behavioral models of depression. However, this model can go beyond the more behavioral models in providing an alternative way of explaining depression in the absence of substantial changes in the immediate environment. Furthermore, the identification of deficiencies in self-control processes suggest specific therapeutic interventions to alter them that would not be suggested by the other approaches. In addition to the work reported by Rehm in this article, a number of studies have produced results consistent with hypotheses

derived from the model (see Kanfer & Zeiss, 1983), although questions have been raised as to whether deficits in self-monitoring, self-evaluation, and self-reward are specific to depression (Gotlib, 1981).

In his 1967 book, Beck noted that there was a lack of systematic psychological research on depression. The cognitive model that he presented in that book did much to change that situation. A recent review (Coyne & Gotlib, 1983), cited over 100 studies generated by the prevailing cognitive models alone. Cognitive models of depression have a strong intuitive appeal. The self-deprecating and pessimistic talk of depressed persons and their apparent failure to take obvious steps to remedy their situations readily invite the suggestion that they suffer from distorted cognitive processes.

In the model presented by Kovacs and Beck (this volume), three sets of interrelated cognitive concepts are used to explain the psychological phenomena of depression: the cognitive triad, schemata, and cognitive distortion or faulty information processing. These cognitive factors are seen as having a causal primacy over the affective, motivational, and behavioral features of depression.

The cognitive triad consists of thinking patterns that lead depressed persons to construe themselves, their current situations, and their future possibilities in negative terms. The concept of schemata is used to explain why depressed persons persist in these negative and self-defeating attitudes even in the face of contradictory evidence. Cognitive schema are stable, organized representations of past experience that provide for the screening,

differentiating, and encoding of information from the environment. In depression, prepotent dysfunctional schema dominate information processing so that depressed persons may not even be able to consider alternative interpretations of their experience that are more positive or optimistic. They overgeneralize from negative experiences, selectively abstract negative details out of context, and negatively characterize themselves in absolutist terms—"always," "never," "nothing but," etc.

These cognitive processes are activated in the depressed person by stressful experiences, but they exist before a depressive episode in a latent state. In explaining how a vulnerability to these thinking processes comes about, Beck (1974) has offered an account that bears a strong resemblance to psychodynamic formulations:

> In the course of his development, the

> depression-prone person may become sensitized by certain unfavorable types of life situations such as the loss of a parent or chronic rejection by peers. Other unfavorable conditions of a more insidious nature may similarly produce vulnerability to depression. These traumatic experiences predispose the individual to overreact to analogous situations later in life. He has a tendency to make extreme, absolute judgments when such situations occur (p. 7).

Beck's work has done much to bring the "cognitive revolution" to the study of psychopathology and to revitalize the psychological study of depression. He and his colleagues have also developed a cognitive therapy for depression that in controlled studies has been shown to produce a greater reduction in depressive symptoms with fewer dropouts and relapses than treatment with conventional tricyclic antidepressant medication (Rush, et al., 1977).

Although the original learned-helplessness model could also be said to be cognitive in the sense that it invoked the concept of a perception of response-reinforcement independence, it defined this perception in terms of its environmental antecedents and behavioral consequences. Overall, the model gave little attention to higher cognitive processes. In the reformulated model (Abramson, Seligman & Teasdale, this volume) it was no longer that mere exposure to uncontrollability was sufficient for helplessness to develop. Instead, the additional requirement was that the person must come to expect that future outcomes would also be uncontrollable, and higher cognitive processes were assumed to mediate the development of this expectation. "When a person finds that he is helpless, he asks *why* he is helpless. The casual attributions he makes determine the generality and chronicity of his helplessness deficits as well

as his later self-esteem."

According to the reformulated model, the vulnerability of depression-prone persons lies in their negative attributional style, their tendency to interpret negative events in internal, global, and stable terms. Attributions of negative events to internal causes a reduction in self-esteem; attribution to global factors lead to a generalization of deficits across situations; and attributions to stable factors lead to a persistence of deficits over time. Thus, the reformulation integrated the original model with attribution theory.

It was possible to contrast predictions made from the original learned-helplessness model with those derived from Beck's model (Rizley, 1978). The original model seemed to suggest that depressed persons saw a lack of control over key

outcomes, whereas Beck's model indicated that their problem was that they blamed themselves excessively. However, with the reformulation of the helplessness model, it became more difficult to specify what types of data would support one model while contradicting the other. At this point, the two models are probably best seen as complementary (Coyne & Gotlib, 1983). Beck's model focuses on how past experience is organized, and this organization shapes the processing of new experiences. The revised learned-helplessness model focuses on how this experience is explained and how such explanations determine subsequent cognition, behavior, and affect.

The two models are undeniably the dominant psychological formulations of depression at the present time. Together, they have given rise to a huge body of research examining depressed

persons' expectations and evaluations of performance, their perception of information from the environment, recall of information, cognitive biases, and attributions for laboratory and naturalistically occurring events. Coyne and Gotlib's review of this literature (1983) concluded that depressed persons do make negative, self-deprecating, and pessimistic responses to laboratory, hypothetical, and actual life situations. However, depressed-nondepressed differences on cognitive measures have not been as strong or consistent as either model would predict. Furthermore, the strongest evidence has been correlational in nature. Depressed persons show evidence of negative cognitive processes, but there has been little success in demonstrating any measurable cognitive vulnerability in these persons before they become depressed or after they have fully recovered. Research continues, but

it may be that such cognitions are best seen as an aspect of being depressed, rather than an identifiable antecedent. Yet, current work is showing some promise in the development of new methods for studying attributional style when vulnerable persons are not depressed (Peterson & Seligman, 1984), as well as schematic processing and enduring dysfunctional attitudes (Kuiper & Higgins, 1985). Further research is needed to determine whether these new methods will overcome the problems of past efforts to identify cognitive markers for depression that are not state dependent.

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