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A Behavior-Analytic Account of Depression and a Case Report Using Acceptance-Based Procedures

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Although roughly 6% of the general population is affected by depression at some time during their lifetime, the disorder has been relatively neglected by behavior analysts. The preponderance of research on the etiology and treatment of depression has been conducted by cognitive behavior theorists and biological psychiatrists and psychopharmacologists interested in the biological substrates of depression. These approaches have certainly been useful, but their reliance on cognitive and biological processes and their lack of attention to environment–behavior relations render them unsatisfactory from a behavior-analytic perspective. The purpose of this paper is to provide a behavior-analytic account of depression and to derive from this account several possible treatment interventions. In addition, case material is presented to illustrate an acceptance-based approach with a depressed client.

Key words: depression, behavior analysis, clinical behavior analysis, acceptance, acceptance-based therapies

Sometimes called the "common cold of mental illness," depression is one of the most prevalent disorders among individuals seeking mental health services. A study by Regier et al. (1988) found that roughly 2.2% of males and 4.2% of females in the United States experience the symptoms of depression at any one time. Slightly more than 6% of the population experiences clinical depression during their lifetime (Robins et al., 1984). Moreover, there is evidence that the incidence of depression is increasing worldwide (Goleman, 1992). Given this prevalence, it is clear why the etiology and treatment of depression have been the focus of a tremendous amount of research and discussion. However, it has been relatively neglected by behavior analysts. A notable exception is the early work of Ferster (1973), but this work was quite modest in both scope and detail. More recently the bulk of the research on the theory and treatment of depression has been conducted by cognitive behavior therapists (e.g., Beck, Rush, Shaw, & Emory, 1979; Dobson, 1989; A. Ellis, 1987; Zuroff, 1992) and psychiatrists and psychopharmacologists interested in the biological substrates of depression (e.g., Krishnan, 1992) and the effects of various forms of pharmacotherapy (e.g., Evans et al., 1992). Although there are some contradictory findings, the generally accepted conclusions are that a combination of cognitive therapy and antidepressive medication seems to be better than either alone, which are comparable and better than placebo or minimal-treatment controls (e.g., Elkin, 1994).

Although these data point to effective treatment interventions for depression, from a behavior-analytic view the relevant literature does not provide an adequate explanation of the etiology of depression or its treatment. Cognitive accounts of depression rely on cognitive structures (e.g., schema, expectancies, beliefs, and propositions) as causal variables, and the main component of cognitive behavioral interventions is the modification of faulty cognitive structures. The problem with this account is not so much the reliance on cognition; these can be quite easily understood as examples of verbal behavior. Rather, the problem is that the determinants of these cognitions and their relation to other behavior are not adequately addressed. The purpose of the present paper is to offer a behavior-analytic account of depression and to derive from this account several possible treatment interventions. In addition, case material is presented to illustrate an acceptance-based approach

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(Hayes, 1987; Hayes & Wilson, 1993) with a depressed client.

To be useful, a behavior-analytic account of depression must be able to account for its major symptoms in terms of empirically established behavioral principles. The fourth edition of the *Diagnostic and Statistical Manual* (DSM IV; American Psychiatric Association, 1994) lists the major symptoms of depression and the number and duration of symptoms that must be present to warrant the specific diagnoses included under the general heading of Depressive Disorders. These include depressed or sad mood, diminished interest or pleasure in activities (anhedonia), disorders of appetite (either weight gain or weight loss), disorders of sleep (either insomnia or hypersomnia), a general reduction in activity level (psychomotor retardation), agitation or anxiety, fatigue or loss of energy, feelings of worthlessness and/or guilt often accompanied by self-criticism and selective recall of or attention to negative memories or events, cognitive confusion, and suicidal ideation. Although not specifically mentioned in the DSM, other commonly observed symptoms of depression include excessive crying and rumination, expressions of helplessness, hopelessness, and chronic dissatisfaction, anger, substance abuse, problematic social and personal relations, and difficulties at work.

It is common in the literature to categorize the individual symptoms of depression as behavioral, affective, or cognitive deficits depending on whether they are concerned primarily with overt actions, feelings, or thoughts, respectively. Although this grouping is topographically based, to the extent that it points to important controlling relations, in can be useful. For example, a reduction in the frequency of overt activities suggests that operant extinction or punishment may be operating, whereas the occurrence of certain affective reactions suggests the involvement of respondent processes. Moreover, such cognitive deficits as persistent self-criticism or selective attention to negative experiences point to the involvement of verbal processes or problems in stimulus control. The approach taken here will be to discuss the various symptoms of depression in relation to behavioral principles and concepts. The specific principles emphasized include consequential functions, respondent functions, establishing functions, and verbal processes. It should be mentioned at the outset that this approach allows only for a general discussion of depression. Any attempt to account for the depressive behavior of a particular individual obviously requires a functional analysis of that individual's behavior in relation to the specific contexts within which it occurs.

A BEHAVIOR-ANALYTIC ACCOUNT OF DEPRESSION

Consequential Functions

Low density of reinforcement. As Ferster (1973) pointed out, the most obvious characteristic of depressed persons is the reduction of loss of certain kinds of activities coupled with a relatively high incidence of complaints, crying, and irritability. He attributed the low rate of behavior to a relative dearth of reinforcement. Lewinsohn and his colleagues (e.g., Lewinsohn, 1974; Lewinsohn, Biglan, & Zeiss, 1976) have argued that it is not the density of reinforcement per se that is critical, but rather the rate of response-contingent positive reinforcement. Thus, depression can result when the reinforcement for not responding is greater than that for responding.

Several theorists (e.g., Hersen, Eisler, Alford, & Agras, 1973; Lewinsohn & Graf, 1973) contend that a lack of social reinforcement is particularly important in the initiation and maintenance of depression. One obvious cause of a low level of social reinforcement is an inadequate social repertoire. In this regard, Lewinsohn and his associates (Lewinsohn, 1974; Libet & Lewinsohn, 1973) have found depressives to be generally lacking in a variety of social skills. Not only do they not behave in ways that are

likely to obtain and maintain social interactions, but their behavior is often seen as aversive and is actively avoided by others.

Extinction. A reduction in the frequency of behavior or a chronically low level of behavioral output can also result from extinction. Laboratory animals show symptoms of depression (abulia) when general extinction is imposed after a history of reinforcement (Skinner, 1954). When there is a slow, gradual extinction process, it can be hard to identify the source of depression. Often, depressed clients report early histories characterized by generally unresponsive social environments. One client, for example, reported that when he was a child, his parents frequently traveled for long periods of time, leaving him with an efficient but diffident caretaker. Although she was not deliberately neglectful, she was generally unresponsive to anything but direct questions and requests for assistance. It is easy to see how social–verbal repertoires can fail to develop in such contexts and how this impoverished repertoire can result in low rates of social reinforcement in general.

More commonly, however, clients come to treatment after a very significant and obvious loss, such as the death of a loved one, the break-up of a relationship, the failure to obtain a desired outcome such as admission to graduate school, the termination of a job, retirement, or the departure of grown children from the home. The effects of a sudden loss of reinforcement are typically acute, however, and most individuals with sufficient repertoires find other sources of reinforcement to replace the loss. The key here, however, is the availability of an adequate repertoire to obtain alternative sources of reinforcement. It appears that more chronic problems occur when the lost reinforcer maintained a relatively large proportion of the individual's behavioral repertoire and there are few alternative reinforcers. The "empty nest" syndrome, for example, is most severe for those who have developed few sources of reinforcement outside of caring for their children. Similarly, retirement can be devastating for those who fail to develop a range of reinforcing activities outside of their work. Cultivation of a variety of sources of reinforcement and reinforcing activities is a good inoculation against serious depression.

Punishment. Also common among clients with chronic depression are histories of prolonged and inescapable punishment, such as that associated with child abuse (physical or sexual) or with highly demanding and critical parents. What is particularly devastating is when the defensive or retaliatory behavior engendered by the punishment is also punished. An example is a client who was repeatedly sexually abused by her father over several years. When she told her mother of the abuse, her mother called her a liar and a slut and physically beat her. Maier, Seligman, and Solomon's (1969) early work on learned helplessness shows quite clearly that repeated inescapable aversive stimulation results in a generalized behavioral reduction and interferes with the subsequent effects of contingent reinforcement. In the case of the client described above, she came to treatment because she was unable to enjoy sex with her husband although she described him as loving, caring, and sensitive. His sensitivity and commitment to her seemed only to exacerbate her depression because, as she reported, it just proved that the problem was her fault. Attempts at sexual intimacy often prompted tirades of self-criticism and self-contempt.

Reinforcement of distressed behavior. Although extinction, punishment, and lack of an effective repertoire can account for the low rate of behavioral output among depressives, they are also characterized by a high rate of distressed behavior including complaining, crying, and irritability. Ferster (1973) contends that these are types of escape and avoidance behavior maintained by negative reinforcement, and there is empirical evidence to support this contention. Biglan (1991) has reported several studies that show that the distressed behavior typical

of depressives (e.g., sad facial expressions and body postures, self-denigration, complaining) functions to reduce the probability of aversive stimulation from others. It is easy to see how this repertoire could be established in highly punitive environments and how it might be extended to other situations, even when immediate reinforcement for the distressed behavior is not forthcoming. Besides reducing aversive stimulation, distressed behavior is sometimes positively reinforced by increased social attention and sympathy. Interestingly, however, even while it increases sympathy in the short run, distressed behavior is perceived by others to be aversive (see also Coyne, 1976), and they seek to escape and avoid it. However, this avoidance serves only to remove a source of reinforcement for the depressed person, which exacerbates the depression. This pattern of reinforcement for depressed behavior followed by extinction sets up a downward spiral that can be difficult to break.

Discriminative Stimuli

Until now we have been emphasizing consequential functions, but it is obvious that there are stimulus control functions involved in the maintenance of depressive behavior. Events correlated with extinction or punishment come to evoke avoidance behavior, which is maintained by negative reinforcement. As with most avoidance paradigms, however, the behavior continues under the control of relevant discriminative stimuli even when the contingencies change. As a result, clients can miss potential sources of reinforcement, and the rate of positive reinforcement remains low. An example of this was reported by a client who accepted an invitation from a colleague to go out after work for a drink. Later in the day, he discovered that there were going to be a number of others going along. After work, he approached the bar where they were to meet but when he saw the others, he quickly left. Although he was willing to interact with just one colleague, the presence of the group evoked an avoidance response. He reported that he was certain he would make a fool of himself in front of the others, and, despite the opportunity for social interaction, he wanted to avoid the possibility of embarrassment.

Respondent Functions

Although behavior analysts are likely to be concerned primarily with the low rates of behavior emitted by depressives and the environmental events that produce them, the affective state associated with depression is its primary diagnostic symptom and the main reason clients seek treatment (Zettle & Hayes, 1986). If for no other reason, it is important to account for these feelings and emotional reactions.

In addition to their effects on rate of responding, insufficient reinforcement, extinction, and punishment have other functions. The top panel (A) of Figure 1 depicts these functions. Among these is respondent elicitation. This is clearly seen in the frustration and anger that often characterizes the extinction burst produced by the disruptions of a reinforcement contingency. The emotional corollaries of punishment are well known and are an important source of concern (Skinner, 1971). When the lack of reinforcement is generalized or persistent, it frequently results in emotional reactions that we label sadness or despair. In behavioral terms, insufficient reinforcement, extinction, and punishment function as unconditioned stimuli that elicit a set of respondents that are labeled sadness, frustration, and anger. The contention that this respondent function is unlearned is supported by the emotional reactions observed in laboratory animals placed on extinction or exposed to punishment. It is also supported by the despair and anguish observed in very young children raised in nonresponsive environments (e.g., Bowlby, 1973).

As we will discuss in more detail later, the emotional reactions elicited by insufficient reinforcement are often the source of further distress. That is, the emotional reactions associated with depression can engender further distress in an escalating cycle. This escalation of emotional reactions accounts for many depressive symptoms including disrup-

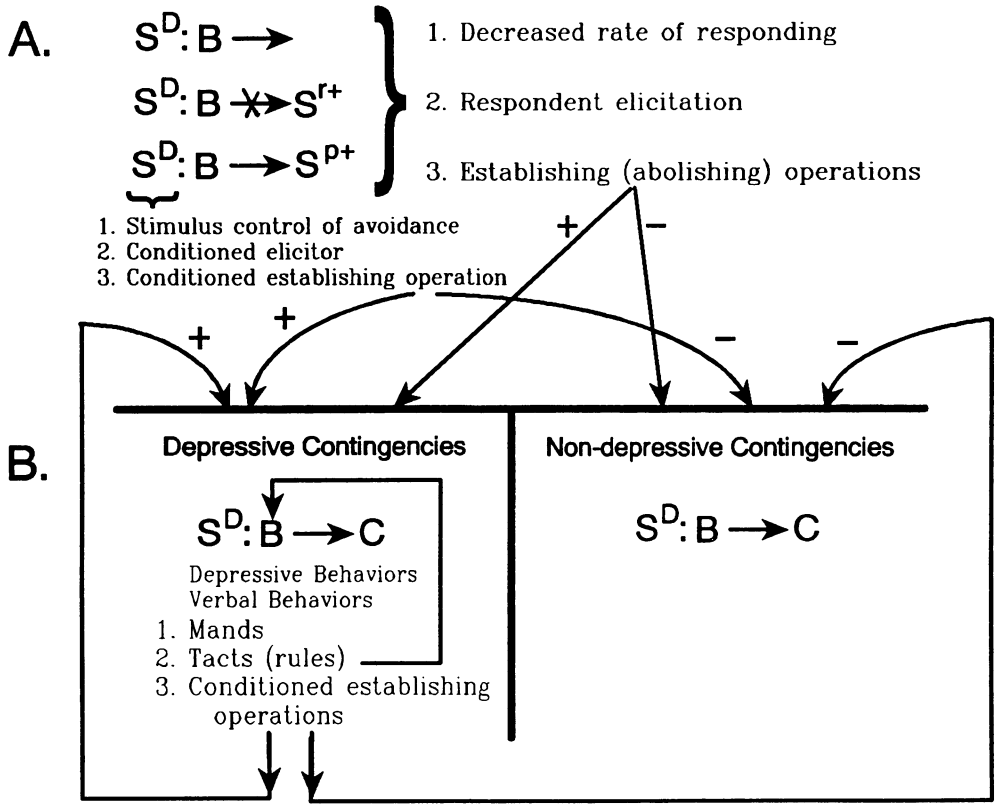

Figure 1. A model of a behavior-analytic account of depression. Panel A depicts the multiple functions of an ineffective behavioral repertoire that leads to insufficient reinforcement, extinction, and punishment, respectively. Panel B depicts the establishing functions of these variables on depressive and nondepressive contingencies. Included under depressive contingencies are types of verbal behavior that are characteristic of depressives and their functions.

tions in sleep, irritability, difficulty in concentration, headaches, and prolonged stress.

By virtue of their association with the aversive stimulation produced by insufficient reinforcement, relevant discriminative stimuli (or any stimuli associated with punishment or unavailable reinforcement) can also function as respondent conditioned elicitors (see Figure 1). For instance, a client seen by one of the authors became quite despondent after driving by the high school she attended almost 20 years earlier. She reported that high school was a very difficult time for her because she was frequently ridiculed and socially rejected. Simply seeing the place where this aversive stimulation occurred years earlier was sufficient to elicit some very strong emotional reactions.

Establishing Functions

A common complaint among depressives is that they have lost interest in the activities they once found rewarding. Indeed, one of the defining characteristics of depression is a lack of motivation and a diminished ability to derive pleasure from life. From a behavior-analytic view, the loss of reinforcer effectiveness and changes in motivation suggest that establishing (or abolishing) operations are involved (Michael, 1982, 1993). As Michael describes it, establishing operations (a) enhance the reinforcing effects of certain consequences, (b) increase the probability of responses that have produced established reinforcers in the past, and (c) increase the evocative effectiveness of discriminative stimuli associated with the

established reinforcers. Abolishing operations do just the opposite. The argument here is that the events or conditions that produce the low rates of responding and affective states that are characteristic of depression also serve as establishing and abolishing operations. In particular, these events potentiate certain contingencies and depotentiate others. These functions are depicted in the lower panel (B) of Figure 1.

For purposes of convenience, we will divide the world quite simplistically into two types of contingencies: depressive and nondepressive. Nondepressive contingencies are those that operate when an individual is not depressed. In general, they include the social, occupational, recreational, and interpersonal contingencies that govern daily life. When there is an adequate repertoire and these contingencies are established for an individual, he or she works, plays, interacts, creates, and derives pleasure from these activities.

Depressive contingencies are those associated with depressed behavior. There may be an increase in such behavior as crying, complaining, blaming, self-criticism, social avoidance, drug or alcohol abuse, excessive sleeping, and so on. Established reinforcers may include expressions of sympathy, offers of aid or assistance, social support, and the avoidance of activities and consequences that are generally associated with nondepressive contingencies. Although depressives may seek the sympathy and support of others, they are likely to avoid social situations that require an active or interactive repertoire for reinforcement. Depending on the individual, even such basic physiological activities as eating and sex may lose their reinforcing functions. It may be, however, that it is the social aspects of these activities rather than the activities themselves that are depotentiated as reinforcers (Ferster, 1973). In fact, given the dearth of available reinforcers for many depressives, eating may become particularly potentiated. This may explain why some depressives overeat, especially when they are alone.

One defining function of establishing operations that has been relatively overlooked is their effect on relevant discriminative stimuli. This relative lack of attention is unfortunate because it offers a reasonable explanation of some very interesting data reported in the literature concerned with the relation between emotions and cognition. For example, Bower (1981) and H. Ellis and Ashbrook (1989) summarize several studies that have shown that subjects' emotional states or moods determine to a large extent the stimuli they attend to and remember. To study this effect, subjects are first exposed to a set of procedures designed to induce particular moods. These procedures include hypnosis, verbal suggestion, or the playing of mood-inducing music. An experimental task is then given to the subjects. They may, for example, be asked to study and later recall a list of words varying in affective quality (e.g., sad, happy) or to recollect early life memories. Subjects who are put in a depressed mood tend to recall sad words and memories, whereas those who are put in an elated mood tend to remember happy words and memories. Cognitive psychologists have postulated a variety of mental processes to explain these events, but it appears that the mood-induction procedures function as establishing operations and affect the evocative functions of relevant stimuli.

The relevance of this discussion is that a major characteristic of depression is the selective attention to negative memories and events. Indeed, the essential feature of most cognitive theories of depression (e.g., Beck, 1967, 1976) is that depressives have negative self-schema that leads them to selectively attend to the negative aspects of themselves and their environments. An interesting study reported by Frankel and Prentice-Dunn (1990) illustrates this phenomenon. They investigated the memory for prerecorded randomly assigned feedback given to high-lonely and low-lonely subjects after a brief interaction with an experimental assistant. The results indicated that high-lonely subjects had very good recall of the negative feedback and very poor recall of the positive feedback. The opposite results were obtained for the low-lonely subjects. Obviously, this selective attention and reporting are easily in-

fluenced by direct consequences and verbal processes (to be discussed below), but the potential effects of establishing operations here seem to be clear. In general, however, the role of establishing operations in determining differential stimulus control needs further exploration.

Verbal behavior. One class of responses that is evoked by the establishing functions of punishment and insufficient reinforcement is verbal behavior. The type of verbal behavior evoked and their functions are depicted in Panel B of Figure 1. Mands and extended mands in the form of complaints, self-criticism, self-directed insults, and self-demands are common among depressives. Because they are often evoked by aversive stimulation, some of these self-directed utterances are aggressive and are intended to inflict pain or injury. Often they are very effective. The problem, of course, is that they are directed toward the self, which only adds aversive stimulation and exacerbates depression.

Another type of verbal behavior evoked by these establishing operations are tacts or, perhaps more accurately, distorted tacts. Depressives commonly attempt to identify the reasons for their aversive conditions, often with the hope of being able to specify causes and discover solutions. However, given their characteristic selective attention and propensity for self-blame, they tend to attribute their condition to some fundamental personal flaw that they conclude is likely to keep them perpetually miserable. It is very common to hear depressives proclaim their inherent incompetence, inferiority, unlovableness, inadequacy, and pathology as the reason they experience so much pain. To the extent that these distorted tacts are believed (i.e., exert a controlling influence on behavior), their effects can be severe. At the least, they can occasion more depressive behavior and elicit more depressed affect. In this regard, they can also function as conditioned establishing operations adding to the relative potentiation of depressive contingencies (see Figure 1). At worst, they can engender the kind of hopelessness that often precedes suicide. If depression is long-standing, and one comes to believe that it is due to some basic personal flaw that is unlikely to be remedied, it is not difficult to understand how one might come to the conclusion that suicide is the only available escape.

Once emitted, it is easy to see how these distorted tacts and self-rules can be maintained directly by both positive and negative reinforcement. What needs to be clarified are the antecedent sources of control over the content and controlling effects of these verbalizations. Why, for instance, do depressives, or most normal individuals for that matter, see certain emotional reactions as indicate of psychopathology? Why do they attribute the cause of their distress to internal factors? What processes are involved in the inferences that are made regarding the causes and solutions to their problems? How do self-instructions, or any verbal stimuli, acquire their functions? To address these questions, two sets of variables—cultural influences and verbal processes—need to be addressed.

Cultural Influences

There are, of course, many cultural influences that can contribute to depression. For example, the global increase in the prevalence of depression has been attributed to factors associated with modern culture, including the increased alienation and stress characteristic of industrial societies. Although there are a number of cultural influences that could be examined in this regard, cultural assumptions about human behavior will be emphasized here.

Every culture explicitly and implicitly communicates to its members its assumptions about human behavior. Two of these assumptions are particularly relevant to the present discussion. The first has to do with the causes of behavior. The second concerns the characteristics of psychological health or, conversely, psychological disorders. Regarding the first, it is very difficult to grow up in western culture and not adopt the assumption that internal events (specifically, unconscious and often mysterious psychological processes) are the causes of behavior. This assumption is reinforced by profes-

sional psychology, including the more scientifically oriented approaches such as cognitive behavior therapy with its emphasis on cognitive structures as causal entities. It is little wonder that depressives attribute their problems to some internal, underlying psychological processes.

With respect to psychological health or well-being, it is defined in our culture by the popular mass media. The good life is characterized by the availability of sufficient economic resources, pleasant and uncomplicated human relationships, and the absence of troubling thoughts and feelings. Of course, this vacuous existence is an advertiser's creation and is attainable only by those who approximate the diagnostic criteria for an antisocial personality disorder. Nevertheless, many clients come to therapy distressed by the unfavorable comparison of their lives with the cultural ideal.

The problem is worsened by the culture's view of psychological problems. Largely, they are defined by the presence of psychological symptoms, which frequently turn out to be certain thoughts and feelings (Dougher, 1993, in press; Follette, Bach, & Follette, 1993; Follette & Hayes, 1992; Hayes, 1987; Hayes & Follette, 1992; Hayes & Wilson, 1993). The DSM list of symptoms that define depression is a case in point. In general, the very presence of certain thoughts and feelings to some degree is indicative of this disorder. As a result, when these thoughts and feelings occur, their presence can be very distressing. The occurrence of depressed affect, for example, can be alarming precisely because it is indicative of psychological disorder. A typical reaction is to try to suppress or control unwanted private experience, but as Hayes (1987; see also Wegner, 1989) points out, this may engender an escalating cycle of emotional reactions. The process is similar to trying not to think of white bears when asked to do so. Hayes has offered a convincing explanation, based on the nature of verbal stimuli, of why this may be impossible to do. When this result is obtained, clients often seek professional help in an effort to identify the underlying psychological processes that they assume are the causes of their distress. Of course, most therapeutic approaches (excluding, however, Gestalt and existential approaches) reinforce the client's assumptions by attempting to change the underlying psychological mechanisms that are responsible for the client's pathological symptoms.

Verbal Processes

An important question for a behavioral account of depression concerns the determinants of the verbal behavior that characterize depressives and how these come to influence other behavior. Although it is clear that conditioning processes are involved, it is also clear that these processes cannot entirely account for the emission of novel verbal behavior or the acquisition of psychological functions by verbal stimuli. For example, how is it that when an individual is told that the experience of sadness is a sign of depression and that depression is a sickness, that individual concludes that his or her experience of sadness means that he or she is sick? The logic of the inference is clear, but what are the behavioral principles that determine logical inference? Further, how is it that the statement "I am sick" can evoke an entire repertoire of behavior and elicit certain respondents? It is not likely that sick behavior has been differentially reinforced in the presence of the word *sick,* or that the word *sick* has been paired with unconditioned stimuli that elicit certain respondents. Answers to these kinds of questions are suggested by recent research in stimulus equivalence (e.g., Hayes, 1991; Sidman, 1986; Sidman & Tailby, 1982; Spradlin & Saunders, 1984) and, in particular, the transfer of function through stimulus equivalence classes (e.g., Dougher & Markham, 1994). Because Hayes and Wilson (1993) have very effectively described the role that stimulus equivalence can play in the development of psychological disorders, a detailed discussion is unnecessary here. Nevertheless, some discussion of the involvement of these processes in depression may be useful.

It is the contention of those who see

stimulus equivalence as the fundamental behavioral process underlying language and other symbolic behavior that verbal stimuli acquire their psychological function by virtue of their participation in an equivalence relation with the events they stand for. For example, immediately after being told that *límon* is the Spanish word for lemon, *límon* acquires the same stimulus functions as the word *lemon* (and many of the same functions as real lemons) for the listener. Thus, not only can one now respond appropriately to the request for a *límon,* the description of biting into a *límon* will likely elicit salivation as well as the facial grimace that occurs when lemon juice is squirted into the mouth (an experimental demonstration of the transfer of respondent functions through stimulus equivalence classes is reported by Dougher, Augustson, Markham, Greenway, & Wulfert, 1994). In the same way, self-statements like "I'm no good," "I'm sick," "I'm a failure," "I'm depressed," and "Things will never get better" exert a controlling influence on behavior. A remarkable demonstration of this verbal control is the effect that occurs when verbal statements are used in the laboratory induction of mood states (e.g., Velten, 1968). The procedure entails nothing more than reading a series of depressing statements such as "No matter how hard I try, nothing seems to work" or "I feel blue." For a considerable proportion of subjects, this simple procedure induces very sad transitory mood states that do not appear to be due to simple demand characteristics (H. Ellis & Ashbrook, 1989).

When "I" and "failure" or "sick" or "depressed" enter into an equivalence class, many of the functions associated with these negative descriptors apply to "I." This may explain the development of negative self-schema and the negative self-talk that characterizes depressives. However, equivalence classes themselves can be brought under contextual control (Lynch & Green, 1991; Wulfert & Hayes, 1988). Accordingly, in some contexts, "I" and a variety of negative terms may be in an equivalence class, whereas in other contexts, "I" is in a class with other, perhaps more positive, descriptors. It is possible that the variables that evoke depressive behavior may serve as contextual stimuli that control the composition of equivalence classes. This is an interesting research question with both basic and applied significance. It may, for example, explain the variability in "self-concept" that is commonly seen in both normal individuals and depressives.

TREATMENT IMPLICATIONS

The present account of depression suggests a number of treatment strategies. Antidepressant medications, for example, may function as establishing operations that counteract the establishing functions of the events that produce depression. The behavioral effect of these drugs is to depotentiate or abolish depressive contingencies and to potentiate nondepressive contingencies. In this way, nondepressive behavior is increased, relevant consequences are enhanced as reinforcers, the evocative effects of associated discriminative stimuli are enhanced, and the verbal behavior characteristic of depression is replaced with nondepressive verbalizations. Antidepressant drugs may produce long-lasting effects if the client's behavior is trapped by nondepressive contingencies. More commonly, however, psychotherapy is necessary to maintain treatment effects after the drug is withdrawn.

With respect to psychological therapies, a variety of interventions are suggested, depending upon the particular variables operating in a particular case. For example, if the problem is primarily one of social skills deficits, social skills training would be indicated. If there is an adequate social repertoire but a low rate of behavior due to extinction, punishment, or verbal control, any number of interventions might be effective. Ferster (1973) offers an explanation for the ameliorative effects of almost any form of verbal therapy with depressives. He argues that simply increasing the rate of verbal interaction is likely to be reinforcing in itself, but it may also reveal the functional relations between a client's characteristic way of responding and the

aversive consequences that result. In addition, it may prompt more effective ways of interacting and obtaining positive reinforcement. Kohlenberg, Tsai, and Dougher (1993) outline specifically how therapists can use the therapeutic relationship to identify problem behavior and reinforce more effective ways of interacting. In this issue, Kohlenberg and Tsai describe the actual applications of this approach as a supplement to cognitive behavior therapy with a depressed client. These effects might be facilitated in group therapy where problematic social behavior is more likely to be evoked and there is greater opportunity for instructive feedback about this behavior.

For clients with histories of abuse and neglect, simply talking about their experiences may have therapeutic effects beyond those described by Ferster. To the extent that verbal stimuli share psychological functions with the events they represent, talking about traumatic events can serve to extinguish the emotional responses associated with them. In addition, talking about traumatic events can lead to a different understanding of their causes and their subsequent effects on the client's life. For example, victims of sexual and physical abuse often blame themselves for its occurrence. When they come to see that it was not contingently related to their behavior, their self-punitive verbal behavior often decreases.

Cognitive interventions that attempt to modify irrational expectations and beliefs have been shown to be effective in alleviating the emotional distress that typically leads clients into treatment. However, these approaches reinforce the assumption that thoughts are causes of behavior and that negative thoughts and feelings are indicative of psychological problems. This is certainly at odds with a behavior-analytic view, which sees thoughts and feelings not as causes but as behavior. As behavior, private events can be understood as natural and predictable reactions to the environment given an individual's particular history. Private events occupy no special status, and do not have to be modified or controlled in order to be happy or to lead a rich, productive life. In fact, as was stated earlier, the very attempt to control them only makes them more likely to occur. If clients can be helped to see their private events in this way, they can simply observe them without trying to control them. They can then get on with the business of pursuing those activities and experiences that are valued and that give meaning to their lives. This behavior-analytic view of private events is the heart of Hayes' acceptance and commitment therapy (Hayes, 1987; Hayes & Wilson, 1993).

With respect to depression, the occurrence of depressed thoughts or feelings is often alarming. They are interpreted as signs of an underlying psychological disorder, and this disorder is then blamed for the depressed feelings, the self-critical thoughts, the loss of interest in activities, and the other symptoms of depression. Attempts to rid oneself of the disturbing private events only increase them, leading to more self-criticism and more depressed self-talk, and the escalating cycle continues. This is the point at which many depressives come to treatment. This process is illustrated in the following case report.

CASE REPORT

The client was 23-year-old woman who came to the University Clinic seeking treatment for depression. She was seen by the first author. In the early sessions, the client reported what she believed to be major problems. She stated that she had been depressed for several years. Most recently, however, her depression had become more severe. She reported frequent bouts of crying and profound sadness. Although she had a group of male and female friends, she found herself becoming increasingly critical and less interested in their company. She was in a nonexclusive, romantic relationship with a man her age, but she was sure that it would go the way of previous relationships and end up with him leaving her. Although she was frustrated with the lack of commitment in the relationship, she was afraid that this was a reflection of her insecurity. She said that she wanted to be able to get over her insecurity so that

she would not be so needy and demanding. She had feelings of jealousy when she saw friends in committed relationships or when she saw her "boyfriend" even talking to other women. She was in her senior year of college and was a very successful student. Recently, however, she found it difficult to concentrate on her work, and she was afraid her grades would suffer. She had a senior honors thesis due at the end of the school year, but was unable to make progress on it. She experienced a good deal of anxiety about this, but it only seemed to make her more depressed.

Treatment entailed a combination of Kohlenberg and Tsai's (1991) functional analytic psychotherapy (FAP) and Hayes' (1987) acceptance and commitment therapy (ACT). The general goals of treatment were in line with those described in ACT. That is, the goal was to help the client achieve acceptance of her private events while pursuing those activities and goals that she identified as being important in her life. FAP procedures were used as a process to facilitate these goals. In particular, the interactions that occurred in the therapeutic relationship were used to identify and shape clinically relevant behavior. A general description of the course of therapy is presented below. Transcript material is included to illustrate the specific verbal interactions that occurred in treatment.

From the start, one goal of treatment was to help the client give up the struggle against her private events and accept them simply as responses determined by her particular history. The first attempt to do so occurred in the fourth session after the client described a recent bout of self-criticism and extreme sadness.

C (client): I was so down this weekend. I didn't do anything at all but sit around and cry. I get so down on myself.

T (therapist): What was the sadness about?

C: I wanted to be with [her boyfriend], but he was out with some friends. I felt so lonely. But, uh, then I, uh, started to get angry with myself for being so needy, so, uh, dependent. I'm going, I know I'm going to drive him away if I don't stop this. I always do this.

T: What does it mean to you that you were sad this weekend?

C: It means there's something wrong with me. It's not, uh, normal people don't cry for the, cry for a whole weekend. I don't think it's normal for me to need my boyfriend around not to be sad.

T: You said these thoughts mean there is something wrong with you. What if that's not what they mean? What if they, uh, don't really mean anything? At least nothing about you or, uh, what you can do. Maybe you're giving them too much credit. Uhm. This is probably confusing to you or hard to understand because all of your life you have been told that your thoughts and feelings are, uh, important. That they are the reasons you do things, the reasons you do the things you do. But, I want to challenge that belief. Maybe the thoughts you have are just the thoughts you have and nothing more.

C: I'm not sure what you're saying.

T: Okay. Let's take the feelings of sadness you had this weekend. You were sad because you were alone, right. What's wrong with that? You wanted to be with your boyfriend, but he wasn't there. You wanted some affection and, uh, someone to talk to, but you couldn't. So you have an emotional reaction to that. You got sad. What's wrong with that?

C: I don't like to be sad, and I, uh, really don't like to be so needy.

T: So when you're sad it means you're needy? What if that isn't true? What if that is just, uh, something you said, something you have learned to say to yourself. It doesn't have to be true. Just because you said it, doesn't mean it is true, you know? What I'm getting at is your thoughts and feelings are just things you do. You've learned to say you're needy, but that does not mean that you are, that you really are. You could just watch yourself say it, and not believe it. You say lots of bad things about yourself, and you don't, or maybe you do. Do you believe all of the bad things you say about yourself?

C: Sometimes. Uhm. Sometimes they seem like they're true.

T: Yeah, sometimes they seem true. But it is possible that they aren't, right?

C: Yeah, I guess.

T: Well, good that's a start.

The following four sessions continued to focus on acceptance of thoughts and feelings. In the eighth session, the client came in talking about wanting to get drunk to deal with her reactions to a confrontation she had with her boyfriend.

C: We had a fight, and he left. I felt so angry, so bad. I just couldn't, didn't want to go through it. I started to get really down. I just wanted to get drunk.

T: Because you were so sad.

C: Yeah, again. It just never goes away. And, you know, the thoughts were starting again.

T: And you thought you had to stop them.

C: Yes.

T: Did you?

C: No. I started to drink, but I'm not much of a drinker, and when I, it seemed like just drinking made me think about it more.

T: Like trying not to think of pink elephants makes you think of pink elephants more. That's true of

everything you do to stop thinking of something or trying not to have a feeling. It just makes it worse.

C: So, what do you do?

T: Don't try not to have feelings. Have them.

C: Does that work? Will the feelings go away?

T: No, but at least you're not doing anything to make them worse.

C: Well, how do you get rid of the feelings?

T: You don't. You can't.

C: What do you do about them?

T: Have them. You want to do something you can't do. You want not to have thoughts and feelings. But that can't happen, you know. You're alive and they're part of you.

C: I don't like those parts of me.

T: What parts do you like?

C: I'm not sure.

In line with FAP, the interactions that occurred in the therapy sessions were often the focus of therapy. The following excerpt from the 12th session illustrates how the client's feelings in the session were used to facilitate emotional acceptance. The client had just reported a sexual experience she had had a few years earlier. The experience was humiliating for her and she felt very guilty about it.

T: How do you feel about telling this, uhm, telling me very private things?

C: Unbelievably embarrassed. I knew that we would, that I would have to talk about that in here. It's bothered me for a long time, and, that's what you're supposed to do in therapy, right? Talk about bad stuff that happens. But I really have been dreading it, talking about it, I mean.

T: I can see how difficult it was for you. I know you are embarrassed. I, uh, want to get back to the sexual experience and talk about your feelings about it, but uh, I think that, I want you to, I hope you can see that you were able to do something you thought was valuable for you even though you had strong feelings about it. I mean, even though you were embarrassed, you did what you needed to do. That's what I mean by acceptance. That's how you do it.

Acceptance work continued over the next few sessions, and the client was able to grasp the perspective. In the sessions, she frequently reported some instances in which she was able to observe that she had feelings of both depression and anxiety without trying to control them. One instance occurred when she was preparing for a date with someone she met in one of her classes. She reported the following in the 17th session.

C: Well, I was really, uh, starting to get nervous and, uh, thinking that, uh, that it was a mistake to have agreed to go out with him. I don't know why I was, you know, so nervous. I have no confidence. Anyway, I started thinking about accepting the feelings and the stuff we talked about, you know, and just got ready.

T: It seems to me that being nervous in that situation was pretty normal. I mean, who wouldn't be?

C: I know, but I started in with the, uh, you know, if I was more confident, I wouldn't be nervous, and then, I just said, well that's just a thought I'm having.

T: So you went out.

C: Yeah, and it was pretty good. But the whole time, I'm like telling myself he hates me, why am I doing this? What's the point? you know. But it was good.

Subsequent sessions focused on her goals, values, and what she wanted from her life.

T: We've been talking a lot lately about accepting thoughts and feelings and that kind of thing, but, uh, it might be useful to spend some time talking about what you want to do with your life, what kind of person you want to be.

C: Pause. I don't know exactly. Uhm. Do you mean like what do I want to be someday?

T: Well, what do you value. What do you want out of life?

C: A better relationship for one thing. This [the relationship with her boyfriend] is going nowhere, but I'm afraid to break it off.

T: Why?

C: I might be alone, for a long time. For really long. I'd rather be with him in this than be alone.

T: Really? But you said before that this relationship makes you feel stupid and bad. You also said you wanted a relationship with someone who could commit to you. Uhm. Is it better, uh, to feel stupid and bad, uh, to uh, not have the kind of relationship you want than to be lonely for a period of time? There is always a risk when you go after what you want. In relationships, you know, the risk is that you will be, uh, rejected or, uh, hurt. But not being in one means that you could be lonely or, uh, not have the kind of intimacy you want. Acceptance goes hand in hand with commitment. You have to be willing to accept the feelings that go with going after what you want. What do you want?

C: A committed relationship with no risks (laughs).

T: Sorry.

In the next session, the client reported that she had terminated the relationship with her boyfriend. In subsequent sessions she discussed the possibility of leaving New Mexico and taking a job working for a member of Congress in Washington, D.C. Her college training had prepared her for this kind of work, and in our discussions about her goals and values she discovered that she wanted to become politically involved and work on causes that she felt were impor-

tant. She was very anxious about leaving her home, but had come to the conclusion that her anxiety would have to be accepted if she were to achieve her career goals. As therapy progressed, the client's depression clearly lifted, although her affective state was hardly discussed after the first few weeks of treatment, and it was never an explicit goal of therapy. In fact, in addition to emotional acceptance, the specific goals of treatment were to get some clarification of her goals and values and to pursue those activities that gave meaning and enriched her life. These included finishing her thesis, maintaining her relationships with her friends, working out some difficulties with her parents, making a decision about her relationship and pursuing new ones if necessary, and finding a job doing the kind of work she wanted to do. By this criterion, the methods employed with this client were successful. Of course, there is no way to unambiguously attribute the outcome in this case to the procedures used. But that was not the purpose of this report. Rather, we wanted to demonstrate the application of clinical behavior-analytic procedures to the treatment of depression.

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