

## Toward a Comprehensive Functional Analysis of Depressive Behavior: Five Environmental Factors and a Possible Sixth and Seventh

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With recent advances in the behavioral treatment of depression and growing dissatisfaction with medical and cognitive interventions, a resurgence of interest in behavior analytic treatment of depression has occurred. Currently, several behavioral and cognitive behavioral models of depression exist. In reviewing these models, certain agreed upon environmental factors emerge. In this paper, we explore five factors related to a behavioral treatment of depression. Three of these factors view depressive behavior as a bi-product of person-behavior-environment interaction. These are (1) lack of response contingent reinforcement of behavior, (2) too much punishment of behavioral responses, and (3) loss of effective operant behavior. In addition, two models view depressive behavior as operant behavior as controlled by (4) positive reinforcement and/or (5) negative reinforcement. Two final factors to consider are (1) depressive behavior develops as a failure to develop or an over reliance on rule governed behavior and (2) environmental factors that precipitate depression may be viewed as establishing operations. Each of these factors will be explored as well as multiple combinations of these factors in the generation and continuation of depression.

*Keywords:* Depression, Functional Assessment, Clinical Behavior Analysis, & Behavioral Models of Depression

In the 1990's, a resurgence of interest in behavioral theories of depression occurred. This resurgence derived from the establishment of clinical behavior analysis as a vibrant adjunct to applied behavior analysis (Dougher, 1993; 1994; 2000) with active theoretical and empirical investigations and treatment developments relevant to outpatient psychotherapeutic treatment of depression. In addition, a component analysis of cognitive-behavior therapy for depression showed that the behavioral component (behavioral activity scheduling was referred to as behavioral activation) was sufficient to explain recovery from initial depression (Jacobson et al., 1996) and at follow up (Gortner, Gollan, Dobson, & Jacobson, 1998). The cognitive component of treatment appeared to add little to the overall outcome. These findings renewed interest in behavioral approaches to depression treatment (Hollon, 2001; Jacobson & Gortner, 2000) and sparked development of a complete Behavioral Activation approach (Martell, Addis, & Jacobson, 2001; also see Kanter, Callaghan, Landes, Busch, & Brown, 2004). Other clinical behavior analytic approaches to depression have also been evaluated, including Acceptance and Commitment Therapy (Zettle & Hayes, 1986; Zettle & Rains, 1989) and Functional Analytic Psychotherapy (Kanter, Schildcrout, & Kohlenberg, in press; Kohlenberg, Kanter, Bolling, Parker, & Tsai, 2002).

The above sets the stage for a re-analysis of behavioral theories of depressive behavior (e.g., Bolling, Kohlenberg, & Parker, 2000; Dougher & Hackbert, 1994; 2000; Ferster, 1973; Hoberman & Clarke, 1993; Kanter et al., 2004;

Lewinsohn, 1974). In review of current behavioral models of depression, we found that several factors were highlighted. First, early models incorporated Skinner's (1953; 1974) stance that feelings such as depression are respondent bi-products of behavior-environment interactions. For example, failure to achieve sleep as a reinforcer for insomniacs might produce depressive symptoms. Subsequent models focused on direct functional aspects of depression.

While many of the early pioneers of behavioral approaches to depression became focused on cognitive phenomena after initial investigations, this behavioral work remains an excellent starting point for current theory exploration. In particular these models emphasized depression as a function of positive reinforcement deprivation, either in terms of low density of positive reinforcement (Ferster, 1973) or low rates of response-contingent positive reinforcement (Hoberson & Lewinsohn, 1985; Lewinsohn, 1974, 1975). Depression was also conceptualized in terms of aversive control by these early theorists (Ferster, 1973; Grosscup & Lewishon, 1980) and in terms of loss of contingency through punishment (e.g., Seligman, 1975). In these models, deficits in behavior are a function of reinforcement deprivation or punishment, emotional behavior is seen as respondent, and additional behaviors, including thinking and feeling, may be described as adjunctive behavior (schedule induced). Later models viewed depressive behavior as operant phenomenon. As operant phenomenon, depressive behavior is directly subject to and maintained by positive and negative reinforcement

(Hops, Sherman & Biglan, 1990). We will then review the theory and research on rule-governed behavior has been used to model depression both in terms of deficits in rule-governed behavior (e.g., Kanfer, 1970, 1971 as played out in Rehm, 1977, 1988) and excessive rule-governed behavior (Hayes, Strosahl, & Wilson, 1999). Finally, the possible role of establishing operations in depression will be explored. This paper will review each of these factors.

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## THE REINFORCEMENT DEPRIVATION MODEL

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The simple notion that a lack of or reduction in positive reinforcement produces depression has been the foundation of most behavioral theories of depression. These theories have interpreted depression literally, emphasizing reductions in overall behavioral frequency and variability. It is well known that behavior that is seldom positively reinforced may slow or stop altogether. In line with Skinner (1974), both Fester (1973) and Lewinsohn (1974, 1975) emphasized that depression is a function of such reinforcement deprivation. Likewise, Dougher and Hackbert (1994) described low density of reinforcement, extinction, and punishment all as consequential functions relevant to depression. Similarly, the present review relates depression to several behavioral principles, including reinforcement loss, ratio strain, reinforcement erosion, and skill deficits. We also consider adjunctive and respondent behavior in this section.

### *Reinforcement Loss*

The reinforcement deprivation model of depression posits that reductions in reinforcement rates will produce reductions in responding. This certainly is the case when reinforcers have been lost completely. Reinforcer loss is the most straightforward aspect of the reinforcement deprivation model. Reduced rates of or completely extinguished behavior may result from loss of the reinforcer itself, the potential to experience the reinforcer, or the potential to experience the reinforcing properties of the reinforcer. Probably the most common example of the former is death of or divorce from a spouse, but examples can also include loss of a job, relocation to a new environment, and loss of physical or cognitive activity due to aging or injury. Functionally, the important point is that it is a generalized reinforcer that is lost and extinction over-generalizes to many behavioral repertoires at least partially controlled by or associated with the lost reinforcer. Research clearly indicates that risk for depression is increased after the occurrence of such major negative life events (Billings & Moos, 1984). However, most depressed individuals do not report such a loss precipitating their depression; instead, the accrual of smaller, multiple stressors over time predicts depression in a larger proportion of individuals (Kanner, Coyne, Schaefer, & Lazarus, 1981; Paykel, 1982). This forces behavior analysis to advance a more complex model if the goal is to account for more than a subset of depressed individuals.

### *Ratio Strain*

It is often the case that reinforcers are not lost completely. Instead, reinforcement rates are reduced but not to the point of extinction. It is well known that this situation produces extinction-resistant behavior (Ferster & Skinner, 1957). This calls the reinforcement deprivation model of depression into question, as the model suggests behavioral frequency and variability should reduce. But extinction-resistant behavior results from reducing reinforcement rates for variable interval schedules not variable ratio schedules. In fact, as the probability of reinforcement on a ratio schedule decreases, a maximum rate is achieved after which ratio strains—disruptions in responding that are not post-reinforcement pauses—appear. This is especially the case if ratio schedule requirements are raised rapidly. The rate of behavior characterized by ratio strain may appear to be similar to that characterized by extinction, and if the rate is raised high enough or quickly enough for all practical purposes the result is the same—responding will stop (see Stafford & Branch (1998) for more information on ratio strain).

For example, consider a graduate student working on her dissertation. Each draft is submitted to her advisor after which a predictable post-reinforcement pause in responding may occur. Eventually, however, with positive feedback from the advisor progress will be made, subsequent drafts completed and positively reviewed, and work on the dissertation may be maintained on such a variable ratio schedule until it is completed. However, consider an advisor who returns the draft as unacceptable and requires more work before re-submission. This may be considered an increase in the ratio requirement. Several cycles of such increases may produce ratio strain. The student, depending on relevant historical variables such as the probability that persistence has been reinforced in the past, may eventually, in essence, give up, and depression may follow.

### *Reinforcement Erosion*

Reinforcement erosion is a term coined by the developers of Behavioral Marital Therapy (Jacobson & Margolin, 1979) to refer to processes such as satiation and habituation through which previously reinforcing stimuli become less reinforcing over time. In addition to satiation and habituation, other factors such as age and history can also play a role. For example, a partner's jokes, so funny at the beginning of a relationship, begin to sound boorish after being repeated time after time. Likewise, sexual attractiveness fades with familiarity and a couple's sex life may become boring and routine over time. In these situations, although once reinforcing events are still present in the current environment, the reinforcing properties of the events have changed and the reinforcer is effectively lost. This process awaits experimental analysis.

### *Skills Deficits*

The role of social skills deficits in depression has been investigated for many years by behavioral and non-behavioral

researchers. The original view was that an individual must have in his/her repertoire the skills necessary to obtain social reinforcement; if these skills are deficient, rates of social reinforcement will be reduced and depression will ensue (Lewinsohn, 1974, 1975). Unfortunately, much of the research in support of this model was based on correlations and only showed that depressed individuals also displayed social skills deficits (e.g., Youngren & Lewinsohn, 1980). In fact, some research found that social skills deficits are a consequence, not a cause, of depression (e.g., Cole & Milstead, 1989). On the other hand, it is quite clear that disturbances in interpersonal functioning, which may be a product of social skills deficits or other factors, are both precipitants and consequences of depression (Barnett & Gotlib, 1988). As with the reinforcer loss model, the behavioral social skills deficits model of depression has been shown to be relevant to depression but too simple as a full explanation for the phenomena.

A broader view of skill is implied by the literature on coping skills (e.g., Lazarus & Folkman, 1984). In this view, the individual must have in his/her repertoire the skills necessary not just to obtain social reinforcement, but to obtain whatever is required to adjust successfully to adverse life events and stressors. The benefit of a coping skills model of depression is that it allows for the identification of idiographic historical and situational variables that may result in a particular individual lacking the behavioral repertoire to obtain necessary reinforcement in a particular situation. Thus, social skills deficits may be relevant for some but not all depressed individuals. This particularly may be the case for adolescents as they transition into more complicated social arrangements. Requisite social skills may be seen as a behavioral cusp in this situation (Baer & Rosales-Ruiz, 1998; Rosales-Ruiz & Baer, 1997), and this may help explain the burst of depressive behavior that Rutter (1991) pointed out for the point of adolescence. In addition to social skills, active problem solving skills (Nezu, 2004; D'Zurilla & Goldfried, 1971) and emotion regulation skills (Linehan, 1993) have been considered important coping skills relevant to depression.

### *Adjunctive and Respondent Behavior*

Reinforcement deprivation easily accounts for the paucity of behavior and other behavioral deficits displayed by depressed people, especially if the reinforcers lost or reduced were generalized reinforcers, but this theory does not directly explain the increases in behavior also displayed, especially emotional behavior. These additional behaviors often have been conceptualized as adjunctive and respondent sequelae of the primary problems with positive reinforcement.

First, some of these increased private behaviors may be seen as forms of adjunctive behavior (Cantor & Wilson, 1984; Falk, 1971), evoked by secondary stimuli that become prepotent until the original schedule reasserts control. As reinforcement rates are reduced, control of non-depressive behavior by previous controlling stimuli weakens, and depressive behaviors such as negative thinking and feeling "depressed" may increase adjunctively. For example, Ferster (1973) emphasized that a loss of reinforcement may result in

silence and inactivity, which are aversive. Depressive behaviors such as complaining, hand wringing, pacing and compulsive talking may be evoked and function to mask these aversive conditions. Thus, as the availability of primary positive reinforcers decreases, negative reinforcers assume control. If strong enough, the adjunctive contingencies may come to prevail over the primary contingencies and make adjunctive behavior prepotent even during times previously controlled by the primary schedule. In such a case a person may become chronically depressed.

Others have described these depressive behaviors, particularly the emotional responses, as respondently elicited by historical events that also result in the dearth of reinforcement (Dougher and Hackbert, 2000; Lewinsohn, 1974). So, for example, a person may stop going to work if reinforcement does not maintain such behavior and start to feel depressed. Likewise, when a person leaves his/her childhood home for the first time much behavior can no longer be emitted and depressive feelings may appear in turn (Skinner, 1974). In line with the conceptualization of secondary depressive behaviors as respondently-elicited, several authors have suggested that these depressive behaviors, particularly sleep and appetite disturbances and thinking difficulties, serve an adaptive function that may have been produced through contingencies of survival (Bolling, Kohlenberg, & Parker, 2000; Costello, 1977; Schmale, 1973).

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## TOO MUCH PUNISHMENT

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### *Aversive Control*

Skinner may have had the ubiquity of depression in mind when he emphasized the need for a social structure that encourages positive rather than aversive control of behavior (e.g., Skinner, 1986). Likewise, Ferster (1973) emphasized the role of escape and avoidance behavior in depression. Ferster did not distinguish between escape and avoidance behaviors, however, and the roles of negative reinforcement vs. punishment were not clarified. Traditionally, the behavioral view has been that depression is a function of positive reinforcement while anxiety is a function of negative reinforcement, and punishment has received less attention. This distinction between depression and anxiety is too simple as comorbidity has come to be seen as the rule rather than the exception (Barlow, 2002). In fact, in light of the substantial comorbidity, Barlow, Allen, and Choate (2004) proposed combining the diagnostic categories of anxiety and depression into a larger category. Behaviorally, this may make sense as it is difficult to conceive of a history which produces significant disruptions in positive reinforcement but does not also include significant aversive control (although we would argue against diagnostic categorization on other grounds [e.g., Follette, Naugle, & Linnerooth, 2000; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996; Koerner, Kohlenberg, & Parker, 1996]). As Ferster (1973) noted, an absence of positively reinforced behavior may be due to the strength and prepotency of escape and avoidance behaviors, and it may be difficult to

ascertain the controlling variables in a given case. A common history of excessive aversive control may produce a host of private events, which are tacted as “depression,” “anxiety,” or both.

Research by non-behaviorists clearly establishes links between aversive experiences and depression, although the specific roles of negative reinforcement vs. punishment have yet to be clarified. For example, it is well known that stressful life experiences produce depression in adults (Kessler, 1997). In addition, several lines of research suggest that risk for depression is a function of negative reinforcement and punishment density for children and adolescents. Children who display academic difficulty often experience high rates of depressive behavior (Cole, 1990). In addition, adolescents in less supportive and more aversive environments experience higher rates of depressive behaviors (Sheeber & Sorensen, 1998). Depressed children and adolescents, as well as their parents describe family contexts as more hostile than nonclinical samples (Hops et al., 1990; Lewinsohn et al., 1990), and children often report sadness in response to parental conflict (Cummings, Inonotti & Zahn-Waxler, 1985; Cummings, Vogel, & Cummings, 1989; El-Sheikh, Cummings, & Goetsch, 1989; Cummings, Ballard, El-Sheikh, & Lake, 1991).

If depression is to be interpreted literally, as in behavior being “pressed down” or reduced, then the relationship between punishment and depression is made clear, as punishment by definition reduces behavior. Generalized punishment should be of particular importance, and it is common for clients with chronic depression to report childhood histories of prolonged and inescapable punishment. It is surprising, therefore, how little has been written by behavior analysts about this relationship. This may be because the early research on punishment and depression, the learned helplessness model, while behavioral in method and interpretation (e.g., Overmier & Seligman, 1967), grew increasingly cognitive over time (Abramson, Metalsky, & Alloy, 1989; Seligman, 1975).

However, the basic behavioral repertoires involved in learned helplessness have been demonstrated in animals and humans and may be taken as a model for some forms of depression without endorsing related hypotheses about causal cognitive concepts. Experiments with humans have shown that failure to display effective operant behavior over time leads to the extinction of entire operant classes of behavior. For example, Klein and Seligman (1976) showed that participants exposed to inescapable noise were subsequently slower to escape the noise when it was escapable. Similarly, Hiroto and Seligman (1975) showed that when participants exposed to inescapable shock subsequently failed to emit escape operants when the shock was escapable. Finally, Roth and Kubal (1975) showed that participants presented unsolvable problems later failed to solve problems that were solvable. The extinction of operant classes of escape behavior may best explain the results of Wortman and Brehm (1975) who found in some helplessness experiments that participant behavior for escape was facilitated. A behavioral model would suggest that the classic extinction burst, where behavior tem-

porarily increases in frequency, intensity, and variability of form might be at the core of these results.

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### POSITIVE REINFORCEMENT FOR DEPRESSIVE BEHAVIOR

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Positive reinforcement for depressive behavior is central to several non-behavioral models of depression (e.g., the psychoanalytic notion of secondary gains, Shmagin & Pearlmuter, 1977; Fenichel, 1945). Even if one sees depressive behavior as an adjunctive bi-product of punishment, then distressed behaviors, such as complaining or other expressions of worry, may be seen as a class of behaviors historically reinforced by the verbal-social community. Complaining, for example, often provides explanations for depressed individuals’ primary depressive symptoms. Reason-giving, in turn, is highly reinforced by the verbal-social community (Hayes & Hayes, 1989; Baum, 1994). Romano et al. (2000) found that the rate of both verbal and nonverbal pain behaviors in chronic pain patients was associated with higher rates of solicitous partner responses, suggesting that partner solicitous behavior may be maintaining high rates of pain behaviors through positive reinforcement. Social solicitation of depressive behavior may help to maintain depression in much the same way.

Reassurance seeking provides another example. Mildly depressed excessive reassurance seekers repeatedly elicit social support from their environment (i.e. family and friends) (Coyne, 1976). Reassurance seeking may increase in frequency over time in order to verify that past assurances were credible and not tendered out of a sense of obligation. Maintenance of this behavior may be understood as resistance to extinction following an intermittent schedule of reinforcement. Gradually, those giving reassurance may become frustrated by the frequent demands that seemingly never succeed in reassuring the depressed individual. As a result, reassurance providers may make themselves less available, leading to decreased and intermittent reinforcement. Rejection by the reassurance providers, whether direct or indirect, can concomitantly exasperate depression. Research has supported the notion that this vicious cycle strengthens a depressed mood (Joiner & Metalsky, 2001).

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### NEGATIVE REINFORCEMENT FOR DEPRESSIVE BEHAVIOR

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As previously mentioned, Ferster (1973) alleged that several depressive behaviors served avoidance or escape functions. For example, forms of withdrawal, such as avoiding contact with the social community or excessive sleeping, help to avoid exposure to environmental stimuli that elicit aversive thoughts or feelings, thus maintaining depressive behaviors and reducing contact with potential reinforcers (Martell, Addis, & Jacobson, 2001). Other depressive behaviors, such as complaining, pacing, or crying may function to avoid aversive conditions, such as silence, inactivity, or other anxiety-producing activities. Rumination, according to Fer-

ster (1981), can be explained in that, negative and aggressive statements, in general, are punished when voiced publicly. Consequently, such critical, anxious, or hostile language becomes private. These private statements, while inherently negative and most likely punishing, nevertheless reduce further public punishment.

Some evidence exists to support the notion that negative reinforcement maintains depressive behavior. This can be a very powerful but not very reported factor in outpatient therapy. For example, in the laboratory setting, using an examination of conditional responding, Biglan and colleagues (1985) found that depressive statements lowered the probability of aggressive behavior from both husbands and children. In addition, Biglan, Hops, and Sherman (1987) showed that depressive behaviors suppress partner aggressive behavior. Is this likely to be a functional operant in the natural environment? Jenkins, Smith, and Graham (1989) found that a majority of children reported that they intervened to stop their parents' quarrels and that greater frequency of quarrels was associated with greater level of intervention. Involvement in parental quarrels is related to child internalizing problems (Jouriles, Murphy, & Farris 1991). Using direct observation Hops and colleagues (1987), showed that depressed mothers emitted dysphoric affect, which suppressed husband hostility more often than nondepressed mothers. Distressed behaviors emitted by chronic pain patients were also shown to reduce partner aggressive statements (Biglan & Thorsen, 1986, cited in Biglan, Lewin & Hops, 1990). The reverse is also true that aggressive statements made by family members often reduce mother depressive statements (Hops et al., 1987). This sets up an interesting circular system in which, the partners aggressive behavior is reduced by depressive behavior and the persons depressive behavior is suppressed by aggressive behavior. Thus, depression can come to be a coercive response to an aggressive partner. And the partner's increased aggressive behavior can be seen as a method to decrease the depressive behavior.

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### THE ROLE OF RULE GOVERNED BEHAVIOR IN DEPRESSION

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Skinner (1953, 1957, 1966, 1974) described rules as verbal discriminative stimuli (tacts) specifying contingent behavior-consequence relationships that function as antecedents for operant behavior. As Skinner (1966) points out nonverbal creation of a discriminative stimulus is common across species. Bears may mark trees with claw marks, and a person might put a chalk X on their luggage. Both solve the problem of making the situation easier to identify. The organism's ability to generate rules is learned through a history of social reinforcement for rule following. Rules emerge as a larger response class and can lessen the time needed to derive contingencies compared to direct trial and error experiences (Skinner, 1974). Thus, it is through rules that temporal extension occurs from the present to the future (Skinner, 1989). Both a lack of rule-governed behavior and excessive rule governed behavior have been posited as relevant to depression. We note that this original definition of rule-governed behavior

has been challenged and altered recently in line with Relational Frame Theory (Hayes, 1989; Hayes, Barnes-Holmes, & Roche, 2001); the analysis for depression does not change substantially however.

#### *A lack of rule-governed behavior*

We first consider a lack of rule-governed behavior. Reigler and Baer (1989) provided a model of the normal development of rule following and rule-governed behavior. In this model, a child initially learns to respond to a parent's verbal instructions for compliance. The verbal instructions serve as discriminative stimuli that produce consequences for the child both directly from the situation and indirectly through collateral contingencies from the parents (Cerutti, 1989). After multiple exemplars of compliance training children develop a generalized compliance response class. When this occurs, the child begins to generate his/her own rules and instructions by imitating the rule-giving behavior modeled by adults. In addition to this, the child begins to discriminate his/her own behavior and others behavior related to consequence events. For example, the child might say, "If I hit my brother, then mom will put me in timeout." Zettle and Hayes (1982) stated that pliance is the response to Skinner's (1957) mand category.

Gradually, the child learns from adults to ask him/herself "What am I doing?" The use of self-instructions can now generalize to novel situations. Goldiamond (1976) took the development of rule-governed behavior as the basis of self-control. Of particular interest are rules that Malott (1981) described as weak rules because the consequences were delayed, incremental, and/or unpredictable with respect to outcome. Zettle and Hayes (1982) discuss this as "tracking" which is a response to a tact or better described as a general awareness of rules. For example, the child who delays the start of study later and later for a test the next day soon finds no time left to study. He goes to school the next day and fails the test. Thus, a person who fails to develop rule-governed behavior and generalized self-instruction may find him/herself too controlled by immediate contingencies, and long-term goals and planning may suffer. For example, a college student may go drinking the night before a major final and then suffer significant consequences. Put simply, the person may sell out his/her dreams for their momentary desires and then depression may result.

This model of rule-governed behavior predicts that depressed individuals, depending on where the breakdown in the developmental pathway occurs, might have problems with self-monitoring, formulation of self-rules in specific situations, and giving up short-term rewards for long-term consequences. For example, a person might become depressed because they keep dating the wrong type of or ultimately incompatible people. He/she might enjoy a person who is a lavish spender when dating but when the relationship becomes serious the person's accrued debt might be problematic and lead to an end in the relationship. The model thereby suggests that relatively normal people might become depressed if repeatedly placed in situations with consequences that are

delayed, incremental, and/or unpredictable with respect to outcome. In accord with this view, Rehm (1979, 1989) argued that depressed individuals have deficits in the ability to monitor their own behavior. In addition, they have difficulty generating rules and solutions for problem situations. Rehm has presented considerable evidence to support the notion that rule-governed behavior deficits exist in many depressed individuals and developed a self-management therapy program aimed at improving self-monitoring, self-evaluation, and self-reinforcement (reviewed in Rehm & Rokke, 1988). Similarly, many cognitive therapy techniques can be reinterpreted as attempts to train appropriate rule-formulation and rule-governance (Poppen, 1989; Zettle & Hayes, 1982).

### *Excessive rule-governed behavior and experiential avoidance*

An alternative account posits that depression (and other psychopathology) may result from excessive rule-governed behavior. Hayes et al. (1999) suggest that rules that lead to experiential avoidance are particularly detrimental. Experiential avoidance has been described as an unwillingness to remain in contact with private experiences, followed by attempts to escape or avoid these experiences, even when this avoidance causes psychological harm (Blackledge, 2003; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Although, no technical definition of experiential avoidance has been established, experimental evidence from several areas (e.g. thought suppression, coping styles) suggests that experiential avoidance is an important component of many clinical syndromes (Hayes et al., 1996).

The historical conditions necessary for the development of rule-governed experiential avoidance have only been loosely described. Hayes, Strosahl, & Wilson (1999) describe a variety of reasons why experiential avoidance occurs. First, if avoidance of negative public events is reinforced, the behavior may generalize to negative private events. Second, experiential avoidance itself will be negatively reinforcing in the short run (because the aversive state is avoided or escaped), however, because many private events are elicited, avoidance will fail unless environmental stimulation is restricted. Third, experiential avoidance is modeled and reinforced by caregivers (e.g. "big boys don't cry"). Fourth, experiential avoidance may be a direct result of natural language processes, as described by relational frame theory (Blackledge, 2003; Hayes et al., 1999; Hayes & Wilson, 1993; Wilson, Hayes, Gregg & Zettle, 2001).

Hayes and colleagues (1999) posit that, given such historical factors, an individual's repertoire may become dominated by rule-governed experiential avoidance. This is detrimental and may lead to depression and other psychopathology for several reasons. First, an over-reliance on verbal rules prevents direct environmental contingencies from controlling behavior (Hayes, Kohlenberg & Melancon, 1989). Thus, excessive rule following could lead to ineffective repertoires of behavior that are insensitive to changing contingencies. This claim is supported by several research studies (e.g. Catania, Shimoff, & Matthews, 1989; Hayes, Brownstein, Hass, & Greenway, 1986). One study (McAuliffe, Barnes-Holmes,

& Barnes-Holmes, 2004) examined depressed adolescents' sensitivity to contingency changes that made a previously established rule ineffective. Results indicated that once the rule was no longer reinforced, depressed adolescents followed verbal rules longer than did non-depressed subjects.

Note that this theory highlights additional verbally-mediated avenues of reinforcement deprivation. For example, a depressed person who lives life by the mantra "to have a successful life, I must control my emotions" would be under the verbal control of an experiential avoidance rule. This person may be successful in the short term at avoiding negative emotions, but in the long term this may compound depression. According to Hayes et al. (1999), many negative private events are classically conditioned, so attempts to control them verbally will be unsuccessful. In addition, attempts to control private events may backfire and produce a rebound. Finally, an unwillingness to experience strong emotions may produce ineffective responding when opportunities for reinforcement necessitate strong emotional responses, such as family interactions and intimate relationships.

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## ESTABLISHING OPERATIONS IN DEPRESSION

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Each of the aforementioned factors may result in behavioral deficits and generate depressive behavior. In addition, setting events and subsets of setting events such as establishing operations may increase the likelihood of depressive behavior. For example, sleep may serve as an establishing operation that increases escape behavior (Cautilli & Dziewolska, 2004). Schmale (1973) found that lack of sleeping and eating contributed to a conversation withdrawal response. Dougher and Hackbert (1994; 2000), in describing depression in terms of establishing operations, suggested that the period of time during which establishing operations have been previously described to exert their influences should be extended to include long-term as well as short-term operations. They speculated that depressive establishing operations may be temporally distant from their effects and may include events such as death of a loved one, rape, and long-term childhood abuse. Thus, many of the factors described above may be conceptualized as establishing operations that abolish non-depressive contingencies and establish depressive contingencies.

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## CONCLUSION

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The diversity of the above factors highlights the need for such analyses, as a conceptualization of depression that highlights broad principles of positive reinforcement, negative reinforcement, punishment, rule-governed behavior, and establishing operations is not of much use given the ubiquity of these processes. The diversity of the above factors also clarifies that depression is not a unitary phenomena, a specific disease state, or a simple reaction. It is a complex, multiply controlled, and co-occurring set of operant and respondent behaviors, and any similarity between two cases of de-

pression is assumed, not determined. This calls for greater use of functional assessment in treatment (Augustson, 2002; Greenway & Wulfert, 2002; Kohlenberg, Boiling, Kanter & Parker, 2002). This means that many different types of individual and couple oriented techniques could be successful (Cordova, 2003)

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## REFERENCES

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- Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review*, 96(2), 358-372.
- Augustson (2002) An Overview of Some Current Challenges within the Field of Clinical Behavior Analysis. *The Behavior Analyst Today*, 3 (3), 265-285.
- Baer, D. M., & Rosales-Ruiz, J. (1998). In the analysis of behavior, what does "develop" mean? *Mexican Journal of Behavior Analysis*, 24, 127-136.
- Barlow, D. H. (2002). *Anxiety and its disorders: The nature and treatment of anxiety and panic (2nd ed.)*. New York, NY: Guilford.
- Barlow, D. H., Allen, L. B., & Choate, M. L. (2004). Toward a unified treatment for emotional disorders. *Behavior Therapy*, 35(2), 205-230.
- Barnett, P. A., & Gotlieb, I. H. (1988). Psychosocial functioning and depression: Distinguishing among antecedents, concomitants, and consequences. *Psychological Bulletin*, 104(1), 97-126.
- Baum, W. M. (1994). *Understanding behaviorism: Science, behavior, and culture*. New York: HarperCollins.
- Biglan, A., Hops, H., & Sherman, L. (1987). Coercive family processes and maternal depression. In R. Peters & R. J. MacMahon (Eds.), *Marriage and families: Behavioral system approaches*. New York: Brunner-Mazel.
- Biglan, A., Hops, H., Sherman, L., Friedman, L., Artur, J., & Osteen, V. (1985). Problem solving interactions of depressed woman and their husbands. *Behavior Therapy*, 16, 431-451.
- Biglan, A. Lewin, & Hops, H. (1990). A contextual approach to the problems of aversive practices in families. In G. R. Patterson (Ed.), *Depression and aggression in family interactions*. Hillsdale, NJ: Lawrence Erlbaum Associates
- Billings, A. G., & Moos, R. H. (1984). Chronic and nonchronic unipolar depression: The differential role of environmental stressors and resources. *The Journal of Nervous and Mental Disease*, 172, 65-75.
- Blackledge, J. (2003). An Introduction to Relational Frame Theory: Basics and Applications. *The Behavior Analyst Today*, 3 (4), 421-46
- Bolling, M., Kohlenberg, R. J., & Parker, C. R. (2000). Behavior analysis and depression. In M. J. Dougher (Ed.), *Clinical Behavior Analysis* (pp. 127-152). Reno NV: Context Press.
- Cantor, M. B., & Wilson, J. F. (1984). Feeding the face: New directions in adjunctive behavior research. In F. R. Brush & J. B. Overmier (Eds.), *Affect, conditioning, and cognition*. Hillsdale, NJ: Erlbaum.
- Cordova, J (2003). Behavior Analysis and the Scientific Study of Couples. *The Behavior Analyst Today*, 3 (4), 412-425.
- Catania, A. C., Shimoff, E., & Matthews, B. A. (1989). An experimental analysis of rule-governed behavior. In, S. C. Hayes (Ed.), *Rule-governed behavior: Cognition, contingencies, and instructional control* (pp. 119-150). New York: Plenum Press.
- Cautilli, J. D., & Dziewolska, H. (2004). Neutralizing sleep as an establishing operation. *Journal of Early and Intensive Behavioral Intervention*, 1(2), 160-165.
- Cerutti, D. T. (1989). Discrimination theory of rule-governed behavior. *Journal of the Experimental Analysis of Behavior*, 51(2), 259-276.
- Cole, D. A. (1990). The relation of social and academic competence to depressive symptoms in childhood. *Journal of Abnormal Psychology*, 99, 422-429.
- Cole, D. A., & Milstead, M. (1989). Behavioral correlates of depression: Antecedents or consequences? *Journal of Counseling Psychology*, 36, 4, 408-416.
- Costello, C. G. (1977). Adaptive function of depression. *Canada's Mental Health*, 25, 20-21. Coyne, J. C. (1976). Toward an interactional description of depression. *Psychiatry*, 39, 28-40. Cummings, E. M., Ballard, M., & El-Sheikh, M. (1991). Resolution and children's response to interadult anger. *Developmental Psychology*, 27(3), 462-470.
- Cummings, E. M., Iannotti, R. J., & Zahn-Waxler, C. (1985). Influence of conflict between adults on the emotions and aggression of young children. *Developmental Psychology*, 21(3), 495-507.
- Cummings, E. M., Vogel, D., & Cummings, J. S. (1989). Children's responses to different forms of expression of anger between adults. *Child Development*, 60(6), 1392-1404.
- Dougher, M. J. (1993). Introduction. *The Behavior Analyst*, 16, 269-270. Dougher, M. J. (1994). Introduction. *The Behavior Analyst*, 17, 287-288.
- Dougher, M. J. (Ed.) (2000). *Clinical Behavior Analysis*. Reno, NV: Context Press.
- Dougher, M. J., & Hackenbert, L. (1994). A behavioral account of depression and a case report using acceptance based procedures. *The Behavior Analyst*, 17, 321-334.
- Dougher, M. J., & Hackbert, L. (2000). Establishing operations, cognition, and emotion. *Behavior Analyst*, 23(1), 11-24.
- D'Zurilla, T. J. & Goldfried, M. R. (1971). Problem solving and behavior modification. *Journal of Abnormal Psychology*, 78(1), 107-126.
- El-Sheikh, M., Cummings, E. M., & Goetsch, V. L. (1989). Coping with adults' angry behavior: Behavioral, physiological, and verbal responses in preschoolers. *Developmental Psychology*, 25(4), 490-498.
- Falk, J. L. (1971). Theoretical review: The nature and determinants of adjunctive behavior. *Physiology and Behavior*, 6, 577-588.
- Fenichel, O. (1945). *The psychoanalytic theory of neurosis*. New York, NY: Norton.
- Ferster, C. B. (1973). A functional analysis of depression. *American Psychologist*, 28, 857-870. Ferster, C. B. (1981). A functional analysis of behavior therapy. In L. P. Rehm (Ed.), *Behavior therapy for depression: Present status and future directions* (pp. 181-196). New York: Academic.
- Follette, W. C., Naugle, A. E., & Linnerooth, P. J. N. (2000). Functional alternatives to traditional assessment and diagnosis. In M. J. Dougher (Ed.), *Clinical behavior analysis*, (pp. 99-125). Reno, NV: Context Press.
- Goldiamond, I. (1976). Self-reinforcement. *Journal of Applied Behavior Analysis*, 9, 509-514.
- Gortner, E. T., Gollan, J. K., Dobson, K. S., & Jacobson, N. S.

- (1998). Cognitive-behavioral treatment of depression: Relapse prevention. *Journal of Consulting and Clinical Psychology, 66*, 377-384.
- Greenway & Wulfert (2002) The Current Status and Future Direction of Clinical Behavior Analysis: Introduction to the Special Section. *The Behavior Analyst Today, 3* (3), 246-248
- Greist, D. L., Wells, K. C. & Forhand, R. (1979). An examination of predictors of maternal perception of maladjustment in clinic-referred children. *Journal of Abnormal Psychology, 88*, 277-281.
- Grosscup, S. J., & Lewinsohn, P. M. (1980). Unpleasant and pleasant events, and mood. *Journal of Clinical Psychology, 36*, 252-259.
- Hayes, S. C. (1989). Rule-governed behavior: Cognition, contingencies, and instructional control. New York, NY: Plenum.
- Hayes, S. C., Barnes-Holmes, D., & Roche, B. (2001). Relational frame theory: A post-Skinnerian account of human language and cognition. New York, NY: Kluwer/Plenum.
- Hayes, S. C., & Hayes, L. J. (1989). The verbal action of the listener as a basis for rule-governance. In S. C. Hayes (Ed.), *Rule-governed behavior: Cognition, contingencies, and instructional control* (pp. 153-190). New York: Plenum.
- Hayes, S. C., & Wilson, K. G. (1993). Some applied implications of a contemporary behavior-analytic account of verbal events. *Behavior Analyst, 16*(2), 283-301.
- Hayes, S. C., Brownstein, A. J., Haas, J. R., & Greenway, D. E. (1986). Instructions, multiple schedules, and extinction: Distinguishing rule-governed from schedule-controlled behavior. *Journal of the Experimental Analysis of Behavior, 46*(2), 137-147.
- Hayes, S. C., Kohlenberg, B. S., & Melancon, S. M. (1989). Avoiding and altering rule-control as a strategy of clinical intervention. In S. C. Hayes (Ed.), *Rule-governed behavior: Cognition, contingencies, and instructional control* (pp. 359-385). New York: Plenum Press.
- Hayes, S. C., Strosahl, K. D., Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.
- Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Emotional avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology, 64*, 1152-1168.
- Hiroto, D. S., & Seligman, M. E. P. (1975). Generality of learned helplessness in man. *Journal of Personality and Social Psychology, 31*, 311-327.
- Hoberman, H. M., & Clarke, G. N. (1993). Major depression in adults. In R. Ammerman & M. Hersen (Eds.), *Handbook of behavior therapy with children and adults: A developmental and longitudinal perspective* (pp. 73-90). Boston: Allyn & Bacon.
- Hoberman, H. M., & Lewinsohn, P. M. (1985). The behavioral treatment of depression. In E. E. Beckham & W. R. Levers (Eds.), *Handbook of depression: Treatment, assessment, and research* (pp. 39-81). Homewood, IL: Dorsey Press.
- Hollon, S. D. (2001). Behavioral activation treatment for depression: A commentary. *Clinical Psychology: Science & Practice, 8*, 271-274.
- Hops, H., Sherman, L., & Biglan, A. (1990). Maternal depression, marital discord, and children's behavior: A developmental perspective. In G. R. Patterson (Ed.), *Depression and aggression in family interaction* (pp. 185-208). Hillsdale, NJ: Erlbaum.
- Hops, H., Biglan, A., Sherman, L., Arthur, J., Friedman, L., & Osteen, V. (1987). Home observation of family interaction of depressed woman. *Journal of Consulting and Clinical Psychology, 55*, 341-346.
- Jacobson, N. S., & Gortner, E. (2000). Can depression be demedicalized in the 21<sup>st</sup> century? Scientific revolutions, counter revolutions, and magnetic field of normal sciences. *Behavior Research and Therapy, 38*, 103-117.
- Jacobson, N. S. & Margolin, G. (1979). *Marital therapy: Strategies based on social learning and behavior exchange principles*. New York: Brunner/Mazel.
- Jacobson, N. S., Martell, C. R., & Dimidjain, S. (2001). Behavioral activation treatment for depression: Returning to contextual roots. *Clinical Psychology: Science and Practice, 8*, 255-270.
- Jacobson, N. S., Dobson, K., Traux, P. A., Addis, M. E., Koenner, K., Gollan, J. K. et al. (1996). A component analysis of cognitive-behavioral treatment of depression. *Journal of Consulting and Clinical Psychology, 64*, 295-304.
- Jenkins, J. M, Smith, M. A., & Graham, P. J. (1989). Coping with parental quarrels. *Journal of the American Academy of Child & Adolescent Psychiatry, 28*(2), 182-189.
- Joiner, T. E. Jr., & Metalsky, G. I. (2001). Excessive reassurance seeking: Delineating a risk factor involved in the development of depressive symptoms. *Psychological Science, 12*, 371-378.
- Jouriles, E. N., Murphy, C. M., & Farris, A. M. (1991). Marital adjustment, parental disagreements about child rearing, and behavior problems in boys: Increasing the specificity of the marital assessment. *Child Development, 62*(6), 1424-1433.
- Kanfer, F. H. (1970). Self-monitoring: Methodological limitations and clinical applications. *Journal of Consulting and Clinical Psychology, 35*, 148-152.
- Kanfer, F. H. (1971). The maintenance of behavior by self-generated stimuli and reinforcement. In A. Jacobs & L. B. Sachs (Eds.), *The psychology of private events: Perspectives on covert response systems*. New York: Academic.
- Kanner, A. D., Coyne, J. C., Schaefer, C., & Lazarus, R. S. (1981). Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. *Journal of Behavioral Medicine, 4*, 1-39.
- Kanter, J. W., Schildcrout, J.S., & Kohlenberg, R. J. (in press). The frequency and benefits of a focus on the client-therapist relationship in cognitive therapy for depression. *Psychotherapy Research*.
- Kanter, J. W., Callaghan, G. M., Landes, S. J., Busch, A. M., & Brown, K. R. (2004). Behavior analytic conceptualization and treatment of depression: Traditional models and recent advances. *The Behavior Analyst Today, 5*(3), 255-274.
- Klein, D. C., & Seligman, M. E. P. (1976). Reversal of performance deficits and perceptual deficits in learned helplessness and depression. *Journal of Abnormal Psychology, 85*, 11-26.
- Kessler, R. C. (1997). The effects of stressful life events on depression. *Annual Review of Psychology, 48*, 191-214.
- Kohlenberg, R. J., Kanter, J. W., Bolling, M. Y., Parker, C. R., & Tsai, M. (2002). Enhancing Cognitive Therapy for Depression with Functional Analytic Psychotherapy: Treatment guidelines and empirical findings. *Cognitive and Behavioral Practice, 9*(3), 213-229.
- Kohlenberg, Boiling, Kanter & Parker (2002) Clinical Behavior Analysis: Where It Went Wrong, How It Was Made Good Again,



- and Why Its Future is So Bright. *The Behavior Analyst Today*, 3 (3), 248-250.
- Koerner, K., Kohlenberg, R. J., & Parker, C. R. (1996). Diagnosis of personality disorder: A radical behavioral alternative. *Journal of Consulting and Clinical Psychology*, 64(6), 1-8.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Lewisohn, P. M. (1974). A behavioral approach to the treatment of depression. In R. M. Freidman & M. M. Katz (Eds.) *The psychology of depression: Contemporary theory and research* (pp. 157-185). New York: Wiley.
- Lewisohn, P. M. (1975). The behavioral study and treatment of depression. In M. Hersen, R. M. Eisler, & P. M. Miller (Eds.), *Progress in behavior modification*. New York: Academic.
- Lewisohn, P. M., Clarke, G. N., & Hops, H. (1990). Cognitive-behavioral treatment for depressed adolescents. *Behavior Therapy*, 21(4), 385-401.
- Linehan, M. M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. New York: Guilford Press.
- Martell, C. R., Addis, M. E., & Jacobson, N. S. (2001). *Depression in Context: Strategies for guided action*. New York: W.W. Norton.
- Malott, R. W. (1981). Notes from a radical behaviorist. Kalamazoo, MI: Author.
- McAuliffe, D., Barnes-Holmes, D., & Barnes-Homes, Y. (2004). Excessive rule-following and depressive symptomology. In Smyth, S. (Chair), *Acceptance and commitment therapy: Core principles and measures*. Symposium presented at the annual meeting of the Association for Behavior Analysis, New Orleans, LA.
- Miller, T. W. (Ed.). *Clinical disorders and stressful life events*. CT: International Universities Press.
- Nezu, A. M. (2004). Problem solving and behavior therapy revisited. *Behavior Therapy*, 35(1), 1-33.
- Overmier, J. B., & Seligman, M. E. P. (1967). Effects of inescapable shock upon subsequent escape and avoidance responding. *Journal of Comparative and Physiological Psychology*, 63(1), 28-33.
- Romano, J. M., Jensen, M. P., Turner, J. Good, A. B., & Hops, H. (2000). Chronic pain patient- partner interactions: Further support for a behavioral model of chronic pain. *Behavior Therapy*, 31(3), 415-440.
- Poppen, R. L. (1989). Some clinical implications of rule-governed behavior. In S. C. Hayes (Ed.), *Rule-Governed Behavior: Cognition, Contingencies, and Instructional Control*. Reno, NV: Context Press.
- Paykel, E. S. (Ed.). (1982). *Handbook of affective disorders*. New York: Guilford.
- Rehm, L. P. (1977). A self-control model of depression. *Behavior Therapy*, 8, 787-804.
- Rehm, L. P. (1979). A comparison of self-control and assertion skills treatments of depression. *Behavior Therapy*, 10(4), 429-442.
- Rehm, L. P. (1988). Self-management and cognitive processes in depression. In L. B. Alloy (Ed.), *Cognitive processes in depression*. New York: Guilford.
- Rehm, L. P. (1989). Behavioral models of anxiety and depression. In P. C. Kendall & D. Watson (Eds.), *Anxiety and depression: Distinctive and overlapping features*. New York: Academic.
- Rehm, L. P., & Rokke, P. (1988). Self-management therapies. In K. S. Dobson (Ed.), *Handbook of Cognitive-Behavioral Therapies*. New York: Guilford.
- Reigler, H. C., & Baer, D. M. (1989). A developmental analysis of rule-following. In H. W. Reese (Ed.), *Advances in child development and behavior* (Vol. 21, pp. 191-219). New York: Academic Press.
- Rosales-Ruiz, J., & Baer, D. M. (1997). Behavioral cusps: A developmental and pragmatic concept for behavior analysis. *Journal of Applied Behavior Analysis*, 30, 533-544.
- Roth, S., & Kubal, L. (1975). The effects of noncontingent reinforcement on tasks of differing importance: Facilitation and learned helplessness effects. *Journal of Personality and Social Psychology*, 32, 680-691.
- Rutter, M. (1991). Age changes in depressive disorders: Some developmental considerations. In J. Garber & K. A. Dodge (Eds.), *The development of emotional regulation and dysregulation*. (pp. 273-300). New York: Cambridge University Press.
- Schmale, A. H. (1973). Adaptive role of depression in health and disease. In J. P. Scott & E. C. Seney (Eds.), *Separation and depression: Clinical and research aspects* (pp. 187-214). Washington, DC: American Association for the Advancement of Science.
- Sheeber, L., & Sorensen, S. (1998). Family relationships of depressed adolescents: a multi- method assessment. *Journal of Clinical Child Psychology*, 27, 268-277.
- Seligman, M. E. P. (1975). *Helplessness: On depression, development, and death*. San Francisco: W. H. Freeman.
- Shmagin, B. G., Pearlmuter, D. R. (1977). The pursuit of unhappiness: The secondary gains of depression. *Perspectives in Psychiatric Care*, 15(2), 63-65.
- Skinner, B. F. (1953). *Science and human behavior*. New York: Mcmillian.
- Skinner, B. F. (1957). *Verbal behavior*. New York: Appleton-Century-Croft.
- Skinner, B. F. (1966). An operant analysis of problem solving. In B. F. Skinner (Ed.), *Contingencies of Reinforcement: A theoretical analysis*. New York: Appleton-Century- Croft.
- Skinner, B. F. (1986). What is wrong with daily life in the western world? *American Psychologist*, 41, 568-574.
- Skinner, B. F. (1989). The listener. In B. F. Skinner's (Ed.), *Recent issues in the analysis of behavior* (pp. 35-47). Columbus, OH: Merrill.
- Skinner, B. F. (1992). *Verbal Behavior*. Action, MA: Copley Publishing.
- Stafford, D., & Branch, M. (1998). Effects of step size and break point criterion on progressive ratio performance. *Journal of the Experimental Analysis of Behavior*, 70, 123-138.
- Wilson, K. G., Hayes, S. C., Gregg, J. & Zettle, R. (2001). Psychopathology and psychotherapy. In S. C. Hayes & D. Barnes-Holmes (Eds.), *Relational frame theory: A post-Skinnerian account of human language and cognition* (pp. 211-237). New York: Kluwer Academic/Plenum.
- Wortman, C. B., & Brehm, J. W. (1975). Responses to uncontrollable outcomes: An integration of the reactance theory and the learned helplessness model. In L. Berkowitz (Ed.), *Advances in Social Psychology*. New York: Academic Press.
- Youngren, M. A., & Lewisohn, P. M. (1980). The functional relation between depression and problematic interpersonal behavior. *Journal of Abnormal Psychology*, 89, 333-341.
- Zettle, R. D., & Hayes, S. C. (1982). Rule governed behavior: A potential framework for cognitive-behavior therapy. In P. C. Kendall (Ed.), *Advances in cognitive-behavioral research and*

- therapy* (Vol. 2, pp. 73-119). New York: Academic Press.
- Zettle, R. D., & Hayes, S. C. (1986). Dysfunctional control by client verbal behavior: The context of reason giving. *The Analysis of Verbal Behavior, 45*, 438-445.
- Zettle, R. D., & Rains, J. C. (1989). Group cognitive and contextual therapies in treatment of depression. *Journal of Clinical Psychology, 45*, 438-445.

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