

Stop Thinking and Start Doing: Switching From Cognitive Therapy to Behavioral Activation in a Case of Chronic Treatment-Resistant Depression

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Several recent investigations have demonstrated that Cognitive Therapy (CT) and Behavioral Activation (BA) are both efficacious treatments for depression (Butler, Chapman, Forman, & Beck, 2006; Dimidjian et al., 2006; Dobson, 1989; Gloaguen, Cottraux, Cucherat, & Blackburn, 1998; Hollon, Thase, & Markowitz, 2002; Jacobson et al., 1996). This investigation focuses on the treatment of Mr. X, a 62-year-old man with chronic treatment-resistant depression and comorbid personality pathology. After a course of 21 sessions of CT, treatment was switched to BA. We present daily mood data from 147 days of each treatment. Generalized least squares analyses of these time series data demonstrated that BA was associated with improved mood and these results were supported by clinical observation of improved functioning during the course of BA. We hypothesize that efforts at cognitive restructuring had an iatrogenic effect on this client and paradoxically triggered depressive rumination; these failed efforts provided further evidence in support of his underlying defectiveness schema. We also speculate that this client's dependent personality ran counter to CT's emphasis on autonomous homework assignments. Future randomized clinical trials are needed to investigate if nonresponders to CT benefit by switching to BA.

COGNITIVE-BEHAVIORALLY oriented therapists have access to several modalities of empirically-supported psychotherapeutic treatment for depression (e.g., Cognitive Behavioral Analysis System of Psychotherapy [CBASP], McCullough, 2000; Cognitive Therapy for Depression [CT], Beck, Rush, Shaw, & Emery, 1979; Behavioral Activation [BA], Jacobson, Martell, & Dimidjian, 2001; Martell, Addis, & Jacobson, 2001). Yet, even with this growing toolbox, it remains challenging to decide which treatment is most appropriate for a particular client's needs (see Reinecke & Davison, 2002). Therapists must weigh the stated goals of each treatment with the client's presentation and their own skill set and expertise. Following case conceptualization, the therapist proposes a treatment plan and together the therapist and client begin to work toward the agreed upon goals. Yet, empirically supported treatments do not work for everyone and often clinicians find themselves searching the literature once more for another treatment with demonstrated efficacy.

Empirical evidence has demonstrated that CT for depression (Beck et al., 1979) is an efficacious psychotherapeutic intervention for depressed individuals (e.g., Butler, Chapman, Forman, & Beck, 2006; Dobson, 1989; Gloaguen,

Cottraux, Cucherat, & Blackburn, 1998; Hollon, Thase, & Markowitz, 2002). However, there remains some ambiguity in the literature about for whom CT is most effective and which components of the treatment are responsible for change. Dobson's (1989) meta-analysis found CT to be equivalent and, in some cases, superior to behavior therapy, pharmacotherapy, other psychotherapies, and wait-list control conditions. Likewise, Gloaguen et al.'s (1998) meta-analysis as well as Butler et al.'s (2006) review of the meta-analytic literature found that CT was superior to antidepressant treatment and equivalent to behavior therapy for adult unipolar depression. In contrast, the results of the National Institute of Mental Health Treatment of Depression Collaborative Research Program (TDCRP) found CT to be no more efficacious than placebo and less efficacious than pharmacotherapy among more severely depressed patients (Elkin et al., 1995; see also Dimidjian et al., 2006). In an effort to examine the mechanisms by which CT works, Jacobson and colleagues (1996) conducted a components analysis trial of Beck et al.'s (1979) CT protocol. The results of this investigation demonstrated that the behavioral component alone was as efficacious as the full CT package. Subsequently, Jacobson and his colleagues developed a stand-alone treatment for depression: Behavioral Activation (BA; Jacobson et al., 2001; Martell et al., 2001). This treatment involves a functional analysis of the depressed individual's behaviors. Through BA, the individual is taught to identify avoidance patterns

that may be responsible for maintaining depression and to increase participation in activities that might provide positive reinforcement and subsequent improvement in mood. Results from a recent meta-analysis by Cuijpers, van Straten, and Warmerdam (2007) have demonstrated that BA, operationalized in this analysis as activity scheduling, is an efficacious treatment for depression.

The present report describes a case study of a psychotherapy patient who responded favorably to BA after nonresponse to the first psychological treatment, CT. We will elaborate on our hypothesis that BA's focus on therapist-guided activity scheduling and behavioral responses to negative thinking may have been a better fit to address the patient's long-standing depression, comorbid dependent personality pathology, and tendency to get caught in depressive rumination when asked to monitor automatic thoughts. In contrast, these traits and processes did not hamper BA, which focuses on therapist-guided activity scheduling and behavioral responses to negative thinking.

Method

Participant Characteristics

Mr. X was a 62-year-old, married, retired, Caucasian male who presented to an outpatient clinic for treatment for chronic symptoms of depression.¹ Mr. X and his wife had two grown children who lived in the area with their families. At intake, Mr. X reported a lengthy history of treatment with pharmacotherapy, supportive psychotherapy, and electro-convulsive shock therapy (ECT). To our knowledge, Mr. X had never received CT or BA from previous treatment providers. Somewhat unusually, Mr. X had read about the efficacy of CT and specifically requested this treatment to augment his pharmacotherapy. Though he was currently undergoing pharmacotherapy (specifically, venlafaxine HCl, escitalopram, and lorazepam at intake) and had received ECT in the past year, the client had failed to experience adequate symptom relief. Mr. X provided informed consent for treatment indicating that he understood that he was being treated by a graduate student under the supervision of clinical faculty and that his clinical records could be used for research purposes.

Therapist Characteristics

Given that therapist characteristics have been shown to influence the course and trajectory of therapy (e.g., Burns & Nolen-Hoeksema, 1992; Crits-Christoph et al., 1991), we provide additional information about the therapist's

credentials at the beginning of this case. The therapist was an advanced graduate student in her third year of clinical psychology doctoral training when she began seeing Mr. X for psychotherapy. This case was begun during her second year of formal practicum training and she was supervised by psychology faculty with expertise in empirically supported treatments. Further, this therapist's clinical and research training to date had focused on treatment of unipolar depression and she had been previously trained in both individual and group cognitive-behavioral treatments for depression via graduate course work in psychotherapeutic treatment for adults with a focus on CBT, clinical training workshops at national conferences, and co-leadership of a behaviorally based group for treatment of unipolar depression.

Assessment

Approach. It became apparent at the first session that assessment would need to be tailored to Mr. X's slow response style, difficulty staying focused on the task, and indecisiveness. The assessment was tailored to accommodate this style and to facilitate accurate evaluation of symptoms by including his wife during the initial session, allowing the client to complete the Minnesota Multiphasic Personality Inventory (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) at home, and developing a single-item measure of daily mood.

Primary symptoms. Assessment of Mr. X's presenting symptoms included the Mood Module from the Structured Clinical Interview for Axis I DSM-IV Disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 1997), an unstructured interview, and the MMPI-2 (Butcher et al., 1989). Moreover, as Mr. X complained of memory problems and displayed difficulty remembering topics of conversation, the Mini-Mental Status Exam (MMSE; Folstein, Folstein, & McHugh, 1975) was administered to screen cognitive status. However, major cognitive impairment was ruled out as Mr. X earned a perfect score at this administration of the MMSE. Even so, Mr. X's wife joined him for the assessment session to aid him in reporting on his history of depression (e.g., Teri, McKenzie, & LaFazia, 2005).

Based on the results of the Mood Module, Mr. X met criteria for major depressive disorder, recurrent, with melancholic features (American Psychiatric Association, 2000). Mr. and Mrs. X reported that there was a family history of depression and that Mr. X's difficulties with depression began in his mid-20s. Because of the chronic nature of his depression, both Mr. and Mrs. X had difficulty identifying discrete episodes over the course of his lifetime. Although he may have experienced more than two major depressive episodes (MDE) in his lifetime, we were only able to gather clear evidence of two MDEs (i.e., the current episode and one discrete episode in the

¹ In order to further protect the privacy of the client described in this report, demographic and descriptive details (e.g., type of activity) have been changed to reflect the spirit of the detail but to aid in maintaining his confidentiality.

mid-1980s). His current MDE appeared to have an onset about 1 year prior to treatment. Mr. X was experiencing the following clinically significant symptoms at intake: anhedonia, insomnia, psychomotor retardation, fatigue, and worthlessness/inappropriate guilt. Moreover, he was experiencing depressed mood, frequent crying spells, and erectile dysfunction/reduced sexual interest. It appeared that Mr. X was experiencing periods of extreme dysphoria in the mornings almost daily, with his mood improving somewhat as the day progressed. Mr. X denied suicidal ideation at intake and throughout treatment.

Other presenting symptoms. Mr. X also displayed several traits of dependent personality disorder during the assessment and subsequent treatment sessions. Relevant traits included difficulty making everyday decisions, taking care of his responsibilities, initiating projects as well as excessive focus on obtaining nurturance from others and unrealistic preoccupation with abandonment. His indecisiveness was particularly apparent during assessment; he had such difficulty deciding between responses on self-report questionnaires and during the interviews that he was often unable to respond. Mr. X was not given the formal diagnosis of dependent personality disorder because it was unclear if these traits occurred outside of MDEs given the chronic nature of his depression.

Finally, Mr. X also completed the MMPI-2 (Butcher et al., 1989). This assessment was conducted to augment the clinical interview data and interpretation was guided by Greene's work (Greene, 2000; Greene, Brown, & PAR staff, 2005). Although this instrument had been completed at home over three separate periods totaling nine hours (by client report), the client appears to have responded in a consistent and forthright manner (VRIN: T = 60, TRIN: T = 64, L: T = 61, F: T = 58, K: T = 62). Mr. X's profile was characterized by 4 elevated scales: 1-Hypochondriasis (T = 82), 2-Depression (T = 87), 3-Hysteria (T = 86), and 7-Psychasthenia (T = 85). The profile is best examined based on combinations of elevated scales. The elevated 2-3-1 triad is indicative of an individual with chronic problems of mixed symptomatology, including depression, anxiety, and physical problems. This triad suggested that Mr. X was often fatigued, was interpersonally sensitive, dependent, and immature, and had learned to tolerate high levels of distress. The 2-7-3 elevated triad suggests that Mr. X may be a docile individual who is overly dependent on his interpersonal relationships. This profile provided corroborating support for the therapist's observation of Mr. X's dependent tendencies. His low score on the Dominance scale (Do T = 38) combined with his elevated Self-Depreciation Scale score (DEP3 T = 76) are suggestive of an individual who is passive, unassertive, prefers others to care for him, and is plagued by a

negative self-concept and feelings of uselessness and helplessness. It is noteworthy that his profile suggested that Mr. X might respond poorly to psychotherapy due to limited introspective abilities, his dependent nature, and his long-standing tolerance of distress.

Outcome Measures

To evaluate ongoing treatment progress, Mr. X was initially presented with standardized self-report measures (e.g., BDI-II; Beck et al., 1996). However, his response style made this impractical so the therapist followed J. S. Beck's (1995) suggestion and devised a brief measure to track his progress. He was asked to track his thoughts, activities, and make a single-item rating of his average daily mood (0 = *worst mood ever* to 10 = *best mood ever*). Similar mood rating scales have been implemented in cognitive therapy manuals, e.g., Greenberger & Padesky's (1995) *Mind over Mood* and Leahy's (2003) *Cognitive Therapy Techniques*. Furthermore, although psychometric data are not available on this measure, there is evidence that single item measures of depression can be valid (e.g., Guy, 1976; McKenzie & Marks, 1999; Nugent, 1992; Zimmerman et al., 2006).

Conceptualization

Given Mr. X's age and early retirement, conceptualization of his case needed to incorporate age-relevant issues, such as physical health, loss issues, cohort-related beliefs and attitudes (Laidlaw, Thompson, & Gallagher-Thompson, 2004). In the case of Mr. X, relevant issues included the impact of physical illness on mood and his father-in-law's death midtreatment. Furthermore, we believe that Mr. X's dependency was likely reinforced by his gender-stereotyped relationship with his wife. This couple had been married for over 40 years and throughout their marriage, they had clearly defined roles in which he was the primary breadwinner and she was the housewife who was responsible for cooking, cleaning, and childcare. With this in mind, we hypothesized that Mr. X's low self-esteem was exacerbated by his early retirement as he had lost his primary source of self-worth. Furthermore, he may have had difficulty self-soothing as he had grown accustomed to receiving care and support from his wife.

Cognitive conceptualization. Mr. X presented to our clinic with frequent, overly rigid, negative self-statements combined with feelings of worthlessness and poor self-concept. Given his explicit request for Beck's CT (Beck, 1967, 1976) and the fact that this approach appeared appropriate for his presentation, conceptualization began with this framework. Beck's cognitive model suggests that an individual's mood and behavior are largely affected by their automatic thoughts, which in turn are shaped by dysfunctional schemas. It was hypothesized that Mr. X had acquired schemas of himself as undesirable, inadequate/

inferior, and worthless and of others as being more capable than himself, and the world as unmanageable without guidance. It is believed that these schemas developed from repeated negative interpersonal interactions in his personal and professional life (e.g., criticism from his father and bosses). Mr. X's nagging and needy interpersonal style with family and coworkers may have irritated those around him, provoking poor responses from them. Mr. X interpreted these interpersonal interactions as evidence that he was incompetent and unable to function without guidance from others. It is hypothesized that these experiences helped to define and maintain Mr. X's rigid beliefs about his own incompetence and the superiority of others.

The cognitive model suggests that underlying schemas influence one's cognitions about everyday situations. Initially, Mr. X reported thoughts like "No one likes me," "I am alone," and "My family doesn't like me because of my mood swings." These automatic thoughts, in turn, led to depressed mood and dysfunctional behaviors. In Mr. X's case, these negative thoughts kept him from engaging in activities that he previously enjoyed, such as household chores, attendance at church, and socializing. As an example, Mr. X described having a desire to clean his attic, but began having automatic thoughts like "I'm not good enough" and "I can't do this," and these automatic thoughts in turn activated his social undesirability schema and automatic thoughts like "I don't fit in" and "I'm boring." He reported a dip in his mood following those thoughts and did not clean. Instead, he spent the rest of the day ruminating about how he was useless. Mr. X also desired closer relationships with his family. Although he would feel initial excitement before a gathering, he would have negative thoughts about the family's reaction to him. Specifically, automatic thoughts such as "I won't have anything interesting to say," "They'll think I'm boring," "My life is not as exciting as other people's," and "No one is going to want to talk to me" included distorted interpretations of family members' behaviors and predictions about their future behaviors. Rather than engaging in conversation, he would withdraw, become dysphoric, and cry. It was hypothesized that his automatic thoughts and introverted behavior elicited negative reactions from family members, providing evidence for his ingrained schemas about his social desirability ("I'm unlovable," "I'm inferior").

The cognitive model also suggests that behavioral assignments can serve as evidence to dispute negative cognitions while simultaneously leading to a return to everyday activities. For example, increasing Mr. X's pleasant social interactions might provide evidence that would chip away at underlying schema involving beliefs about social inadequacy. Because Mr. X was retired, his days were unstructured and in turn these unstructured

days became filled with inactivity and rumination. In contrast, during well periods, Mr. X reported participation in numerous hobbies, including working on model planes, walking, and socializing with his wife. Therefore, working with Mr. X on activity scheduling was expected to lead to a reduction in depressive symptoms by helping him to dispute his negative cognitions.

We also hypothesized that Mr. X's dependent tendencies contributed to prolonged depression via a preference for the sick role and for others to take responsibility for his wellbeing. Mr. X frequently reported automatic thoughts like "I cannot do things as well as others" and "I need others to take care of me" and "I would be lost without my wife," which suggest an underlying defectiveness schema. Mr. X's advanced age and gender-stereotyped relationship with his wife are also relevant here because they likely supported his beliefs related to personal defectiveness and neediness. It was hypothesized that his dependency-related cognitions decreased motivation to work toward improved health for fear of losing support and attention of caregivers, and this contributed to the chronicity of his depression. The empirical literature suggests that dependent individuals are at higher risk for physical and psychological illnesses but are also more likely to seek treatment and to comply with treatment regimens (Bornstein, 1993). Even so, personality disorders have been shown to negatively influence response to both psychological and pharmacological treatment for depression (e.g., Charney, Nelson, & Quinlan, 1981; Shea et al., 1990; Shea, Widiger, & Klein, 1992; see Reich, 2003 for review). In Mr. X's case, it was important to consider that he may not participate fully in therapy in order to maintain support. Furthermore, although Mr. X's dependency might enhance his homework compliance, it was also possible that dependency would interfere with progress as CT involved significant autonomous work on his part.

Behavioral conceptualization. While a focus on behavior is not contraindicated in Beck's cognitive model, the conceptualization was revised approximately 5 months after treatment began to follow the BA model (Jacobson et al., 2001) because Mr. X was having difficulty with cognitive restructuring. Conceptualization within the BA framework suggested that Mr. X's depression was maintained by the context of his behavior. More specifically, Mr. X was engaging in behaviors that resulted in negative, rather than positive, outcomes via avoidance of feared and aversive situations. The BA model speculates that clients engage in behaviors to fulfill their short-term goal of alleviating distress (e.g., avoidance of social situations for fear of rejection). Specifically, these behaviors are maintained by negative reinforcement (i.e., removal of fear/anxiety associated with avoided behaviors). In Mr. X's case, he was retired and had a rather unstructured life

with limited scheduled social opportunities. Furthermore, he would often either ruminate during social events (e.g., tennis lessons, church functions, and family gatherings) or would avoid them completely, decreasing his chance for positive social interactions. Although he reported previously enjoying these activities, his withdrawal behavior appeared to shield him from fear and sadness associated with anticipated rejection. However, the BA model speculates that avoidance behaviors are typically inconsistent with long-term goals (e.g., development of a social network, participation in hobbies). This fit with Mr. X's experience well as he repeatedly discussed his desire for friendships with other retired men. Unfortunately, his hesitation to fully engage in social activities interfered with his ability to develop these desired friendships. In Mr. X's case, this was likely related to a long-history of rejecting interpersonal relationships with family and co-workers, combined with an overly dependent relationship with his wife. The BA treatment protocol teaches clients to identify TRAPs (Trigger-Response-Avoidance Patterns) and to alter their behavior to get back on TRAC (Trigger-Response-Alternative Coping). Identification of Mr. X's TRAPs was hypothesized to be integral in his response to BA as he began to identify times in which his behavior might be interfering with a desired outcome. Among Mr. X's avoidance behaviors was his engagement in ruminative thinking and isolation, as opposed to participation in activities that might result in positive outcomes, such as tennis lessons, church functions, and family gatherings. The BA treatment protocol aimed to teach Mr. X to identify triggers that resulted in avoidant behaviors and to understand the consequence of such behaviors. Subsequently, he would learn to respond in a more active way and to choose personally reinforcing activities that would lead to an improvement in mood. Once Mr. X began to grasp the idea of TRAPs/TRAC, sessions would focus on the differential impact of avoidant behavior (e.g., TRAP: use "poor mood" as a reason to skip tennis lessons) versus active behavior (e.g., TRAC: use attendance at swimming lessons as a way to improve mood, get exercise, and potentially meet new friend) on his mood and well-being. Furthermore, whereas CT asked Mr. X to examine the content of his thoughts, BA approaches negative thoughts and rumination as a behavior and examines the function and consequences of this behavior. Mr. X could then choose to participate in less depressogenic behaviors when he found himself in a TRAP. In contrast to CT, behavioral engagement is not used to challenge the content of negative beliefs but as an end in itself.

Intervention Process

Overview. The intervention began with CT as it is an empirically supported treatment for depression (Chambliss

et al., 1996, 1998) that can be efficacious for patients with comorbid personality pathology (Shea et al., 1990), among older depressed adults (e.g., Scogin & McElreath, 1994; Scogin, Welsh, Hanson, Stump, & Coates, 2005; Teri et al., 2005), because the client specifically requested the treatment, and because the therapist and supervisors were favorably disposed to this approach. Given that patient expectations influence response to psychotherapy (see Greenberg, Constantino, & Bruce, 2006, for review), we would have expected Mr. X's positive views of CT to increase the relative efficacy of CT. However, after 5 months of treatment there was little improvement and so the therapist proposed a change from CT to BA, as behavioral therapies are empirically supported treatments for unipolar depression among adults and geriatric populations (e.g., Hollon et al., 2002; Scogin & McElreath, 1994; Scogin et al., 2005; Teri, Logsdon, Uomoto, & McCurry, 1997). The therapeutic processes for both the CT and BA protocols are described below.

Cognitive therapy. The initial goal of treatment was to decrease Mr. X's experience of depressive symptoms by learning to identify, track, and evaluate his dysfunctional cognitions. Pending success during this initial stage of treatment, which should have provided some symptom relief, treatment would have targeted core beliefs in order to prevent symptom relapse. Additionally, the treatment plan included a lesser focus on increasing pleasant activities in order to challenge dysfunctional beliefs. Following assessment, sessions began with an introduction to CT. The initial sessions explored the impact of automatic thoughts and behaviors on Mr. X's mood. He was taught to identify and track automatic thoughts and to examine how negative thoughts affected his mood. We also began talking about how pleasant activities might help his mood by providing evidence to dispute his automatic thoughts. However, these discussions were interrupted by Mr. X's long stories about his life and his thoughts about God's role in his depression with subsequent crying spells. Though an agenda was set each session to focus on his work on cognitive modification over the previous week, the conversation often strayed from this topic as his mood spiraled down in response to the content of his thoughts. The therapist repeatedly tried to redirect Mr. X to the agenda with some difficulty given Mr. X's preference for passive storytelling.

At several points, the client and therapist expressed concern about the course of therapy. Mr. X often made statements about his inability to make changes, saying that antidepressants were the only viable treatment option. He also repeatedly denied memory of the material discussed in prior sessions and stated that he had forgotten to monitor thoughts between sessions. While the therapist hypothesized that these reported lapses may have been partially motivated by Mr. X's desire to avoid returning to uncomfortable or distressing session topics, Mr. X attributed

his memory difficulties to his previous ECT. Although Mr. X was adamant that he wanted “cognitive therapy,” it was unclear whether he understood that CT required ongoing, active work between himself and the therapist. The therapist repeatedly returned to the cognitive model, explaining the necessity of tracking mood, thoughts, and activity scheduling. Mr. X would actively participate in cognitive restructuring for portions of each session but then would lapse into storytelling. The therapist and her supervisors hypothesized that cognitive restructuring activities activated automatic thoughts such as “If I get better, I will lose my therapist” or alternatively, “I cannot do this well enough so I won’t even bother trying.”

Approximately 2 to 3 months into treatment, the therapist began the session by asking Mr. X about his goals for therapy. Mr. X reiterated his interest and his commitment to cognitive restructuring. However, he continued to have difficulty tracking his automatic thoughts consistently. Some weeks, he would arrive saying that he had not had any negative thoughts over the past week. On the other hand, when he did notice his negative thinking, he reported that working with thoughts resulted in a worsening of mood. Apparently attempts at cognitive restructuring had an iatrogenic effect on this client; as he attempted to monitor, evaluate and dispute negative automatic thoughts, his negative thinking typically spiraled downward and generalized to other content areas. In other words, this client was prone to depressive rumination in which he would perseverate on negative thoughts that were the target of between-session homework assignments. It is hypothesized that Mr. X’s indecisiveness, dependent tendencies, and chronic ingrained negative beliefs made it particularly difficult for him to distance himself from the content of automatic thoughts and examine them as thoughts as opposed to as reflections of ongoing reality. Consequently, he would perseverate and mull over his negative thoughts and experiences in a ruminative manner rather than actively examining the evidence. Consistent with our hypothesis that dependent personality traits contributed to his difficulties making use of CT, he was generally able to engage in these techniques in session, but had considerable difficulty engaging in cognitive restructuring outside of session. During the week, attempts at cognitive restructuring were more often associated with a worsening of his negative thinking and mood than improvements. These experiences likely reinforced his belief that he was unable to improve his mood.

Mr. X’s father-in-law died approximately 4 months into treatment and the client reported intense fears that his severe depression from the previous summer would return. Efforts at cognitive restructuring were abandoned at this point as it had become clear that this aspect of the therapy was not leading to symptom reduction. Instead, we focused on the CT prescription for pleasant activities for about 5

weeks. In contrast to the BA model, which asks for activity scheduling with specific focus on reinforcement principles, these sessions focused merely on increasing the number of pleasant activities. Additionally, a good portion of our sessions was spent discussing his wife’s grief and the impact of her grief on his mood. Mr. X’s motivation for change was low and he had a difficult time actively participating in the therapy process. Given Mr. X’s limited success after 21 sessions of CT, there was some question as to whether continued treatment would be of any benefit. Rather than terminating treatment, the therapist suggested trying BA. Mr. X was amenable to this change in treatment protocol as he was unhappy with the progress to date in therapy.

BA. The treatment plan was to introduce Mr. X to the BA model and to identify patterns of behavior that functioned as avoidance of feared or aversive outcomes and on implementing activities that contributed to positive moods. We hypothesized that participation in positively reinforcing activities would counteract the client’s depressive symptoms. This model was chosen for its simplicity, because Mr. X was willing to work on increasing pleasurable activities, and because there is empirical support for use of behavior therapy among depressed elders (e.g., Hollon, Thase, & Markowitz, 2002; Scogin & McElreath, 1994; Scogin et al., 2005; Teri et al., 1997). Moreover, we speculated that Mr. X might respond better to BA because the expectations for his participation in this treatment were more clearly defined. Mr. X was given the patient handout from Martell et al.’s (2001) treatment manual and was presented with basic examples of this model regarding the role of avoidance, withdrawal, and inactivity in the maintenance of his depression.

The first BA session focused on introduction of Jacobson’s BA model. The therapist explained that treatment would focus more specifically on his behaviors and how his choice of activities impacts his mood. Mr. X was presented with the TRAP and TRAC models, and together the therapist and client generated examples of TRAPs in Mr. X’s life (e.g., sleeping late in the morning when he had familial obligations, isolating himself at family gatherings to avoid potentially negative conversations). From the beginning, Mr. X was encouraged to look at his daily behaviors and to observe differences between times when he was engaged in pleasant activities and times when he was inactive and/or ruminating on negative themes. He began to get up earlier in the morning and to participate in his planned activities earlier in the day. Moreover, he began to participate in new activities, including a walking club for seniors and outdoor concerts with his wife. Despite the behavioral focus, there were a number of sessions that dealt with negative thinking. However, rather than challenging the content of his thoughts, the therapist asked him how his ruminative thinking influenced his mood and had him consider engagement in negative thinking as a chosen

behavior. Likewise, he was asked to examine his participation in avoidance behaviors (e.g., excessive sleeping).

Approximately 2 months after beginning BA treatment, Mr. X arrived and reported that he did not have much to talk about. He reported that his mood had been good and that he had been quite active that week. Furthermore, his relationship with his wife had been improving; his interest in sex had returned and they had been going out on more dates. We decided that we would begin to meet every other week. The next six sessions focused on Mr. X's "good days" and "bad days" and on problem solving about different activities to try on "bad days." He had learned that while he may not "feel" like doing certain activities in the moment (particularly when he was feeling bad), these activities could have longer-term positive effects on his mood. In particular, the client discovered that making progress on two long-term projects (completion of his model plane project and a massive cleaning of the attic) had antidepressant effects. It also may have been that initial positive responses from reinforcing activities reduced his aversive interpersonal, dependent behavior, thereby allowing him to act in a manner that resulted in positive reinforcement from others and his activities. Throughout these sessions, Mr. X's mood was considerably improved but he continued to make comments about the chronicity of his depression. We discussed the fact that Mr. X. may always be vulnerable to depression but he could reduce his experience of depressive symptoms via attention to his choice of activities.

Results

Effect of Type of Treatment on Mood Scores over Course of Treatment

Mr. X's daily mood ratings ranged from 2 to 7 ($M = 4.71$, $SD = 0.89$) during the 147 days of the CT phase of the treatment (21 sessions) and 3 to 8 ($M = 6.04$, $SD = 0.94$) during the first 147 days of the BA phase of the treatment (14 sessions) (see Figure 1 for a graphical display of the mood scores over time).^{2,3} Dummy coding variables were

² Mr. X continued on with BA treatment for 335 days. However, we present the 147 days of CT and the first 147 days of BA in order to demonstrate change during equivalent "doses" of treatment. Analyses conducted with the full range of BA data demonstrated a stronger positive effect of BA than is presented in this report.

³ There are three sharp changes in mood worthy of further discussion. First, there are several significant dips in mood between Days 100 and 150 (see Figure 1). These decrements in mood correspond to the month following the death of Mr. X's father-in-law. On a related note, Mr. X did not track his mood scores between Days 91 and 105 of treatment. He was busy with family in the 2 weeks following the death. The gap in scores in Figure 1 between these days illustrates a gap in the data. Second, there are several days between Days 200 and 250 with lower mood. These correspond to a period of approximately 1 1/2 weeks in which Mr. X was physically ill. Third, there is one sharp dip in mood between Days 250 and 300 that is not accounted for by our knowledge of the patient's history.

used with 0 for CT and 1 for BA. Generalized least squares modeling using the *nlme* package (version 3.1-79; Pinheiro, Bates, DebRoy, & Sarkar, 2006) with R (version 2.4.1; R core development, 2006) and maximum likelihood estimation was used with these time series data to examine whether there was significant difference between treatments, controlling for day of the week. Given that repeated measures were collected from the same individual, we would expect serial dependencies such that mood scores on a given day would be influenced by scores on the previous day. Consistent with this assumption, a model with a moving average term order of 1 was statistically superior to a model without such structure ($p < .0001$) and therefore this term was incorporated in the subsequent analyses.

A set-wise hierarchical model was estimated with mood on a given day as the dependent variable. Step 1 included the main effects of treatment condition (TREATMENT), day in the treatment condition (TIME), and day of the week (WEEKDAY) as predictor variables. Step 2 included the TREATMENT \times TIME interaction, which tests whether rate of change in mood (i.e., the effect of TIME) differed across treatments. In order to determine if there were nonlinear changes in mood across time in treatment, Step 2 also included the quadratic effect of time (TIME \times TIME). Finally, Step 3 included the TREATMENT \times TIME \times TIME triple interaction, which tests whether nonlinear changes in mood varied as a function of treatment condition.

Results demonstrated a significant main effect of TREATMENT ($b = 1.19$, $t = 8.45$, $p < .0001$), such that BA outperformed CT overall, controlling for TIME and WEEKDAY. BA was associated with an improvement of 1.2 points on the mood scale compared to CT. Neither TIME ($p = .79$) nor WEEKDAY ($p = .18$) were statistically significant. At Step 2 of the model, the TIME \times TIME interaction was not statistically significant ($p = .51$). However, there was a significant TREATMENT \times TIME interaction, $b = .010$, $t = 2.44$, $p < .05$, indicating that rates of change in mood varied between CT and BA. As can be seen in Figure 2, the client reported improvements in mood over the course of treatment with BA, whereas his mood steadily worsened while in CT. This two-way interaction was further qualified by a significant Treatment \times Time \times Time interaction at Step 3 ($b = .0003$, $t = 4.10$, $p < .001$), suggesting nonlinear effects. As seen in Figure 3, the form of the triple interaction suggests that whereas CT showed initial positive effects on mood, these declined over time. In contrast, there was a sustained, consistently upward trend in mood during treatment with BA.² Utilizing Parker and Hagan-Burke's (2007) technique to calculate effect size with single case research, we found 75% Percent of All Nonoverlapping Data (PAND) between the two treatment conditions with

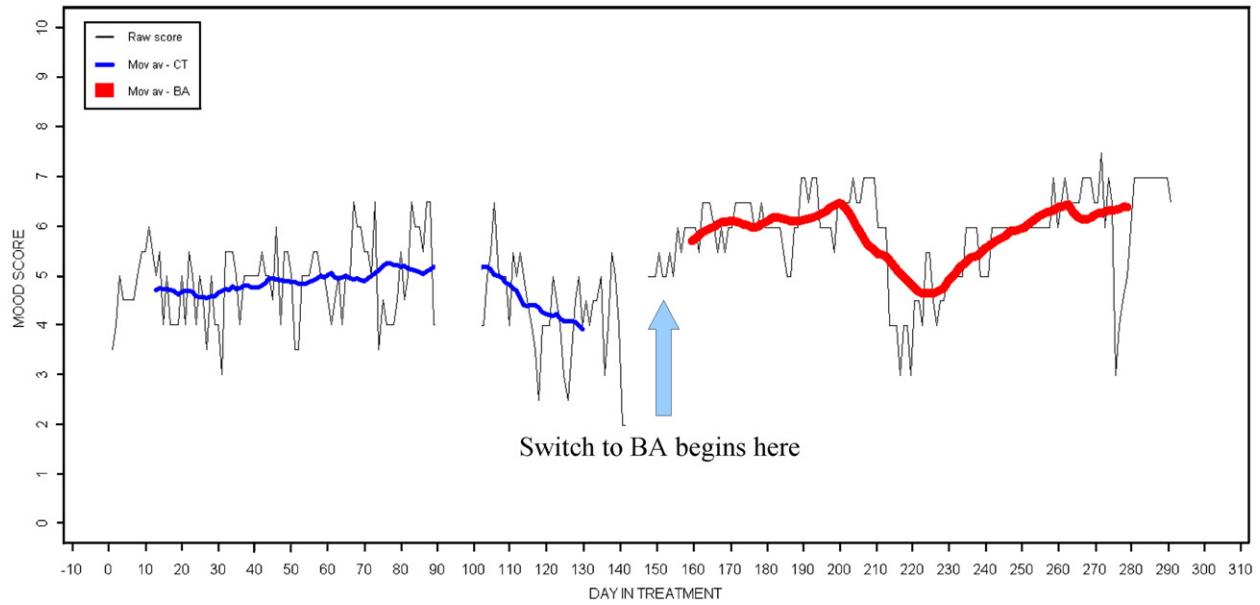


Figure 1. Trajectory of Mr. X's mood scores over the course of treatment with raw scores and 1-month moving average.

a Cohen's *d* estimate of 1.37, which is considered to be a large effect.

Discussion

This case study compared the impact of CT followed by BA in the treatment of a 62-year-old man with a chronic history of depression, impairing dependent personality traits and indecisiveness, and a poor response to both pharmacotherapy and ECT. Over the course of 147 days in which he was receiving CT, Mr. X appeared to experience limited benefits. His daily mood scores either remained stagnant or dipped lower, reflecting worsening mood, and Mr. X continued to report frequent crying spells. Although other aspects of functioning were not systematically assessed, Mr. X appeared to make little progress in terms of interpersonal functioning or participation in household projects and hobbies. In contrast, during the first 147 days in which he received BA, the client's mood improved both relative to the CT baseline as well as across days in this condition. Certainly

this report represents only one example, and yet, significant gains were made following the switch from CT to BA (see [Persons, 2007](#), for discussion of data collection during routine clinical work to describe psychotherapy change mechanisms). Moreover, Mr. X's data suggest that his response was not merely due to the effects of time, but rather was related to the switch in treatment. Notably, the trajectory over time during the CT phase was for Mr. X's mood to worsen, rather than to improve. His mood began to improve following the onset of BA.

Given that both CT and BA have been shown to be effective among older adults (e.g., [Scogin et al., 2005](#)), why was BA more effective for this individual who had previously responded poorly to CT? First, Mr. X has often complained of difficulty with memory and comprehension. It may be that CT required too much cognitive effort to track, evaluate, and dispute his automatic thoughts. In contrast, adherence to BA only required him to

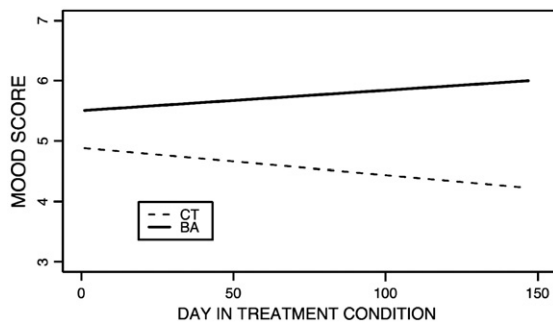


Figure 2. Time × Type of Treatment Interaction.

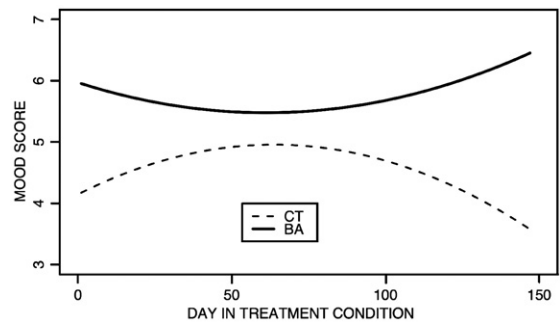


Figure 3. Time × Time × Type of Treatment Interaction.

remember to review his written list of prescribed activities and “be active.” Second, BA may have provided a better fit to the client’s personality style; in contrast to CT, BA provided succinct, structured directions. Whereas CT required autonomy in tracking, examining, and disputing automatic thoughts between sessions, BA provided a pre-arranged plan for the week that was developed in session with the therapist. Moreover, CT may have triggered Mr. X’s desire for someone to take care of him (e.g., Beck et al., 1990). In contrast to BA, which allowed for guidance by the therapist in creating the weekly plan, we speculate that Mr. X may have felt overwhelmed by the thought that he was solely responsible for changing his mood with CT. In this treatment, he was asked to notice his thoughts and to dispute them in the moment on his own. Third, we believe that cognitive restructuring had an iatrogenic effect on this client and may have dampened any benefit of activity scheduling within CT. We hypothesize that Mr. X was unable to distance himself from his automatic thoughts and that, consequently, efforts at cognitive modification led to increases in depressive rumination. Furthermore, his unsuccessful attempts to dispute his negative cognitions provided additional evidence for his negative self-schemas. In contrast, BA did not focus on the content of his automatic thoughts and instead focused on their function; Mr. X was instructed to examine how his rumination (as well as his other behaviors) affected his mood and to use rumination as a trigger for getting active. This approach appears to have been much more effective in reducing rumination, whereas directly attempting to change the content of his thoughts through CT appears to have had the opposite effect (see Coffman, Martell, Dimidjian, Gallop, & Hollon, 2007, for discussion of functional consequences of avoidance and rumination). Mr. X’s experience mirrors conclusions from Ciesla and Roberts’ (2007) study examining the synergistic effects of rumination and negative cognition on mood. Ciesla and Roberts argued that behavioral approaches that use activity scheduling to decrease rumination could be helpful with depressed clients with particularly entrenched negative cognitive styles. Highly ruminative patients with strong negative schemas may have great difficulty challenging their automatic thoughts. Among these clients, use of cognitive techniques between sessions might trigger further negative thinking.

Although CT appears to be highly efficacious for many individuals suffering from depression (Butler et al., 2006; Dobson, 1989; Gloaguen et al., 1998; Hollon et al., 2002), some research suggests that it might not be the treatment of choice for severe depression (Coffman et al., 2007; Dimidjian et al., 2006; Elkin et al., 1995). Dimidjian and colleagues (2006) recently reported on a large randomized clinical trial comparing BA, CT, and antidepressant

medication treatment among clinically depressed adults. Although both CT and BA were comparable to medication among less severely depressed patients, both BA and medication were found to be superior to CT among the more severely depressed patients. The authors speculated that the efficacy of BA might result from dealing with cognition differently than CT. Specifically, BA examines the function and consequences of rumination as opposed to restructuring thought content directly. In a follow-up report to the Dimidjian et al. (2006) investigation, Coffman and colleagues (2007) examined factors that distinguished extreme nonresponders from responders and found that being severely depressed, having greater functional impairment, and problems with the primary support group were predictors of poor response to CT, but not to BA.

Unfortunately, previous research has yet to examine why more severely depressed patients may benefit less from CT. The present case study suggests several possible mechanisms. First, severe depression is correlated with cognitive impairment (e.g., Stoudemire, Hill, Gulley, & Morris, 1989); such impairment may lead to difficulty distancing from automatic thoughts (and consequently the tendency to ruminate when monitoring thoughts). Second, severity might be correlated with personality pathology. Mr. X’s dependent style likely had both a positive and negative impact on the course of his treatment. His desire to both experience relief from his depression and continue receiving attention and care from treatment providers were in conflict with one another. This case study raises some potentially fertile hypotheses to be tested in larger scale investigations. Empirical data regarding these mechanisms are particularly important as (a) they would help identify those severely depressed clients who might, in fact, be good candidates for CT and (b) such information may lead to modifications in technique to circumvent the specific processes that make it difficult for severely depressed patients to benefit from CT.

Although Mr. X continued to report occasional “bad” days at the end of the BA phase of treatment, he noted increased enjoyment of his life. His success must be tempered by the reality that a chronic history of depression is a predictor of relapse into future depressive episodes (e.g., Mueller et al., 1999). Moreover, although Mr. X had gradually become more autonomous with regard to activity scheduling, his dependent tendencies put him at risk for return to a more passive approach to life. Gollan, Gortner, and Dobson (2006) recently identified dependent personality style as a predictor of depressive relapse following cognitive-behavioral therapy. As such, it is possible that without regularly scheduled sessions with his therapist, the effect of BA may dissipate with time.

Although this case study suggests that BA might be a viable alternative when CT has provided limited relief, several limitations should be noted. First, as with any single case design, generalizability of the findings is limited. On the other hand, this case study is consistent with findings from a recent large-scale investigation (Dimidjian et al., 2006) and extends this previous work by addressing patient variables that might influence response to various psychotherapies among more severely depressed individuals. Second, this report used a single-item measure of mood, which may have had low reliability (Nunnally & Bernstein, 1994). This measure was designed for ease of use given the client's difficulty completing longer measures. However, it only focused on the mood component of depression. Relatedly, other aspects of functioning were not systematically assessed over time. Third, although cognitive slowing is associated with late-life depression (e.g., Butters et al., 2004; Steffens & Potter, 2008), use of a comprehensive neuropsychological assessment would have improved case conceptualization and treatment planning. Specifically, this testing could have provided guidance as to whether his cognitive slowing and memory complaints were typical for his age or were abnormal and associated with organic or psychiatric origins. Fourth, although the first author was supervised by the third and fourth authors, no formal checks were conducted regarding adherence to the treatment protocols. Though the therapist had been trained in both CT and BA prior to beginning treatment for this case, it is important not to assume that empirically supported treatments can be implemented in the same way without respect to therapist, client, and setting variables (see Malik, Beutler, Alimohamed, Gallagher-Thompson, & Thompson, 2003). For example, DeRubeis and colleagues (2005) reported similar RCT outcomes from antidepressant medication and CT when CT was performed by expert therapists, suggesting that the efficacy of CT may be moderated by therapist expertise. This finding is noteworthy as there is the concern that this therapist was not able to conduct both CT and BA at expert levels. However, we suggest that this therapist may look more similar to therapists in practice than those who conduct therapy in the RCTs. Having said that, we speculate that with more difficult clients, it might take an expert in CT (e.g., DeRubeis et al., 2005) to achieve the same results as an average therapist utilizing BA. Fifth, it is possible that a larger "dose" of CT (i.e., additional sessions) would have led to improvement. However, given Mr. X's difficulty with cognitive restructuring, this possibility seems unlikely. Sixth, BA may have had an advantage over CT in that 21 sessions of CT may have helped to foster the client's ability, willingness, and motivation for BA. Finally, systematic follow-up data were not collected and so it is difficult to assess whether gains were maintained. Future investigations could build on these findings using RCTs involving systematic switches

between treatments to identify whether BA truly adds something for patients with a poor response to CT or whether this client's response is better accounted for by potential synergistic effects of CT and BA sessions. Despite these limitations, the present study provides a strong case illustration of principles debated in the empirical literature relative to the efficacy of CT versus BA, and factors which might influence the efficacy of these interventions when previous treatments have provided limited relief.

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First, we thank Mr. X for his perseverance in treatment. Second, we would like to thank Christine Calmes, James Prisciandaro, Erica Carlos, Paula Yanes, and the journal reviewers for their thoughtful comments during manuscript preparation.

This research was supported in part by grant 5F31MH072551-03 to Kathryn Bottonari and John E. Roberts.

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Received: June 10, 2007

Accepted: February 5, 2008

Available online 22 August 2008