EVALUATION OF A BRIEF BEHAVIORAL ACTIVATION THERAPY FOR

DEPRESSION (BATD) GROUP PROTOCOL IN AN INPATIENT

GERIATRIC PSYCHIATRY FACILITY

by

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A DISSERTATION

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ABSTRACT

The present study examined the effect of a modified Brief Behavioral Activation Therapy for Depression (BATD: Lejuez, Hopko, & Hopko) intervention added to hospital treatment as usual on depressive symptoms (measured by the Geriatric Depression Scale) and global psychopathology (measured by the Brief Symptom Inventory) at a state-run inpatient geriatric psychiatry facility. A control group received hospital treatment as usual only. The intervention was conducted in a group therapy format. Assessments were conducted at baseline, midpoint, and post-intervention. Although results revealed that the intervention did not have a significant effect on depressive symptoms or global psychopathology over and above the effects of hospital treatment as usual, this study was limited by various logistical barriers to implementing the intervention. Treatment implementation data revealed that patient attendance at groups, patient understanding of intervention materials, and patient enactment of treatment concepts in their daily lives were below expectation. Future studies should focus on increasing patient receipt and enactment of the intervention to ensure fair tests of behavioral activation interventions in this setting.

DEDICATION

This dissertation is dedicated to all Alabamians living with mental illness. May we continue to work tirelessly to improve quality of care and quality of life for all.

LIST OF ABBREVIATIONS AND SYMBOLS

a Cronbach's index of internal consistency

df Degrees of freedom: number of values free to vary after certain restrictions have been

placed on the data

F Fisher's F ratio: A ration of two variances

M Mean: the sum of a set of measurements divided by the number of measurements in the

set

p Probability associated with the occurrence under the null hypothesis of a value as

extreme as or more extreme than the observed value

r Pearson product-moment correlation

t Computed value of t test

$<$ Less than

$=$ Equal to

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Hypotheses and Specific Aims

The purpose of the present study was to test a modified Brief Behavioral Activation Therapy for Depression (BATD; Lejuez, Hopko, & Hopko, 2001) intervention for depressive symptoms and global psychopathology in older inpatients at a state psychiatric hospital. The intervention was delivered in a group therapy format, with assessments at baseline, mid-point, and post-intervention. The specific aims were as follows:

Aim 1: To test the effect of a BATD intervention plus hospital treatment as usual compared to a treatment-as-usual only control group on depressive symptoms, controlling for the effects of initial depression score (measured by the Geriatric Depression Scale), cognitive status (measured by the Telephone Interview for Cognitive Status-modified), global psychopathology (measured by the Global Severity Index of the Brief Symptom Inventory), and physical illness severity (measured by the Charlson Comorbidity Index).

Hypothesis: It was expected that participants in the BATD group would demonstrate greater improvement in depressive symptoms than participants in a treatment-as-usual only control group, as evidenced by between-group differences in change scores on the Geriatric Depression Scale.

A secondary aim was to assess the influence of initial depression score, cognitive status, overall psychopathology, and physical illness severity on change in depressive symptoms for participants in the BATD group.

Hypotheses: It was expected that the depression scale change scores would be inversely correlated with initial depression scores, so that larger decreases would occur for persons with

higher initial scores than for persons with lower initial scores. This effect, if it occurred, was presumed to be primarily the result of two phenomena—1) restriction of range of possible improvement for lower scores and 2) regression to the mean for individuals with high scores. It was expected that participants with lower cognitive functioning, higher levels of global psychopathology, and higher levels of physical illness would receive less benefit from the intervention after controlling for initial levels of depression.

Aim 2: To test the effect of the BATD intervention plus hospital treatment as usual compared to a treatment-as-usual only control group on global psychopathology as measured by the Global Severity Index (GSI) of the BSI, controlling for the effects of initial psychopathology, cognitive status and physical illness severity.

Hypothesis: Due to limited previous research, no *a priori* hypothesis was made regarding the effect of the BATD intervention on overall psychopathology.

A secondary aim was to assess the influence of initial psychopathology, cognitive status, and physical illness severity on change in psychopathology for participants in the BATD group.

Hypotheses: It was expected that GSI change scores would be inversely correlated with initial GSI scores, so that larger decreases would occur for persons with higher initial scores than for persons with lower initial scores. As with GDS scores, this effect was expected due to restriction of range of improvement for lower scores and regression to the mean for high scores. It was expected that participants with lower levels of cognitive functioning and higher levels of physical illness would receive less benefit from the intervention after controlling for initial levels of psychopathology.

Background and Significance

More than 2 million of the 34 million Americans age 65 and over experience some form of depression every year (Mental Health America, 2006). Depressive symptoms may be brought on by some of the chronic physical illnesses commonly experienced in late adulthood, such as Alzheimer's Disease, Parkinson's Disease, heart disease, stroke, cancer, and arthritis. Older adults with depression have roughly 50% higher healthcare costs than their non-depressed counterparts. Depression is a significant predictor of suicide. Older adults account for 20% of all suicide deaths but comprise only 13% of the population (Mental Health America, 2006). Additionally, sub-threshold symptoms of depression are common late in life and can cause significant disruption in daily life (Charney, et al., 2003; Lyness, King, Cox, Yeodiono, & Caine, 1999). Symptoms of depression include persistent sad, anxious, or "empty" feelings; feelings of hopelessness and/or pessimism; feelings of guilt, worthlessness, and/or helplessness; irritability or restlessness; loss of interest in activities or hobbies once pleasurable, including sex; fatigue and decreased energy; difficulty concentrating, remembering details, and making decisions; insomnia, early-morning wakefulness, or excessive sleeping; overeating or appetite loss; thoughts of suicide/suicide attempts; and persistent aches and pains, headaches, cramps, or digestive problems that do not ease even with treatment (National Institute of Mental Health, 2007). Depressive symptoms often co-occur with schizophrenia spectrum disorders and anxiety disorders and worsen the prognosis for those disorders (Beyer, 2007; Diwan, et al., 2007).

Treatments for depression include antidepressant medications, psychotherapy, and electroconvulsive therapy (ECT) for the most severe cases of depression (National Institute of

Mental Health, 2007). A review by Scogin and colleagues (Scogin, Welsh, Hanson, Stump, & Coates, 2005) identified six psychotherapies for older adults with depression that meet evidence-based criteria from the Committee on Science and Practice of the Society for Clinical Psychology of the American Psychological Association. These therapies are behavioral therapy, cognitive behavioral therapy, cognitive bibliotherapy, problem-solving therapy, brief psychodynamic therapy, and reminiscence therapy.

Physical illness and cognitive impairment both merit attention when evaluating treatment for older adults. A recent meta-analysis of interventions for depressive symptoms in older adults found weaker treatment effects for studies of depressive symptoms in individuals with physical or cognitive impairment (Pinquart, Duberstein, & Lyness, 2007). Chronic illness and disability are common in later life, with 80% of older adults estimated to have at least one chronic condition. Physical illness and especially functional disability have been found to be predictors of depressive symptoms (Adams, Sanders, & Auth, 2004; Braam, et al., 2005; Zeiss, Lewinsohn, Rohde, & Seeley, 1996) and to worsen the prognosis for depression (Rubenstein, et al., 2007). Chronic pain, which is associated with a number of illnesses typical of late adulthood, has been shown to interfere with response to depression treatment (Bair, et al., 2004; Kroenke, Shen, Oxman, Williams, & Dietrich, 2008). A study by Lenze and colleagues (2001) indicated that individuals with lower self-rated health were less likely to respond to treatment and were more likely to drop out of treatment prematurely. Regarding participation in behavioral activation treatment, individuals experiencing physical illness must overcome that barrier in addition to depressive symptoms in order to engage in pleasant, rewarding events. Additionally, it is perceivable that physical illness and functional impairment would limit the number and type of pleasant events available to individuals.

Similarly, cognitive impairment is a risk factor for depressive symptoms (Biderman, Cwikel, Fried, & Galinsky, 2002; Blazer, Burchett, & Fillenbaum, 2002) and may hinder treatment of depression in older adults (Kamholz & Mellow, 1996). As with physical illness, cognitive impairment may limit the number and type of pleasant events available to individuals. It may also make it more difficult to purposefully carry out planned activities. Thus, because of their prevalence in older adults and their potential impact on participation in treatment, physical illness and cognitive impairment were tested as covariates in analyses for the present study. Also, the influence of physical illness and cognitive status on response to treatment was assessed empirically.

Psychiatric comorbidity has also been found to predict poorer treatment response (Beyer, 2007). The presence and severity of psychotic features in depression typically indicate a poorer prognosis and more treatment resistance (Gournellis & Lykouras, 2006). Other studies have indicated that individuals with other types of comorbid psychopathology, such as personality pathology (Frank, Karp, & Rush, 1993) and anxiety (Dew, et al., 1997), have a poorer response to depression treatment. Within the state hospital setting, it was expected that patients would likely have comorbid psychopathology in addition to depressive symptoms. Therefore, physical illness severity, cognitive impairment, and psychopathology were tested as covariates in the present study. Additionally, the influence of all three variables on response to depression treatment was tested through the study analyses.

Behavioral Theory of Depression

The sections below describe both the history of behavioral theories of depression (etiology and treatment) and the development of modern behavioral theory of depression and behavioral activation treatment. Behavioral activation (BA) therapies strive to bring individuals

into contact with positive reinforcement in their environment through increasing participation in pleasant, personally rewarding activities. While behavioral theories acknowledge the importance of cognitions in depressive symptoms, they assert that improved thoughts will naturally follow from an increase of positive reinforcement from the individual's environment.

Historical Context

In the 1970's, Ferster and Lewinsohn both wrote about the application of behavioral principles to depression treatment. These studies laid the foundation for modern behavioral activation treatment approaches, which share some common characteristics with Ferster and Lewinsohn's work but also differ in ways to be discussed later in this paper. These pioneering studies were influenced by B.F. Skinner's work on behaviorism (see Skinner, 1953). Ferster (1973) points out that depression is especially appropriate for behavioral treatment due to the missing items of behavior that characterize depressive symptoms (e.g., refusing to get out of bed, refusing to initiate contact with others, avoiding dressing and grooming). His functional analytic view of depression asserts that depressed behavior results from a combination of reinforcement for depressed behavior and lack of reinforcement for healthy non-depressed behavior. He also highlights the importance of escape/avoidance behaviors as a barrier to positively reinforced behaviors in individuals with depression. For instance, an individual with depression may complain extensively about how miserable he/she is feeling, which results in sympathy from significant others (reinforcement for depressed behavior). Likewise, he/she may remain in bed all day because he/she doesn't feel like getting up and completing necessary chores of the day. Significant others may supply meals in bed or complete the depressed person's chores (negative reinforcement-avoidance of undesirable activities). At least initially, getting out of bed and

completing chores may not yield much reinforcement, as the person no longer receives sympathy or assistance with chores.

Lewinsohn's work further paved the way for modern behavioral activation (BA) approaches, as he documented the relationship between activity engagement and mood (Lewinsohn & Lebit, 1972; Lewinsohn & Graf, 1973). Lewinsohn's theory makes 3 assumptions about depression. First, a low rate of response-contingent positive reinforcement acts as an eliciting (unconditioned) stimulus for depressive symptoms, such as feelings of dysphoria, fatigue, and other somatic symptoms. Second, a low rate of response-contingent positive reinforcement is a sufficient explanation for other parts of the depressive syndrome such as a low rate of behavior. For this low rate of behavior, the person is considered to be on a prolonged extinction schedule.Third, the total amount of response-contingent positive reinforcement received by the individual is presumed to be the function of three variables: a) The number of events (including activities) that are potentially reinforcing, which is assumed to be influenced by biological and experiential variables; b) the number of potentially reinforcing events provided by the environment; c) the individual's ability (skills and performed behaviors) to elicit reinforcement from the environment (Lewinsohn, 1974). Based on his research showing a strong relation between engagement in pleasant activities and mood (Lewinsohn & Lebit, 1972; Lewinsohn & Graf, 1973), Lewinsohn and his colleagues have generated interventions that largely focus on increasing classes of events considered to be universally pleasant (Lewinsohn, Biglan, & Zeiss, 1976; Zeiss, Lewinsohn, & Munoz, 1979). Increased pleasant activities were hypothesized to provide increased reinforcement for non-depressed behavior. Lewinsohn also hypothesized that individuals with depression might be less skilled at eliciting positive reinforcement in social situations; thus social skills training was sometimes included in his

interventions in order to increase positive reinforcement and decrease punishment during social situations (Lewinsohn, 1974).

The 1980's brought an increasing focus on the cognitive theory of depression (Beck, Rush, Shaw, and Emery, 1979). Cognitive theory asserts that depressive symptoms arise from a triad of sustained and inaccurate negative thoughts about the world, the future, and oneself. Although Beck's protocol for cognitive therapy for depression included behavioral components, cognitive components were believed to be necessary to bring about change in depressive symptoms. Purely behavioral interventions were largely ignored. Many researchers added cognitive components to their behavioral interventions (Lewinsohn, Steinmetz, Antonuccio, & Teri, 1984; Nezu & Perri, 1989). This shift to cognitive therapy resulted in its inclusion (and the exclusion of purely behavioral therapies) in the Treatment of Depression Collaborative Research Program (TDCRP; Elkin, et al., 1989) funded by the National Institute of Mental Health.

Modern Behavioral Activation Treatment Approaches

Increasing evidence suggests that behavioral interventions may, in fact, be sufficient to bring about change in depressive symptoms. In particular, a dismantling study of cognitive-behavioral therapy (CBT) by Jacobson and colleagues (Jacobson, et al. 1996) found that BA was just as effective at alleviating depressive symptoms as the full CBT protocol. This finding had important implications for theory of depression and for clinical practice. These results challenged Beck's widely accepted cognitive theory of depression (Beck, et al., 1979), which asserts that techniques focused on changing negative schemas are necessary to maximize treatment outcome and prevent relapse. Additionally, research shows that the therapeutic benefits of CBT packages for depression most often occur during the initial sessions of treatment, when behavioral components are more prominent (Hollon, Shelton, Davis, 1993; Otto, Pava, & Sprich-

Buckminster, 1996). As managed care organizations increasingly mandate the need for psychosocial interventions that are both time-limited and empirically validated, BA approaches show promise as useful treatments for depressive symptoms. BA researchers have pointed out that BA is a more parsimonious treatment approach than more complex therapies (such as CBT) and might be useful to less experienced therapists and amenable to treatment modalities such as self-administered or peer support treatments. A meta-analysis by Mazzucchelli, Kane, & Rees (2009) examined 34 studies of various BA protocols. 2055 participants were included across all studies. They found a large pooled effect size of .78 to indicate the difference between BA and control conditions. When only participants meeting criteria for Major Depressive Disorder were included, there remained a large effect size of .74. They concluded that BA could be considered a well-established and advantageous alternative to other treatments for depression.

The meta-analysis by Mazzucchelli and colleagues (2009) used the following terminology to describe variants of BA therapy: 1) Contextual BA, 2) Brief BA Therapy for Depression (BATD), and 3) Pleasant Events. These categories will also be used in this paper to describe variants of BA and avoid confusion among various protocols. They also include self-management therapy (Rehm, 1984) among BA therapies. However, self-management therapy will not be included as a BA therapy in this paper, because Rehm and her colleagues conceptualize it as a cognitive-behavioral therapy (Rehm & Adams, 2009). Broadly, all BA treatment approaches seek to encourage participants to increase pleasant/rewarding activities in order to increase positive reinforcement from the environment. They differ in terms of use of supplementary treatment components (e.g., functional analysis, mindfulness) and length of treatment.

Contextual BA. Contextual BA interventions credit work by Jacobson and colleagues (Jacobson, et al., 1996; Jacobson, Martell, & Dimidjian, 2001; Martell, Addis, & Jacobson, 2001) as the basis of the intervention. The dismantling study by Jacobson and colleagues (1996) compared three treatment conditions—BA only, both BA and work on automatic thoughts, and a full CBT protocol. They found that the full protocol was no more effective than either of its subcomponent parts, both immediately following treatment and at six-month follow-up. Since 1996 Jacobson's research group has published a number of studies on BA treatments. The dismantling study used activation techniques typically used in CBT; however, the authors have developed an expanded version of BA and have published treatment manuals (Jacobson, et al., 2001; Martell, et al., 2001). Their version of BA therapy is rooted in contextualism, which focuses on the relation of behavior to the individual's broader life circumstances (Jacobson, et al., 1994). Contextual BA therapy has a strong focus on the function of behavior; for instance, avoidance behaviors may prevent unpleasant emotional responses. Clients are encouraged to go from an avoidance pattern (TRAP: trigger, response, avoidance-pattern) to a pattern of healthy alternative coping strategies (TRAC: trigger, response, alternative coping). Thus, clients are first taught to recognize patterns of avoidance and then to develop alternative coping strategies. The main therapeutic technique involves teaching clients to take action. Additional strategies are used to facilitate the shift from avoidance to active coping, such as rating mastery and pleasure of activities, assigning activities to increase mastery and pleasure, mental rehearsal of assigned activities, role-playing behavioral assignments, therapist modeling, periodic distraction from problems or unpleasant events, mindfulness training or relaxation, self-reinforcement, and skills training (e.g., sleep hygiene, assertiveness communication, problem-solving) Treatment duration is typically 20-24 sessions. (Martell, et al., 2001)

A randomized trial by their group (Dimidjian, et al., 2006) compared BA, Cognitive Therapy, and antidepressant medication for treating Major Depressive Disorder. Participants in their sample ranged in age from 18-60. Contextual BA was comparable to medication and superior to cognitive therapy for treating severely depressed patients. Notably, more patients in the BA condition achieved remission of Major Depression, and a higher percentage remained in treatment.

Porter, Spates, and Smithman (2004) conducted group therapy in community mental health settings, using a protocol that borrowed heavily from Jacobson's Contextual BA protocol (Jacobson, et al., 1996). Thirty-seven adults (mean age=44) were randomized to the intervention group or to a wait-list control. The intervention group participated in weekly 95-minute sessions for ten weeks. Each group had 6-10 participants and was co-led by two therapists. The intervention group showed significantly greater improvement on the Beck Depression Inventory and the Hamilton Rating Scale for Depression (Hamilton, 1967) than the control group. Three out of four patients no longer met criteria for Major Depressive Disorder following treatment.

Yon and Scogin (2009) conducted a test of in-home BA for 9 older adults using a multiple baseline design. This study used a manual adapted from Jacobson's Contextual BA protocols (Martell, et al., 2001), modified for older adults through an increase in examples of treatment principles relevant to older adults' lives, use of large print, and instructions for therapists to frequently assess whether their clients understood treatment principles. The protocol called for 16-20 in-home sessions, but treatment was shortened at the patient's request in some cases. At the conclusion of the study, 5 of 9 participants experienced a clinically significant decrease in their depressive symptoms as measured by the Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID: First, Spitzer, Gibbon, & Williams, 2002) and the

Geriatric Depression Scale (Yesavage and Brink, 1983). These participants no longer met criteria

for a major depressive episode. Several case studies have also demonstrated the usefulness of

modified versions of Contextual BA with various populations, including Latino individuals

(Kanter, et al., 2008) and individuals resistant to cognitive therapy (Bottonari, Roberts, Thomas,

& Read, 2008).

BATD. BATD interventions are derived from a protocol developed by Hopko's research

group (Lejuez, Hopko, & Hopko, 2001). BATD is rooted in the matching law, which states that

behavior is maintained by its consequences (Herrnstein, 1970; McDowell, 1982). Specific to the

context of depression, the matching law suggests that the time and effort given to exhibiting

depressed relative to nondepressed (healthy) behavior is directly proportional to the relative

value of reinforcement obtained for depressed versus non-depressed behavior (Hopko, Lejuez,

Ruggerio, & Eifert, 2003). According to the BATD protocol, depressive symptoms persist for

two reasons: 1) low or nonexistent reinforcement for non-depressed behavior and 2) a relatively

high rate of reinforcement for depressed behavior. Therefore, the BATD treatment approach

begins by describing the function of depressed behavior, attempting to weaken reinforcement for

depressed behavior (by limiting sympathy for depressed behavior and escape from

responsibilities), establishing rapport, and presenting the rationale for BATD. Then the therapist

helps the client to systematically increase the frequency and subsequent reinforcement of healthy

behavior. Treatment focuses on overt activation, that is, clients are encouraged to increase their

activities regardless of their mood and emotions. Clients develop goals in a variety of life areas

(such as physical/health, spirituality, hobbies and recreation) and then select activities that will

enable them to reach their goals. Clients create an activity hierarchy of up to 15 activities, in

order from least difficult to most difficult. They then begin working their way through the

activity hierarchy, thereby increasing their engagement in pleasant activities (Hopko, Lejuez, Ruggerio, et al., 2003). BATD differs primarily from Contextual BA in that it is a briefer, simpler treatment approach, typically consisting of 6-15 sessions. Although the therapist may conduct a functional analysis in BATD, the client is not required to conduct one independently. The concepts of TRAP and TRAC are not used. Adhering more closely to behavioral techniques, BATD does not include mindfulness or other cognitive-based approaches that may be used in Contextual BA. Also, BATD sometimes involves contracts with friends or family members, depending on the treatment setting, whereas Contextual BA does not include significant others in the process.

A growing body of evidence indicates that BATD is an effective treatment for depression (Lejuez, Hopko, LePage, Hopko, & McNeil, 2001; Hopko, Bell, Armento, Hunt, & Lejuez, 2005). Particularly relevant to the present study is an examination of BATD within an inpatient psychiatric hospital (Hopko, Lejuez, LePage, Hopko, & McNeil, 2003). Twenty-five patients (mean age=30.5) were randomized to BATD or supportive psychotherapy. Participants in both conditions attended three individual sessions per week for two weeks. Despite the limited sample size, patients in the intervention group improved significantly more on the Beck Depression Inventory (Beck & Steer, 1987) than the supportive psychotherapy control group. Additionally, several case studies within a community mental health setting (Lejuez, Hopko, LePage, et al., 2001), studies with cancer patients (Armento & Hopko, 2009; Hopko, et al., 2005: Hopko, Robertson, & Carvalho, 2009), and a randomized controlled trial of college students with depression (Gawrysiak, Nicholas, & Hopko, 2009) have shown BATD to produce sizeable reductions in depressive symptoms.

A previous dissertation from The University of Alabama (Snarski, 2008) examined individual BATD for depression in an inpatient geropsychiatric population. Her study was conducted in the same facility as the present study. Patients received 8 sessions of BATD (Lejuez, Hopko, & Hopko, 2001) over the course of 4 weeks in addition to hospital treatment as usual. Patients in the intervention group showed significantly greater improvement on the Geriatric Depression Scale-Short Form (Shiekh & Yesavage, 1986) than patients in a treatment-as-usual control group. There were no group differences on measures of neuropsychological functioning, cognitive functioning, and quality of life.

Pleasant activities. A number of intervention studies have included components focused on increasing pleasant/rewarding events. These interventions are typically heavily influenced by the work of Lewinsohn (Lewinsohn, et al., 1976). They generally involve monitoring and scheduling pleasant activities but place less emphasis on goal-setting and functional analysis of behavior, which are components of Contextual BA and BATD. A recent meta- analysis (Cuijpers, van Straten, & Warmerdam, 2007) identified five studies of pleasant activity scheduling that focused on older adults (Gallagher, 1981; Gallagher and Thompson, 1982; Teri, et al., 1997; Thompson and Gallagher, 1984; Thompson, Gallagher, & Breckenridge, 1987). Gallagher and Thompson conducted their intervention with older adults who were cognitively intact, whereas Teri and colleagues sought to relieve depressive symptoms in individuals with dementia. Teri and colleagues (1997) trained caregivers to increase pleasant events for the care recipients. All of these studies found positive effects for pleasant event scheduling. Several other studies were found that involved engagement in pleasant activities as a primary component. Meeks and colleagues (Meeks, Looney, van Haitsma, & Teri, 2008) modified the protocol developed by Teri and colleagues (1997) for use in a long-term care setting (called BE-ACTIV).

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Participating facility residents received ten individual sessions with a mental health consultant. During these sessions, they worked to determine the resident's current participation in pleasant activities, to identify activities that the resident would like to start or increase, and to monitor the resident's ongoing participation in activities. Results indicated that this protocol is an effective and feasible treatment for depression in long-term-care residents. This protocol has recently been tested as an intervention for depression in a prison nursing home (Meeks, Sublett, Kostiwa, Rodgers, & Haddix, 2008). Four male residents of a prison nursing home participated in the BE-ACTIV program. Despite complications (e.g., severely limited time and resources of recreation staff, lack of private space for sessions), the protocol appears promising as a treatment for depression in a prison nursing home also. A study by Brand and Clingempeel (1992) tested a group behavioral intervention for older adults based on Gallagher's (1981) work. There were no statistically significant differences between the intervention and control groups on measures of depressive symptoms; however, a greater percentage of participants in the intervention group were in remission following the treatment. Cernin and Lichtenberg (2009) conducted a pilot study assessing a pleasant-activities focused intervention for depressive symptoms in older adults residing in an assisted-living facility. Mood ratings showed significant improvement with treatment. There was no significant change in depression scores. Other studies with older adults (e.g., Lichtenberg, Kimbarrow, Morris, & Vangel, 1996) have included activity scheduling components; however, activity engagement was one of several components of the intervention and cannot be evaluated as a stand-alone intervention based on such studies.

BA Therapies for Other Types of Psychopathology

The vast majority of studies on BA interventions to date have excluded patients with comorbid psychiatric illnesses (See Snarski, 2008 for an exception), and all have excluded

patients with active psychosis. An important extension of this research, particularly for the state hospital setting, is to assess the effectiveness of BA interventions for patients with depressive symptoms and other psychiatric symptoms. Thus, the present study did not exclude participants based on psychotic symptoms and other psychiatric illnesses and tested the effect of the intervention on overall psychopathology using the GSI of the BSI. Hagen, Nordahl, & Grawe (2005) found positive results for a CBT intervention with patients with schizophrenia and schizoaffective disorder. Patients in their sample ranged in age from 20-47. Participants showed improvement on depressive symptoms and the Global Assessment of Functioning (GAF) of the Diagnostic and Statistical Manual of Mental Disorders (DSM) of the American Psychiatric Association (2000). Thus, the results of this study indicate that patients with psychotic symptoms can participate meaningfully in a group behavioral intervention. The literature on coping with psychosis indicates that participation in pleasant, rewarding activities such as listening to music, watching television, talking with a friend, and exercising is useful for managing psychotic symptoms such as auditory or visual hallucinations (Carr, 1988; Carter, et al., 1996; Hayashi, Igarashi, Suda, & Nakagawa, 2007). Therefore, a program such as BA, which emphasizes participation in pleasant activities, could be useful in alleviating psychotic symptoms.

BA has also been proposed as a treatment for other psychopathology, such as anxiety and suicidal behavior. Jakupcak and colleagues (2006) conducted a pilot study of Contextual BA for 11 veterans with Post Traumatic Stress Disorder (PTSD), with a mean age of 51.2 years. Although there were no statistically significant effects of BA, more than half of the sample did demonstrate reliable improvement. Case studies have found BATD to be useful for both suicidal behavior (Hopko, Sanchez, Hopko, Dvir, & Lejuez, 2003) and for coexistent anxiety and depression (Hopko, Lejuez, & Hopko, 2004). Overall, additional research with larger samples is

needed to determine the effectiveness of behavioral activation interventions for types of psychopathology other than depression, such as psychosis, anxiety, and suicidal behavior.

State Psychiatric Hospitals

State hospitals have changed a great deal over the last century. Although individuals with mental illness were once housed in psychiatric hospitals for most of their lives, care of Americans with severe mental illness has now shifted to the community (Starks & Braslow, 2005). Thus, brief hospitalizations are necessitated by the managed care environment, and interventions must be brief and easy to implement without extensive staff training (Lieberman, Wiitala, Elliott, McCormick, & Goyette, 1998; Wichizer & Lessler, 1998). Deinstitutionalization has led to a "revolving door" in psychiatric hospitals, with many patients discharged to the community only to return to the hospital within a short time (Mongtomery & Kirkpatrick, 2002). Therefore, it is imperative to find treatments that are effective both for immediate remission of symptoms and maintenance of treatment gains over a long-term period. Due to its simplicity and time-limited nature, BA is potentially a useful treatment for depression in psychiatric inpatients. Additionally, BA has been shown to be effective at maintaining treatment gains over time (Dobson, et al., 2008; Gollan, Gortner, & Dobson, 2006; Gortner, Gollan, Dobson, & Jacobson, 1998).

Group therapy is the most frequent mode of treatment in state hospitals, as it is more cost-effective than individual therapy (Roller, 2006; Shapiro, Sank, Shaffer, & Donovan, 1982). Group therapy has been used extensively in a variety of settings and has been shown to be an effective mode of treatment (Burlingame, Fuhriman, & Mosier, 2003; Fuhriman & Burlingame, 2000; Piper & Joyce, 1996). It has been used successfully in a number of studies with older adults (e.g., Arean, et al., 2005; Husaini, et al., 2004; Rokke, et al., 1999).

Purpose of Present Study

The present study sought to extend previous research in three ways. First, it tested the BATD protocol in a group therapy format. Both Hopko and colleagues (Hopko, Lejuez, Lepage, et al., 2003) and Snarski (2008) found an individual BATD protocol to relieve depressive symptoms in patients at a psychiatric hospital. However, group therapy is the usual mode of treatment in state psychiatric hospitals; thus, the group format, if effective, would make the treatment more transferable to the setting. Second, the intervention was delivered over the course of two weeks rather than four. Snarski (2008) found that many patients were discharged from the hospital over the course of a four-week treatment protocol and were not able to finish the intervention. Managed care mandates that patients be released from the hospital as quickly as possible, so it is imperative to develop treatments that are effective but brief. Hopko and colleagues (Hopko, Lejuez, Lepage, et al., 2003) found the BATD protocol to relieve depressive symptoms in psychiatric inpatients over a two week period; thus, the present study sought to replicate that result. Third, this study tested the intervention's effect on overall psychiatric illness severity. BA has been proposed as a useful treatment for anxiety disorders and suicidal behavior, and case studies lend support to its effectiveness for these purposes. The literature on coping with psychosis indicates that engaging in pleasant, distracting activities is helpful in managing psychotic symptoms. Therefore, BA could be a useful intervention for reducing overall psychiatric symptom severity, but this hypothesis had not yet been empirically tested prior to this study.

Methods

Participants

Participants were inpatients at Harper Center, a state psychiatric hospital for older adults (age 65 and up). Patients had not participated in an earlier study of individual BATD therapy for depressive symptoms (Snarski, 2008). In order to qualify for the study, patients were required to have a minimum of 9 out of 30 on the Geriatric Depression Scale (GDS). Although the GDS authors originally suggested a cut-score of 11 to identify individuals with depression, lower cut-scores have been suggested for researchers concerned with capturing as many individuals as possible with clinically significant depressive symptoms (Stiles and McGarrahan, 1998). For the present study, a score of 9 was used to capture the largest number of patients who could potentially benefit from the intervention. Participants were required to score at least 20 on the Telephone Interview for Cognitive Status-modified (TICS-m). An education adjustment was applied to the total score; participants with 8 years of education or less received 5 points added to their raw score, participants with 8-10 years of education received 2 points added to their raw score, and participants with 13 or more years of education had 2 points subtracted from their raw score (Breitner, et al., 1995).

The principal investigator or a research assistant approached potential participants to explain the study and obtain informed consent. (See Appendix A for consent form.) After patients provided informed consent to participate, they completed the screening procedure (GDS and TICS-m). Patients who did not meet entry criteria at any point in the process were thanked for their time and were not asked for any additional information. Ineligible patients were

encouraged to talk with their treatment team if they had any concerns about their mood or their cognitive functioning. Ineligible patients expressing a desire to work on depressive symptoms were referred to other groups at Harper Center that address mood management— Dealing with Moods and Anxiety and/or Mental Health Group. A script for informing patients that they were not eligible to participate is included as Appendix B. Due to patients having severe mental illness and/or cognitive impairment, it was important to ascertain that they were able to provide informed consent. Therefore, patients were asked to sign a release of information form, allowing the principal investigator to talk with their psychiatrist to determine whether the patient was capable of providing consent (See Appendix C). The patient's psychiatrist signed a statement that the patient was able to give informed consent. Then research staff reviewed the study procedure with the patient and obtained verbal assent to continue. Patients were asked to sign a HIPAA compliant authorization form for staff to obtain information from their medical chart (See Appendix D).

Setting

The study took place at the Mary Starke Harper Geriatric Psychiatry Center, a state psychiatric hospital for older adults, with data collection occurring from January 2009-November 2009. Harper Center is a 96 bed facility, with a 5:1 direct-care staff to patient ratio. The hospital is almost always over-capacity. There are 7 disciplines of professional staff: 1) Psychiatry, 2) Internal Medicine, 3) Social Work, 4) Nursing, 5) Therapeutic Recreation, 6) Nutritional Services, and 7) Psychology.

Measures

Geriatric Depression Scale (GDS; Yesavage, et al., 1983; See Appendix E).   The GDS contains 30 items that are answered yes/no. The GDS demonstrates high internal consistency

with a Chronbach's alpha of .94. Test-retest reliability is .85. The GDS has good concurrent

validity with a correlation of .84 between the GDS and the Hamilton Rating Scale for Depression

(Hamilton, 1967). Known-groups validity is good, with an 84% sensitivity rate and 95%

specificity rate for detecting depression when a cut-score of 11 is used. As this project was most

concerned with capturing a wide variety of patients who might benefit from the intervention, a

lower cut-score of 9 was used. Previous studies using a cut-score of 9 have found sensitivity

rates ranging from 90 to 100% and specificity rates ranging from 55 to 80% (Stiles &

McGarrahan, 1998). In the present study, the GDS was used as a screening tool and as a primary

outcome measure, administered at screening/baseline, midpoint, and post-intervention.

Telephone Interview for Cognitive Status-modified (TICS-m; Breitner, et al., 1990;

Welsh, Breitner, & Magruder-Habib, 1993; See Appendix F). The TICS-m is a modified version

of the Telephone Interview for Cognitive Status (TICS; Brandt, Spencer, & Folstein, 1988), a

cognitive screening instrument that was modeled after the widely-used Mini Mental State Exam

(MMSE; Folstein, Folstein, & McHugh, 1975). The TICS demonstrates excellent test-retest

reliability (r= .97). The TICS-m updates the original TICS by eliminating items difficult to verify

in epidemiological studies (i.e., current address) and adding a delayed memory test, two

additional orientation items (age and phone number), and points for correctly naming the current

president and vice-president. It can be administered over the phone or in person. The TICS-m

consists of 12 items (for a total of 50 points) assessing memory, orientation, arithmetic,

language, attention, and problem solving. Inter-rater reliability is excellent (r=.97). The TICS-m

has been shown to substantially correlate with the MMSE (Folstein, et al., 1975), r=.80

(Plasman, Newman, Welsh, Helms & Breitner, 1995). However, the TICS-m is preferred to the

MMSE because it can be used with individuals who are visually impaired or illiterate. Also, the

TICS-m does not demonstrate ceiling effects seen in the MMSE (de Jager, Budge, & Clarke, 2003). Raw scores were adjusted for education as indicated by Breitner and colleagues (1995). One item was modified for in-person administration (i.e., "tap your finger 5 times on the table" instead of "tap your finger 5 times on the phone"). To be eligible for participation in the study, patients were required to receive an education-adjusted score of at least 20. This score has been indicated as a likely indicator of mild-to-moderate cognitive decline (Barber & Stott, 2004; de Jager, et al., 2003). The TICS-m was administered at screening.

Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983; See Appendix G). The BSI is a shortened version of the Symptom Checklist-90-Revised (SCL-90-R), a self-report inventory of psychological symptom patterns that has been used for a variety of applications (Derogatis, Rickels, & Rock, 1976; Derogatis, 1977). The BSI has been used for assessment of change in psychopathology in psychiatric inpatients (Piersma, Reaume, & Boes, 1994). The BSI consists of 53 items, comprising nine subscales. The subscales are Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. Additionally, there are three global indices of distress: the Global Severity Index (GSI), the Positive Symptom Distress Index (PSDI), and the Positive Symptom Total (PST). Each item of the BSI is rated on a 5-point scale of distress ranging from not at all (0) to extremely (4). Internal consistency is acceptable, ranging from 0.71-0.85 for the subscales. Test-retest reliability ranges from 0.68 to 0.91 for the subscales and 0.80 to 0.90 for the global indices. Correlations between BSI subscales and comparable MMPI subscales range from 0.30-0.72, demonstrating convergent validity. The BSI was used as an outcome measure, with assessments at baseline, midpoint, and post-intervention; specifically, the GSI was used to

measure global self-reported psychopathology. The GSI is the mean of all 53 items, with scores ranging from 0 to 4.

Charlson Comorbidity Index (CCI; Charlson, Pompei, Ales, & Mackenzie, 1987; See Appendix H). The Charlson Comorbidity Index contains 19 weighted categories of comorbidity; it was designed for use in obtaining medical diagnostic information from medical records (completed once only; possible score range = 0-37). The overall comorbidity score reflects the cumulative increased likelihood of 1-year mortality, with higher scores indicating greater comorbidity. Scale scores correlate with additional related outcomes such as length of hospital stay and discharge to nursing homes (Deyo, Cherkin, & Ciol, 1992). Research staff completed the CCI from patient medical records at baseline.

Patient Demographic Form. (See Appendix I.) Patient demographic information was collected from patients' medical charts at baseline. The form included gender, race, age, years of education, diagnoses, length of hospital stay, and number of previous Department of Mental Health and Mental Retardation (DMH/MR) hospitalizations.

Treatment Implementation Measures. Treatment implementation is defined as the path of the treatment to the client and the summative impact of three components of treatment implementation on the client. Lichstein, Riedel, & Grieve (1994) have identified three components of treatment implementation: treatment delivery, treatment receipt, and treatment enactment. Treatment implementation measures were used to better link the independent variable of intervention with the outcome.

Treatment delivery refers to the actions of the interventionist—his/her ability to deliver the treatment as intended and to avoid inadvertent introduction of other treatment techniques and to engage the client in treatment. Treatment delivery was assessed using a modified BATD

adherence measure developed by Hopko and colleagues (Hopko, et al., 2005, See Appendix J).

Research assistants reviewed a random selection of tape-recorded sessions and assessed therapist

competence and adherence to the BATD protocol using the checklist.

Treatment receipt refers to the degree to which the client actually received the intended

treatment, indicated through mastery of concepts and skill development. Treatment receipt was

assessed in two ways. First, number of sessions attended was used as a measure of dosage of

treatment received. Second, a quiz examining knowledge of BATD principles, administered at

post-intervention, assessed patients' understanding of intervention materials (See Appendix K).

This quiz was used in previous research by Snarski (2008) to assess patient knowledge of BATD

at Harper Center.

Treatment enactment refers to the degree to which the patient demonstrates behavior change

in his/her natural environment. Treatment enactment was conceptualized as the percentage of

homework assignments completed (i.e., engagement in selected pleasant/rewarding activities).

Design

The present study utilized a two group (intervention and control) comparison design.

After screening, eligible patients were randomized to the treatment-as-usual control condition or

to treatment-as-usual plus the BATD group intervention. Patients were recruited in waves of 10,

with five patients assigned to the intervention group and five to the control group. A coin was

flipped to determine whether the first patient in each wave would be intervention or control.

Patients were then alternately assigned to the intervention or control group.

Intervention. The intervention was a modified BATD protocol consisting of 8 sessions

over 2 weeks. The intervention was modeled after Hopko's Brief Behavioral Activation Therapy

for Depression manual (Lejuez, Hopko, & Hopko, 2001; See Appendix L). Using previous

intervention research with older adults as a guide (e.g., Snarski, 2008), changes were made to make the therapy manual more appropriate for an older adult inpatient population. All forms were moved to the page immediately following their description, instead of being placed in an appendix. Slight wording changes were made throughout the manual to make concepts easier to understand. A pilot group of 5 participants completed the modified BATD protocol in order to assess the need for further modifications for group therapy. Conduction of the pilot group revealed that more time was needed for patients to complete forms and understand basic concepts related to BATD; therefore, the first four sessions (instead of three) consisted of introductory material, with monitoring of activity participation in Sessions 5-8. Each session is described in more detail in the following paragraph. Also, the protocol was modified to include only a behavioral checkout form for activity monitoring rather than that form plus a master activity log. Additionally, forms were completed in session due to patient difficulty accessing writing utensils outside of session.

Participants in the intervention group received the modified BATD protocol in addition to treatment as usual (described below). Participants attended four group sessions per week over the course of two weeks. 5 participants were enrolled in each group, and groups were closed. The first session presented symptoms of depression, as well as the rationale for BATD. The second session consisted of a review of each patient's schedule from the previous day, with a discussion of activity levels and mood and an emphasis on identifying baseline level of activity. The third session helped patients identify life areas for improvement, as a guide for identifying potential activities. Life areas assessed were family relationships, social relationships, education/training, employment/career, hobbies/recreation, volunteer work/charity/political activities, physical/health issues, spirituality, and psychological/emotional issues. In the fourth session,

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participants chose activities that would help them meet their long-term goals. They were also encouraged to choose any available activity that they believed would bring a sense of pleasure and/or accomplishment even if it did not directly relate to one of their goals. The participants then completed an activity hierarchy of up to 15 activities, which were rated from easiest to most difficult to accomplish. Sessions 5-8 focused on monitoring participation in pleasant/rewarding activities. During each session, the therapist worked with each patient to update a behavioral checkout form noting progress. Goals were then set for the next session based on patient success and difficulty. The groups were led by the Principal Investigator and one other graduate student, both of whom had completed master's degrees in clinical psychology and had previous experience in behavioral treatments and in providing group therapy in the facility. Clinicians received training on the treatment protocol and were supervised by a licensed clinical psychologist throughout the study.

Treatment as Usual. Participants in the control group received treatment as usual only. Participants' hospital treatment as usual varied, since patients are generally not required to take prescribed medications and are never required to participate in therapeutic groups and activities. Patients are almost always prescribed psychotropic medications. Research staff recorded participation in hospital groups and activities for all study participants to better characterize hospital treatment received. Both the intervention and control groups were eligible to participate in all therapeutic activities offered by Harper Center. Group therapy is the usual mode of treatment, although staff members meet individually with patients who are unwilling or unable to attend groups. Individual meetings are typically very brief check-in sessions and do not provide the depth of information that group therapy offers. Psychology groups are Coping with Psychosis, Dealing with Moods and Anxiety, Understanding Aging, Coping with Aging, Conflict

Resolution, Decision Making and Positive Thinking, Anger Management, and Mental Health Group. Nursing groups are Co-Morbidity, Community Readiness, Environmental Awareness, Medication Class, Re-motivation, and Stress Management/ Relaxation. Social Work groups are Insight and Aftercare, Memory Stimulation, and Socialization. Therapeutic Recreation groups are Sensory Stimulation, Arts and Crafts, Current Events, Exercise, Goal Setting, Music Appreciation, Reminiscence, and Table Games. A potential confound was group content similar to the BATD protocol. However, the purpose of the present study was to assess the effect of BATD groups over and above the effect of usual hospital care; thus, overlap was a minimal concern. Additionally, only one group—Dealing with Moods and Anxiety—had much overlap with the BATD protocol. Although information about the importance of engagement in rewarding activities is presented in this group, participants do not set personal goals or monitor their activity level.

Assessments

Assessments were conducted by graduate research assistants as part of their practicum at Harper Center or in exchange for publication credit or shared workload. All assessors had previous experience in psychological assessment. They were trained by the Principal Investigator on specific measures used in the present study and had opportunities to observe her and be observed by her as needed, depending on previous training. Assessors were blind to group assignment.

The GDS, the TICS-m, and the BSI were read aloud to patients. To facilitate understanding, cards with the response choices printed on them were utilized for the GDS and the BSI. The protocol for administration was that all patients would be read the first three items on each measure, and three prompts would be used for each item. After that point, patients were

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to be dropped from the study if it was clear that they did not understand/were unable to respond to the items. No patient was dropped from the study due to inability to respond to items.

Statistical Analysis

All participants were required to have data from at least the baseline assessment of the study. For participants who lacked data from the midpoint (1 week) and/or final assessment (2 weeks), full intent-to-treat procedures were used, with data from the most recent assessment point carried forward. See Table 1 for an example. Specific data analyses are described in the Results section.

Table 1

Example of Carry-Forward Technique

Participant ID	Baseline	Midpoint	Post-Intervention
X (only completed Pre-treatment assessment)	GDS=15 »	**GDS=15 »**	**GDS=15**
Y (completed pre- and mid-treatment assessments)	GDS=18	GDS=9 »	**GDS=9**
Z (completed all 3 assessment points)	GDS=9	GDS=4	GDS=2

Sample Size and Power. A power analysis was conducted to determine an appropriate sample size for the study. A large effect size was expected based on previous research by Hopko and colleagues (Hopko, Lejuez, LePage, et al., 2003), who found a large effect of .73 for a study testing the effect of the BATD protocol in an inpatient psychiatric hospital. Based on a power calculation by Cohen (1988), 50 participants were needed in the current study (25 in each condition) to have power=.80 using alpha=.05. Although a relaxed alpha, such as .10, could have been used to increase power, doing so would increase the likelihood of a Type I error. Thus, alpha=.05 was chosen.

Demographic Characteristics

Demographic results are presented in Table 2. Fifty patients participated in the study, 25 in the BATD group and 25 in a control group. Both genders were equally represented, with 25 men and 25 women. Eighty percent were Caucasian, and 20% were African-American. Participants' ages ranged from 65 to 81, with an average age of 72.2. They had a mean of 11.6 years of education, with a range of 3-17 years. Ten percent had 7 years of education or less, 58% had 8-12 years of education, and 32% attended some college. Some patients had only recently entered the hospital and some had resided there for years, with length of stay ranging from 1 to 2081 days. Forty-eight percent had resided at Harper Center for 30 days or less, 36% for 30-90 days, 12% for 90 to 365, and 4% for more than one year. Previous DMH/MR hospitalizations ranged from 0 to 22, with a mean of 3.7. This was the first DMH/MR hospitalization for 40% of the sample, while 32% had 1 to 5 previous hospitalizations, 18% had 6-10, and 10% had 10 or more. The majority of study participants (90%) were committed to the hospital through involuntary civil commitment. Four percent were hospitalized following criminal trials, having been declared Not Guilty by Reason of Insanity. Six percent were considered Voluntary status, having been sent to Harper Center after the DMH/MR-run nursing facility where they resided closed.

Participants had a variety of primary psychiatric diagnoses (e.g., Major Depressive Disorder, Bipolar Disorder, Schizophrenia, Schizoaffective Disorder, Dementia), and some had more than one psychiatric diagnosis. However, all had clinically significant depressive

symptoms. Participants' baseline depression scores represented the continuum of depressive

symptoms, ranging from mild to severe (range=9-28, mean 14.7). Scores on the TICS-m ranged

from 20-37 (mild-to-moderate impairment to intact functioning), with a mean of 27, which is

indicative of mild impairment in cognitive functioning. Participants had an average CCI score of

2.2, which is associated with a 26% one year mortality rate. Participants were enrolled in an

average of 5 other groups at Harper Center, with an average attendance rate of 56%. There were

no significant differences between the intervention and control groups in terms of initial

depression score, initial level of self-reported psychopathology, physical illness severity,

cognitive functioning, age, gender, race, education, previous hospitalizations, length of stay in

the facility, and participation in other facility groups.

Table 2

Demographics

VARIABLE	SAMPLE: N=50
Gender	
Male	50%
Female	50%
Age	72.2(4.9)
Ethnicity	
Caucasian	80%
African-American	20%
Education	
7th grade or less	10%
8-12	58%
Some College	32%
TICS-m	27.0 (5.0)
Charlson	2.2(1.8)
Length of Stay (in days)	101.62 (302.09)
Previous DMH/MR Hospitalizations	3.7 (5.5)
Legal Status	
Civil Commitment	90%
Criminal	4%
Voluntary	6%

Study Attrition

Fifty individuals completed baseline assessments and were randomized to the intervention or control group. A total of 23 participants completed both the GDS and the BSI at all three assessment points. An additional 3 participants completed the GDS at all three assessment points but not the BSI. A total of 22 participants completed both the GDS and BSI at midpoint, with 3 additional participants completing the GDS only. A total of 35 participants had GDS data from at least two assessment points, and 32 participants had BSI data from at least two assessment points. A total of 31 participants had GDS data at both baseline and post-intervention, and 28 completed the BSI at both baseline and post-intervention.

A total of 13 participants completed only the baseline assessment. Additionally, one participant was excluded from analyses as an outlier, and one intervention group participant who attended no BATD group sessions was excluded. Of the 13 patients completing only the baseline assessment, 5 were discharged from the facility, 3 became medically unstable and were admitted to a nearby medical center, 4 declined to continue the study, and 1 died. Four additional patients withdrew from the study at midpoint. Three were discharged from the facility, and 1 declined to continue. There were no significant differences between participants completing only the baseline phase and those completing subsequent assessments in terms of initial depression score, initial level of self-reported psychopathology, physical illness severity, cognitive status, age, gender, race, education, number of previous hospitalizations, and length of stay in the facility.

Results: Aim 1

Aim 1 was to test the effect of a BATD intervention plus hospital treatment as usual compared to a treatment-as-usual-only control group on depressive symptoms. One-way analysis of variance (ANOVA) was used to test group differences in GDS change scores from baseline to

post-intervention. GDS change scores from baseline to post-intervention were entered as dependent variables, and group assignment (intervention or control) was entered as the independent variable. Pearson product-moment correlations were used to test the following variables as covariates: initial depression score, initial psychopathology score, physical illness severity, cognitive status, number of other Harper Center groups, and percent attendance at other Harper Center groups. However, none of these variables were significantly correlated with depression change scores and were not included in the final analysis. Full intent-to-treat (ITT) measures were used, with the last data point carried forward. One participant from the intervention group with clearly outlying results was excluded (0 on the GDS at midpoint and 30 at final). The results showed that group assignment did not have a significant effect on change in depression scores from baseline to post-intervention (F [1,47]= .46, p= .50). A follow-up ANOVA was run including only participants with data from at least two assessment points. Midpoint data was carried forward for patients lacking post-intervention data. One participant assigned to the intervention group who completed follow-up assessments but did not attend any intervention sessions was excluded. The participant mentioned above with outlying scores was also excluded. This yielded a sample size of 35 participants (20 control, 15 intervention). The results of this ANOVA also showed no effect of group assignment on depression change scores F [1,33] = .07, p= .79). Finally, an ANOVA including only completers (patients with data from both baseline and post-intervention was run (N=31, 18 control, 13 intervention). The results of this ANOVA also showed no effect of group assignment on depression change scores (F[1, 29]= .17, p=.68. GDS means and standard deviations (SDs) for the entire sample are presented in Table 3. Means and SDs for participants with at least 2 assessment points are presented in Table 4. Means and SDs for completers (baseline and post-intervention) are presented in Table 5.

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A secondary aim was to assess the influence of initial depression score, cognitive status, overall psychopathology, and physical illness severity on change in depressive symptoms for participants in the BATD group. Multiple regression was used to evaluate this aim, with initial depression score, initial psychopathology score, cognitive status, and physical illness severity entered as independent variables and depression change score (from baseline to post-intervention) entered as the dependent variable. The model was not significant (F [4,18]=.78, p=.55, Adjusted R squared= -.04).

Results: Aim 2

Aim 2 was to test the effect of the BATD intervention plus hospital treatment as usual compared to a treatment-as-usual-only control group on global psychopathology. One-way analysis of covariance (ANCOVA) was used to test group differences in change scores on the GSI of the BSI from baseline to post-intervention. GSI change scores from baseline to post-intervention were entered as the dependent variable and group assignment (intervention or control) was entered as the independent variable. Pearson-product moment correlations were used to test the following variables as covariates: initial GSI score, physical illness severity, cognitive status, number of other Harper Center groups, and percent attendance at other Harper Center groups. Only initial GSI score was found to be significantly correlated with GSI change scores and was thus included as a covariate in the final ANCOVA. As with the GDS, the same intervention participant had clearly outlying scores at midpoint and post-intervention (endorsed no items at midpoint and all as "extremely" at post-intervention) and was not included in the analysis. The results of the ANCOVA showed no significant effect of group assignment on GSI change scores from baseline to post-intervention (F [1,42]= 2.93, p= .09). A follow up ANCOVA was run with only participants with data from at least 2 assessment points. (Midpoint

scores were carried forward for patients with no post-intervention data.) One participant assigned to the intervention group who completed follow-up assessments but did not attend any intervention sessions was excluded. The participant mentioned above with outlying scores was also excluded. This yielded a final sample size of 32 participants (17 control, 15 intervention). The results of this ANCOVA also revealed no significant effect of group assignment on GSI change scores from baseline to post-intervention (F [1, 29]= 1.46, p= .24). An additional ANCOVA was run with completers (only those participants with both baseline and post-intervention BSI scores). This analysis had a sample size of 28 participants (14 control, 14 intervention). The results of this ANCOVA also revealed no significant effect of group assignment on GSI change scores from baseline to post-intervention (F [1, 25]= .80, p= .38). BSI GSI means and SDs for the entire sample are presented in Table 3. Means and SDs for participants with at least 2 assessment points are presented in Table 4. Means and SDs for completers (baseline and post-intervention) are presented in Table 5.

A secondary aim was to assess the influence of initial psychopathology, cognitive status, and physical illness severity on change in psychopathology for participants in the BATD group. Multiple regression was used to evaluate this aim, with initial psychopathology score, cognitive status, and physical illness severity entered as independent variables and psychopathology change score (from baseline to post-intervention) entered as the dependent variable. The model was not significant (F [3,18]= 1.41, p=.27, Adjusted R squared= .06).

Table 3

Group Means and Standard Deviations for Full Sample (Full ITT used)

FULL ITT	Baseline Mean (SD)	Midpoint Mean (SD)	Post-intervention Mean (SD)
GDS Score (N=49)			
Control	14.40 (5.48)	12.52 (6.63)	10.32 (6.57)
Intervention	15.29 (5.62)	12.46 (6.97)	12.13 (7.95)
BSI Score (N=46)			
Control	0.96 (0.85)	0.63 (0.59)	0.67 (0.62)
Intervention	0.68 (0.69)	0.74 (0.77)	0.74 (0.69)

Table 4

Group Means and Standard Deviations for Participants with at least 2 Assessments

2+ ASSESSMENTS	Baseline Mean (SD)	Midpoint Mean (SD)	Post-intervention Mean (SD)
GDS Score (N=35)			
Control	14.35 (5.69)	12.0 (6.96)	9.25 (6.54)
Intervention	14.67 (5.52)	10.13 (6.64)	10.0 (8.36)
BSI Score (N=32)			
Control	1.05 (0.89)	0.61 (0.56)	0.66 (0.60)
Intervention	0.64 (0.65)	0.73 (0.76)	0.68 (0.62)

Table 5

Group Means and Standard Deviations for Completers

COMPLETERS	Baseline Mean (SD)	Midpoint Mean (SD)	Post-intervention Mean (SD)
GDS Score (N=31)			
Control	14.83 (5.80)	12.89 (6.73)	9.83 (6.62)
Intervention	14.77 (5.73)	10.69 (6.63)	10.54 (8.61)
BSI Score (N=28)			
Control	1.06 (0.92)	0.63 (0.60)	0.69 (0.64)
Intervention	0.66 (0.67)	0.68 (0.77)	0.67 (0.64)

Treatment Implementation Results

Treatment implementation consisted of 3 components—treatment delivery, treatment receipt, and treatment enactment. Treatment implementation results are presented in Table 6. Although analyses for Aims 1 and 2 did not reveal significant effects of the intervention on depression and psychopathology change scores, treatment implementation results revealed that difficulties with treatment receipt and enactment prevented a fair test of the intervention. Thus, the results are considered reflective of logistical difficulties in implementing the treatment rather than evidence of a true lack of effect of BATD.

Treatment Delivery. Treatment delivery included ratings of both the therapist's competence in delivering the intervention and adherence to the treatment protocol. Both competence and adherence were excellent, with ratings of 87% and 89%, respectively.

Treatment Receipt. Intervention participants attended an average of 3 out of 8 group sessions (SD=3.5, range=0-8, 37.5%). 14 of 25 patients from the intervention group completed a BATD Knowledge Quiz. Patients who left the study early or did not attend any groups did not complete this measure. Unfortunately, retention of information presented in the groups was poor. The mean score was only 12.5% retention (SD=27.3, range=0-100).

Treatment Enactment. Treatment enactment was conceptualized as the percentage of engagement in planned activities. This percentage was also below expectation. Participants had a mean enactment score of 48% (SD=33.1, range=0-100).

Table 6

Treatment Implementation Percentages

Treatment Implementation	Results
Receipt	
Attendance	37.5%
BATD Knowledge	12.5%
Enactment	48%
Therapist Delivery	
Adherence	89%
Competency	87%

Discussion

The present study was designed to examine the effect of a group BATD intervention on depressive symptoms and general reported psychopathology. Participants were older adults (mean age=72.2) who were hospitalized at an inpatient geriatric psychiatry facility. Despite non-significant findings, the facility remains interested in further study of BA interventions, while working to reduce institutional barriers to treatment.

Regarding Aim 1, the BATD intervention tested in this study was not successful at alleviating depressive symptoms over and above the effects of hospital treatment as usual. Additionally, there was no effect of initial depression score, initial psychopathology score, physical illness severity, and cognitive status on change in depressive symptoms for participants in the intervention group. Thus the hypotheses for both the primary Aim 1 and the secondary aim were not supported. Results of this study contrast with findings from previous studies of individual BATD in inpatient settings. Hopko and colleagues (Hopko, Lejuez, Lepage, et al., 2003) found that patients receiving a 2-week individual BATD protocol demonstrated significantly lower depression scores post-treatment than patients receiving supportive psychotherapy only. In a study with geriatric inpatients in the same facility as the present study, Snarski (2008) found a 4-week BATD protocol to produce a significant effect on post-treatment depression scores over and above the effects of hospital treatment as usual. However, there appear to be several potential explanations for the lack of effect observed in the present study. First, attendance at BATD group sessions was limited, with average attendance only 3 out of 8. Thus, patients received a limited dosage of therapy. Second, patient scores on measures of

treatment receipt (BATD Knowledge Quiz) and treatment enactment (homework completion) were both below expectation. Poor Knowledge Quiz scores and homework completion may have arisen from limited attendance at sessions. In addition to limited exposure to treatment, cognitive impairment may have prevented some patients from fully understanding and retaining treatment principles. The impact of cognitive impairment on group therapy is discussed in greater detail below. In the present study, BATD groups were held at specifically scheduled times each day. Although care was taken to schedule groups at a time when most participants would be available, patients still experienced occasional schedule conflicts (e.g., physician appointments, visits with family). Patients also sometimes elected not to attend groups at the scheduled times due to reported physical sickness or fatigue. Studies in inpatient psychiatric facilities utilizing individual therapy (Hopko, Lejuez, Lepage, et al., 2003; Snarski, 2008) were able to schedule sessions at times most convenient for each participant, thus maximizing attendance. Some participants also reported concerns about conflict with other group members, thus limiting their attendance at sessions. This would not be a concern in individual therapy.

It is notable that a number of participants in the study had cognitive impairment. Participant cognitive impairment may have contributed to the poor retention of intervention information and enactment of chosen activities observed in this study. Additional research is needed to determine the level of cognitive impairment at which an individual can no longer meaningfully engage in psychotherapy (Scholey & Woods, 2003). Strategies to maximize learning include providing information at a slower pace, controlling the environment to minimize distractions, and providing instructions in multiple modalities (Camp, Cohen-Mansfield, & Capazuti, 2002; Gwyther, 1994; Teri & Gallagher-Thompson, 1991). Unfortunately, the group sessions were held in TV rooms on the inpatient units, as these were the only rooms available to project staff.

Distractions were sometimes a problem, which may have interfered with understanding of group material. Although providing information at a slower pace and providing instructions in multiple modalities were attempted, these practices may need further refinement for future trials with this population. Notably, group therapy sessions made it difficult to accommodate individuals with a variety of levels of cognitive functioning. Strategies typically used to maximize learning in individuals with dementia, such as repetition of material, were more difficult to implement with a mix of individuals at different levels of functioning.

One option for the geriatric psychiatry inpatient population may be a protocol that combines sessions with mental health consultants (such as psychology staff) with already existing facility services. Recent work by Meeks and colleagues has evaluated a protocol called BE-ACTIV in both a traditional nursing home and a prison nursing home (Meeks, Looney, et al., 2008; Meeks, Sublett, et al., 2008). In the BE-ACTIV protocol, mental health consultants meet individually with residents to assess current engagement in pleasant activities, identify activities that residents would like to begin or increase, and monitor ongoing activity participation. Mental health consultants work with facility activities staff to implement chosen activities and minimize barriers to activity engagement. Although length of the protocol would need to be shortened for an inpatient psychiatry setting, a modification of this protocol may maximize engagement in treatment through direct involvement of activities staff. These staff may be able to better orient patients to activities that are available to them in the facility and may be able to facilitate new activities requested by patients. Moreover, they may be able to encourage patients to participate in chosen activities and to remove many barriers to successful engagement in activities, enhancing treatment enactment. For more severely cognitively impaired patients, involvement of direct care staff may be helpful in increasing engagement in pleasant activities. These front-line

staff are likely to notice activities in which patients demonstrate increased positive and reduced negative affect and may be able to help identify potential pleasant activities for patients. Nursing assistants in long-term care facilities have demonstrated the ability to learn and implement interventions targeting a variety of outcomes including: improving communication with residents (Burgio, et al., 2001), pain assessment (Fisher, 2006), and behavioral treatment of dementia (Burgio, et al., 2002; Lichtenberg, Kemp-Havican, MacNeill, & Johnson, 2005). Family caregivers also have been successfully trained to implement a pleasant events-based intervention for individuals with dementia (Teri, et al., 1997). It would be useful to extend this intervention work to the state hospital setting by involving direct care staff (mental health workers) in treatment.

In regards to the exploratory analysis (Aim 2), which was to examine the effect of the BATD intervention on global psychopathology scores, the intervention did not lead to significant change. This finding could be related to the above-mentioned limitations, or a BATD protocol may truly be ineffective at improving global psychopathology scores. Some previous research has shown that engagement in pleasant activities may be useful at alleviating psychopathology such as anxiety and psychosis. However, these studies have often utilized case study designs (Hopko, Lejuez, & Hopko, 2004; Jakupcak, et al., 2006) or studied coping in well-functioning individuals with mental illness, such as psychosis (Carr, 1988; Carter, et al., 1996; Hayashi, et al., 2007). Thus, future trials of behavioral activation therapies are needed which utilize larger sample sizes and randomized, controlled designs. To objectively test the effect of behavioral activation on global psychopathology, future studies should seek to maximize session attendance, understanding of session material, and homework completion. Additionally, it may

be useful to isolate specific domains of psychopathology, such as anxiety or psychotic symptoms, rather than strictly examining a global psychopathology score.

Limitations and Future Directions

This study has some limitations that should be addressed. First, the study utilized a relatively small sample size of 50 participants. Although the study was powered to detect a large effect, a smaller effect size might have been missed. Additionally, this study consisted of a heterogeneous sample of patients with few exclusion criteria. It may be useful to examine more homogeneous samples to determine which patients are most likely to benefit from BATD. However, the present study likely had higher external validity due to a wide variety of patients than a more restricted sample.

A second limitation was study attrition. Only 23 participants completed both the GDS and the BSI at all three assessment points. 31 participants completed the GDS at both baseline and final, and 27 participants completed the BSI at both baseline and final. Participants left the study for a variety of reasons, including discharge from the facility, medical hospitalization, and request to discontinue. Since previous research in the setting (Snarski, 2008) revealed that many participants were released from the hospital before completing a 4-week intervention, a 2-week intervention was utilized. However, attrition continued to be a problem within this setting. The intervention was delivered in a group therapy format, with 5 participants out of a wave of 10 randomized to attend the therapy groups. Patients recruited in the early part of a wave sometimes were required to wait 2-3 weeks to begin therapy groups, as time was needed to recruit an adequate number of participants. Thus, some participants were released from the hospital during the total 4-5 week time required. Additionally, although a number of patients were released from the hospital prior to study completion, a number of patients also elected to withdraw from the

study even though they remained hospitalized. Some patients became too physically ill to continue, whereas others disliked attending groups or became resistant to all hospital treatments. Only one patient in Snarski's (2008) study withdrew from the study while remaining hospitalized. Participants in that study may have been less physically ill, more stable psychiatrically, or found individual therapy more acceptable. Although specific measures of her participants' physical and psychiatric illness severity are not available, certain evidence indications that they may have been less ill than participants in the present study. None of the participants in her study withdrew due to physical illness; the majority was discharged from the facility, and only one chose to withdraw. Participants in her study were required to be free of active psychosis, whereas the participants in this study were not required to be free of psychosis as long as they could attend group sessions without the risk of harm to other patients. The presence of active psychotic symptoms may have made it more difficult for participants in the present study to attend and engage in therapy groups and to engage in follow-up assessments.

An additional limitation is a lack of long-term follow up after the active phase of the study ended. Study participants completed their final assessment at the end of the 2-week intervention period. It is possible that participants in the intervention group continued to engage in pleasant activities after the BATD groups ended. Thus, follow-up assessments at later time points might have revealed group differences on measures of depression and global psychopathology. Additionally, continued support of activity engagement after discharge may be necessary to maximize gains and reduce readmissions in this vulnerable population. Patients are generally discharged to the care of a community mental health center or private psychiatrist, which might be a useful contact for continuing follow-up. Although long-term follow-up would prove difficult, it would certainly be worthwhile due to the richness of data and potential gains

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for patients that it would produce. On a related note, only the BSI and GDS were used as outcome measures in the present study. Future studies may consider use of additional measures to assess outcomes. An important outcome to consider is activation. Since overt activation has been proposed as the mechanism of change in BA interventions, it would be helpful to examine changes in activation as a result of the intervention. Hopko's research group has found daily diaries to be a useful method of tracking daily activity participation (Hopko & Mullane, 2008). However, pilot research found daily diaries to be too burdensome for this population. A potential alternative is the Behavioral Activation for Depression Scale (Kanter, Mulick, Busch, Berlin, & Martell, 2007; Kanter, Rusch, Busch, & Sedivy, 2009), which was designed to measure changes in activation and avoidance over the course of treatment. It consists of 25 items grouped into 4 subscales: Activation, Avoidance/Rumination, Work/School Impairment, and Social Impairment. Items are rated on a 7-point scale. Higher-functioning patients may be able to complete this scale, and a wider selection of patients may be able to complete it if the directions are read aloud, and patients are provided with a response card. The Environmental Reward Observation Scale may also be a useful measure of determining the amount of perceived environmental reward experienced by patients (Armento & Hopko, 2007). This scale consists of 10 items rated on a Likert scale (1= strongly disagree to 4=strongly agree). It is designed to measure perceived frequency and subjective value of pleasant events. The Pleasant Events Schedule-Nursing Home (PES-NH; Meeks, Shah, & Ramsey, 2009) may also be a useful measure of participation in pleasant/rewarding events. The PES-NH, a 30-item scale, may be particularly useful given that activities available in nursing homes may be somewhat similar to activities available in a geriatric psychiatry center.

Although the results of the study were not statistically significant, logistical difficulties encountered in this study provide important information about needed modifications to improve BATD interventions in the setting. A group therapy modality was chosen for the present study due its frequent use in inpatient psychiatry facilities. However, individual therapy may be a more suitable modality for this population, as it will better ensure that each patient's needs are met. For instance, patients with dementia may benefit from increased repetition of treatment concepts. Also, individual sessions would increase patients' ability to meet at convenient times of day and would prevent the conflict with other group members that was observed in this study. A previous study of BATD in the facility (Snarski, 2008) did not demonstrate the difficulties with session attendance, understanding and retention of material, and practice of study concepts that were observed in the present study. Additionally, integration of the BATD sessions with other facility groups and activities might also help to increase treatment receipt and enactment. Other group sessions, as well as meetings with physicians and social workers, could reinforce concepts discussed in the BATD protocol and encourage progress toward goals. Facility activities staff could also work with patients to meet their goals and engage in planned activities.

Notably, Harper Center remains interested in continuing research on BA therapies within their facility. Consultations with psychology staff and administrative staff are currently in progress to plan a future study that will continue to refine BA interventions for the site. The planned study will combine psychology staff intervention with collaboration from activities staff. Assessment of staff perspectives will help to develop a study that maximizes effectiveness for patients, utility for the setting, and patient receipt and enactment of intervention components.

Conclusions

Although BA interventions appear promising in some studies with certain populations, additional research is needed to develop protocols that are effective and acceptable to specific populations (such as geriatric inpatients) and easily implemented by facility staff. Future studies planned at the Harper Center will further elucidate the most appropriate interventions for this population.

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Appendices

Appendix A

Informed Consent

The University of Alabama
Informed Consent for a Research Study

You are being asked to take part in a research study here at the Harper Center. This study is called <u>Behavioral Activation Group Therapy for Older Psychiatric Inpatients</u>. The study is being done by Misti Norton. Mrs. Norton is a doctoral student at The University of Alabama. Her supervisor is Dr. Martha Crowther. Dr. Crowther is a professor at The University of Alabama. She is also a licensed clinical psychologist in the state of Alabama.

The study is being paid for by a grant from the Center for Mental Health and Aging at The University of Alabama.

What is the purpose of this study?
The purpose of the study is to test a behavioral activation treatment here at the Harper Center. The researchers want to see if the treatment will make symptoms of depression better. They also want to see if it will make general emotional distress better. Behavioral activation involves keeping track of activities that you do that are rewarding to you. You will also track how your mood changes as you do these activities. Other research shows that behavioral activation is a promising treatment. However, more work is needed with older inpatients at psychiatric hospitals. This study will test behavioral activation group therapy. That is important since groups are the usual way of doing therapy in state hospitals.

Why have I been asked to take part in this study?
Harper Center staff may have said that you might be eligible for the study. That is most likely because you have symptoms of depression. You also may have told someone that you are interested in the study.

Are the researchers making any money from this study?
The grant from the Center for Mental Health and Aging pays for supplies for the study. The researchers who carry out the study are not paid for it.

How many people besides me will be in this study?
50 patients will be involved in this study. 25 will be in the treatment group. 25 will be in the control group. If you are in the treatment group, you will participate in group therapy sessions with 4 other patients.

What will I be asked to do in this study?
If you agree to participate, you will be randomly assigned to one of two groups. In the treatment group, you will attend therapy groups for two weeks with other patients at Harper Center. You will also complete some questionnaires. In the control group, you will not attend groups but will be asked to complete some questionnaires over a two week period. We want to see if the behavioral activation therapy is more helpful than hospital treatment as usual. For both groups, research assistants will collect some information from your medical chart (described below).

If you are in the **control** group, you will be asked to do these things:

Questionnaires
We will first ask you to complete 2 questionnaires. One is about your mood. The other will test your thinking and memory. These measures will tell us if you are eligible to participate in the study. If so, we will ask you to complete both measures 2 more times. We will ask you to complete a questionnaire about symptoms you may be having. You will complete this questionnaire 3 times.   You will complete the questionnaires one week apart each time.

Chart Information
We will collect some information from your medical chart. We will collect information like your age, how long you have been at Harper Center, and primary diagnosis.   They will collect information about physical illnesses that you may have. They will also collect information about your participation in other groups here at Harper Center.

A law requires you to sign a separate form that lets us take information from your medical chart.   The reason for this law is to protect your information about your personal health. You will be asked to sign this other form after you sign this form.

If you are in the treatment group, you will be asked to do these things:

All of the activities completed by the control group plus the activities described below.

Intervention
We will ask you to participate in behavioral activation group therapy sessions here at Harper Center. You will attend the group four days per week for two weeks. You will be in the group with 4 other patients at Harper Center. Each group session will last 30 minutes. The groups will be led by graduate students in clinical psychology at The University of Alabama.
- Sessions 1 and 2
    - You will receive an overview of the therapy.
    - You will also complete a Life Areas Assessment in which you set goals for yourself. You will set goals in areas like Social and Family Relationships, Hobbies and Leisure Activities, and Spirituality. You may choose the areas in which you want to set goals. You will then make a list of activities to try based on your goals.

- Sessions 3-8
    - You will be asked to work your way through this list of activities. You should try to do each activity that you choose. You will be asked to keep a record of your activities.

Will being in this study cost me anything?

You do not have to pay anything for the study. Your only cost will be your time spent in therapy groups and completing questionnaires.

How much of my time will the study take?
Control Group:
You will complete questionnaires three times. You will complete the questionnaires one week apart. The set of questionnaires will take about 30 minutes to complete each time.

Treatment Group:
You will complete questionnaires three times. You will complete the questionnaires one week apart. The set of questionnaires will take about 30 minutes to complete each time.

You will also attend group sessions four times per week for two weeks. Each group will last 30 minutes. You are encouraged to spend time outside of group completing your chosen activities. The time spent will depend on the activities that you have chosen. The amount of time spent on activities outside of the group sessions is your choice.

What are the benefits for me if I participate in this study?
We expect that you will experience more benefits than risks from participating in this project. The results of your assessments will be made available to your treatment team to aid in treatment planning. If you are in the treatment group, this study will help you to plan personally rewarding activities each day.   We expect that this will help you manage symptoms of depression and other types of emotional upset. Although we can not be certain of the outcome of participation, the behavioral activation program may make your symptoms better.

What are the benefits to society if I participate?
This study will test a behavioral activation intervention within the hospital. If found to be effective, behavioral activation could be a useful intervention for Harper Center and similar hospitals. It could be used to make symptoms better and help patients to be active participants in their treatment.

Participation will not affect your release from Harper Center in any way.

What are the risks for me if I participate in this study?
There are few risks involved. You may feel frustrated or tired when completing questionnaires. However, the questionnaires are brief, and the discomfort is expected to be brief as well.

You may be uncomfortable sharing your goals and planned activities with other group participants. However, you will not be expected to share intensely personal information. You will only discuss activities you would like to do and whether you have been able to do them each day. If you are too uncomfortable in the group, you may talk privately with the therapist to decide what to do.

You may experience some discomfort as you review your life and think about goals that you have not met. However, we consider this risk to be minimal. The focus will be on what you would like to do in your life right now. If you become distressed, the therapist will meet with you privately to determine the best course of action. Research staff can refer you to other forms of group and individual therapy at Harper Center that will help you accept your past and plan for your future.

Participation in this study will not affect your release from Harper Center in any way.

How will my privacy be protected?
No forms and questionnaires will have your name on them. They will just have a number.

The therapist will not share information discussed in group. There are exceptions listed below. All participants in the treatment group are asked not to discuss other patients' experiences with people outside the group. You may discuss your own experiences with anyone you choose.

Therapy groups will be tape-recorded. It is important to note that this recording is not to evaluate you. It is to ensure that the therapist is doing his or her job.

All audio tapes and forms will be kept in a locked file cabinet at The University of Alabama (Gordon Palmer Hall, Room 403). Only researchers who are directly involved in the study will have access to this information.

Exception: If any researchers involved in the study become aware that you plan to hurt yourself or someone else, they must tell your psychiatrist.

What other treatment choices do I have?
Your treatment team at Harper Center will treat your depression regardless of whether you participate in the study. You may participate in all activities and treatments available at Harper Center that are approved by your treatment team.

What are my rights as a participant?
Taking part in this study is your free choice. You may choose not to take part at all. If you start, you may stop at any time. There is no penalty for leaving the study early.

We may remove you from the study if they believe that participation is harmful to you. Your treatment team may also remove you from the study.

The University of Alabama Institutional Review Board (IRB) is the committee that protects the rights of people in research studies. The IRB may review study records from time to time. They want to be sure that people in research studies are being treated fairly. They also want to make sure the study is being carried out as planned.

Who do I call if I have questions or problems?
If you have questions about the study right now, please ask them. If you have questions about the study later, please call Misti Norton. Her number is 348-2587. Dr. Mike Mundy or Mrs. Dusty Walker can also call Mrs. Norton for you. If you have questions about your rights as a research participant, you may call Ms. Tanta Myles. Her phone number is (205) 348-5152. She is The University of Alabama Research Compliance Officer.

I have read the consent form. This study has been explained to me. I understand what I will be asked to do. I freely agree to take part in the study. I will receive a copy of this consent form to keep.

_____   _____
Signature of Research Participant   Date

_____   _____
Signature of Person obtaining Consent   Date

_____   _____
Signature of Investigator   Date

Appendix B

Script for Informing Patients of Ineligibility to Participate

Script for Informing Patients of Ineligibility to Participate

This is as far as we are going to go with the study today. We just asked you questions about your mood over the past week, and we also briefly tested your thinking and memory skills.

If patient does not meet criteria based on GDS score…

You are not eligible to participate in the study, because we are looking for someone with more depressive symptoms. These questions are just one way to check your depressive symptoms. If you feel that you need help with depression, you may talk to your psychiatrist, Dr. Coleman/Zafra. I can also refer you to the Psychology Groups *Mental Health* and *Dealing with Moods and Anxiety*. Would you like to attend either of those groups?

If patient does not meet criteria based on TICS-m score…

You seemed to have some difficulty with the questions testing your thinking and memory skills. People may have difficulty with questions such as these for a variety of reasons. It is important for you to understand that we can *not* tell with this test why you had some difficulty. We recommend that you talk with your psychiatrist, Dr. Coleman/Zafra about whether there is a need for more tests of your memory.

Appendix C

Release of Information Form

Release of Information

I _____ authorize Mrs. Misti Norton to speak with my

psychiatrist _____ here at the Harper Center. I understand that

she will speak to him/her about my ability to provide informed consent for a research

study. I understand that I am not obligated to participate even if my psychiatrist says

that I am able to provide consent.

Patient Signature _____ Date_____

Investigator Signature _____ Date _____

Appendix D

Medical Records Authorization Form

THE UNIVERSITY
OF
ALABAMA

RESEARCH STUDY: BEHAVIORAL ACTIVATION GROUP THERAPY FOR
OLDER PSYCHIATRIC INPATIENTS

Title: Authorization For Use or Disclosure of Health Information

I hereby authorize the use or disclosure of my individually identifiable protected health information ("PHI") as described below. Unless explicitly excluded, this Authorization includes any information relating to drug and/or alcohol abuse/treatment, communications with psychiatrists or psychologists or records pertaining to sexually transmitted diseases, if they are a part of my medical record. I understand that this authorization is voluntary. Once this information has been disclosed, it may be subject to redisclosure and may no longer be protected by federal privacy regulations.

Patient name: _____   **Chart Number:** _____
Patient SSN: _____-_____-_____   **Patient DOB:** _____/_____/_____
Persons/organizations providing the information: **Persons/organizations receiving the information:**
_____   Behavioral Activation Research Group, UA Dept of
                                                       Psychology:
_____   Misti Norton, Principal Investigator

Specific description of information (including date(s)): (more detailed description of information may be attached)
Information pertaining to patient's psychiatric and medical diagnoses, demographic information (age, gender, race, length of hospital stay, number of previous hospitalizations, and patient activities at the Harper Center will be taken from chart.

Release Information By: Mail:( ) yes   ( ) no   Telephone: ( ) yes   ( ) no   Other: (X) yes   ( ) no
                             Fax: ( ) yes   ( ) no   Email: ( ) yes   ( ) no

Purpose of Use or Disclosure: (individual may indicate "at the request of the individual")

To determine patient physical illness severity and psychiatric illness severity and assess its effect on treatment outcome
To determine patient demographic information. To determine patient's participation in other therapeutic activities at Harper Center that may impact treatment outcome.

If for marketing, will the Behavioral Activation research group receive payment/benefit from the third party receiving the PHI? __Yes __No _X_N/A

Authorization Expiration Date or Event: January 11, 2009
(NOTE: After this date or event has passed, this authorization to use/disclose will no longer be valid.

The patient or the patient's representative must read and initial the following statements:

Initials: _____I understand that I may revoke this Authorization at any time by notifying Behavioral Activation Research Staff in writing, but if I do, it will not have any affect to the extent research staff took action in reliance on the Authorization.

Initials: _____I understand that The Behavioral Activation Research Group and Harper Center may not condition the provision of treatment, payment, enrollment in a health plan, or eligibility for benefits on signing this Authorization, except under the following circumstances:
- participating in research projects can be conditioned on my signing an Authorization to use and disclose PHI in the research

Signature of patient or patient's representative: _____Date:_____

Printed Name of patient's representative: _____

Relationship to the patient/description of authority to act for patient: _____

70

Appendix E

Geriatric Depression Scale (GDS)

GERIATRIC DEPRESSION SCALE (GDS)

CHOOSE THE BEST ANSWER FOR HOW YOU FELT THIS PAST WEEK

CIRCLE ONE

* 1. Are you basically satisfied with your life?   yes   NO
 2. Have you dropped many of your activities and interests?   YES   no
 3. Do you feel that your life is empty?   YES   no
 4. Do you often get bored?   YES   no
* 5. Are you hopeful about the future?   yes   NO
 6. Are you bothered by thoughts you can't get out of your head?   YES   no
* 7. Are you in good spirits most of the time?   yes   NO
 8. Are you afraid that something bad is going to happen to you? YES   no
* 9. Do you feel happy most of the time?   yes   NO
 10. Do you often feel helpless?   YES   no
 11. Do you often get restless and fidgety?   YES   no
 12. Do you prefer to stay at home, rather than going out and doing new things? YES   no
 13. Do you frequently worry about the future?   YES   no
 14. Do you feel you have more problems with memory than most? YES   no
*15. Do you think it is wonderful to be alive now? yes   NO
 16. Do you often feel downhearted and blue?   YES   no
 17. Do you feel pretty worthless the way you are now? YES   no
 18. Do you worry a lot about the past?   YES   no
*19. Do you find life very exciting?   yes   NO
 20. Is it hard for you to get started on new projects? YES   no
*21. Do you feel full of energy?   yes   NO
 22. Do you feel that your situation is hopeless?   YES   no
 23. Do you think that most people are better off than you are? YES   no
 24. Do you frequently get upset over little things? YES   no
 25. Do you frequently feel like crying?   YES   no
 26. Do you have trouble concentrating?   YES   no
*27. Do you enjoy getting up in the morning?   yes   NO
 28. Do you prefer to avoid social gatherings?   YES   no
*29. Is it easy for you to make decisions?   yes   NO
*30. Is your mind as clear as it used to be?   yes   NO

*Appropriate (nondepressed) answers = yes, all others= no
 or count number of CAPITALIZED (depressed) answers

Score: _____ (Number of "depressed" answers)

Appendix F

Telephone Interview for Cognitive Status-modified (TICS-m)

TELEPHONE INTERVIEW FOR COGNITIVE STATUS – MODIFIED (TICS-M)

I would like to ask you some questions to check your memory and concentration. Some of the questions may be easy and some will be harder. Take your time if you need to. We can skip over questions if you don't understand them.

1. **Please tell me your full name.** (Prompt: **Your name as it appears on your birth certificate.**)
    You may ask the client to provide his first or last name if he does not provide both automatically.

		Circle:	Correct	Incorrect	DK	Refused
First:	_____		1	0	7	8
Middle:	_____		1	0	7	8
Last:	_____		1	0	7	8

		Circle:	Correct	Incorrect	DK	Refused
2. **What is your age?**	Age _____		1	0	7	8

3. **Without looking at a calendar or watch, what is today's date?**

			Correct	Incorrect	DK	Refused
Month:	_____		1	0	7	8
Day:	_____		1	0	7	8
Year:	_____		1	0	7	8

4. **What day of the week is it?**

		Correct	Incorrect	DK	Refused
_____		1	0	7	8

5. **What season is it?**

		Correct	Incorrect	DK	Refused
_____		1	0	7	8

6. **Without looking at your phone, can you tell me your phone number?**

Correct	Incorrect	DK	Refused
1	0	7	8

Maximum of two attempts on Item # 7:

7. **Now I would like you to count backwards from 20 to 1.**

	Correct	Incorrect	DK	Refused
	2	0	7	8

Indicate Errors:
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

Administer a 2nd time if 1st attempt was incorrect:
OK. Let's try this one more time.

	Correct	Incorrect	DK	Refused
	1	0	7	8

Indicate Errors:
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

8a. **Now I'm going to read you a list of 10 words. Please listen carefully. When I am done, tell me as many words as you can, in any order. [Please do not write anything down.] I will read the list only once. If you don't understand a word, that's all right. Just try to repeat what you heard. If you're ready, I'll begin.**

(You can repeat the instructions but not the word list. Read the words at the rate of one word every two seconds.)

The words are:

Cabin…….Pipe……..Elephant……..Chest……..Silk…….. Theatre……..Watch……..Whip……..Pillow……..Giant

Now please repeat the words that you remember.

(Record all words up to 20 words even if not on the list. Only the words from the list are scored as correct. Repeated words are recorded but not scored.)

1_____	6_____	11_____	16_____
2_____	7_____	12_____	17_____
3_____	8_____	13_____	18_____
4_____	9_____	14_____	19_____
5_____	10_____	15_____	20_____

TOTAL OF CORRECT RESPONSES (Max. of 10 pts.): _____

Was the client speaking nonsense words?   Circle: Yes   No

		Correct	Incorrect
9.	**Please subtract 7 from 100 and then subtract 7 from that number until I tell you to stop.**	1_____	1	0
	Record exact responses. Do not inform client of errors. Stop client after five responses. If client refuses to complete the task ask them: "What is 100-7?" Record the response. Then say: "Subtract seven from that number." Record each response. If the client refuses to continue after first response, score remaining	2_____ 3_____ 4_____ 5_____	1 1 1 1	0 0 0 0

items as incorrect.

[If Item 1 <5, then: **Spell WORLD. Now spell WORLD backward.**]

(1 pt for each letter in the correct position.)

____ ____ ____ ____ ____ = _____
 D   L   R   O   W   (0-5 pts)

		Correct	Incorrect	DK	Refused
10.	**What do people usually use to cut paper?** (Accept only "scissors" or "shears" as correct.)	1	0	7	8
11.	**How many things are in a dozen?** (Accept only "12" as correct.)	1	0	7	8
12.	**What do you call the kind of prickly plant that lives in the desert?** (Accept only "Cactus" or a kind of cactus, e.g. "Prickly Pear" as correct.)	1	0	7	8
13.	**What animal does wool come from?** (Accept only "sheep" or "lamb" as correct.)	1	0	7	8
14.	**Please say this exactly as I say it:** **"No ifs, ands, or buts."**	1	0	7	8
15.	**Say this: "Methodist Episcopal."** (Listen carefully. Each word must be said clearly and distinctly. Eg. Methodis Epistopal would be scored as incorrect.)	1	0	7	8

16. **Who is the President of the United States right now?**

		Correct	Incorrect	DK	Refused
	First: _____	1	0	7	8
	Last: _____	1	0	7	8

17. **Who is the current Vice-President?**

		Correct	Incorrect	DK	Refused
	First: _____	1	0	7	8
	Last: _____	1	0	7	8

		Correct	Incorrect	DK	Refused
18.	**With your finger, please tap 5 times on the part of the phone that you speak into.** [or **With your finger, please tap 5 times on the top of the table.**]	1	0	7	8

For Item # 18: Do not repeat the instructions. You may say, **"Just try to do what you think I said."**)

19. **Now I'm going to say a word and I want**   1   0   7   8
    you to say its opposite. For example, I
    might say "hot" and you would say "cold."
    What is the opposite of "east"?
    (Accept only "west" as correct.)

20. **What is the opposite of "generous"?**   1   0   7   8

    Score any of the following as correct:

NIGGARDLY	SELFISH	MISERLY	NOT GENEROUS	SPARSE
SCROOGE	GREEDY	MEAN	UNGENEROUS	CHINTZY
TIGHTWAD	STINGY	MEAGER	PENURIOUS	FRUGAL
HOARDING	TIGHT	SKIMPY	PARSIMONIOUS	SCOTCH
RESTRICTIVE	SKINFLINT	CHEAP		

    Record any other word: _____

21. **A few minutes ago, I read you a list of ten words and asked you to repeat them back**
    to me. Please tell me all of those words you can still remember.

    1_____   6_____   11_____   16_____

    2_____   7_____   12_____   17_____

    3_____   8_____   13_____   18_____

    4_____   9_____   14_____   19_____

    5_____   10_____   15_____   20_____

    TOTAL OF CORRECT RESPONSES (Max. of 10 pts.): _____

    Was the client speaking nonsense words? Circle: Yes   No

    TICS-M TOTAL SCORE :   _____

Appendix G

Brief Symptom Inventory (BSI)

Brief Symptom Inventory

Read each item carefully and indicate the answer that best describes how much that problem has distressed or bothered the participant during the past 7 days including today. Do not skip any items. If they change their mind, change your first mark and then fill in their new choice.

HOW MUCH WERE YOU DISTRESSED BY:
0 = Not At All, 1 = A Little Bit, 2 = Moderately, 3 = Quite A Bit, 4 = Extremely

1. Nervousness or shakiness inside
2. Faintness or dizziness
3. The idea that someone else can control your thoughts
4. Feeling others are to blame for most of your troubles
5. Trouble remembering things
6. Feeling easily annoyed or irritated
7. Pains in heart or chest
8. Feeling afraid in open spaces or on the streets
9. Thoughts of ending your life
10. Feeling that most people cannot be trusted
11. Poor appetite
12. Suddenly scared for no reason
13. Temper outbursts that you could not control
14. Feeling lonely even when you are with people
15. Feeling blocked in getting things done
16. Feeling lonely
17. Feeling blue
18. Feeling no interest in things
19. Feeling fearful
20. Your feelings being easily hurt
21. Feeling that people are unfriendly or dislike you
22. Feeling inferior to others
23. Nausea or upset stomach
24. Feeling that you are watched or talked about by others
25. Trouble falling asleep
26. Having to check and double-check what you do
27. Difficulty making decisions
28. Feeling afraid to travel on buses, subways. or trains
29. Trouble getting your breath
30. Hot or cold spells
31. Having to avoid certain things, places, or activities because they frighten you
32. Your mind going blank
33. Numbness or tingling in parts of your body
34. The idea that you should be punished for your sins
35. Feeling hopeless about the future
36. Trouble concentrating
37. Feeling weak in parts of your body

38. Feeling tense or keyed up
39. Thoughts of death or dying
40. Having urges to beat, injure, or harm someone
41. Having urges to break or smash things
42. Feeling very self-conscious with others
43. Feeling uneasy in crowds, such as shopping or at a movie
44. Never feeling close to another person
45. Spells of terror or panic
46. Getting into frequent arguments
47. Feeling nervous when you are left alone
48. Others not giving you proper credit for your achievements
49. Feeling so restless you couldn't sit still
50. Feelings of worthlessness
51. Feeling that people will take advantage of you if you let them
52. Feelings of guilt
53. The idea that something is wrong with your mind

Appendix H

Charlson Comorbidity Index

Charlson Comorbidity Index

Condition	Assigned Weight	Present/Absent	Score
Mycocardial Infarct	1	Present/Absent	
Congestive Heart Failure	1	Present/Absent	
Peripheral Vascular Disease	1	Present/Absent	
Cerebrovascular Disease	1	Present/Absent	
Dementia	1	Present/Absent	
Chronic Pulmonary Disease	1	Present/Absent	
Connective Tissue Disease	1	Present/Absent	
Ulcer Disease	1	Present/Absent	
Mild Liver Disease	1	Present/Absent	
Diabetes	1	Present/Absent	
Hemiplegia	2	Present/Absent	
Moderate or Severe Renal Disease	2	Present/Absent	
Diabetes with End Organ Damage	2	Present/Absent	
Any Tumor	2	Present/Absent	
Leukemia	2	Present/Absent	
Lymphoma	2	Present/Absent	
Moderate or Severe Liver Disease	3	Present/Absent	
Metastatic Solid Tumor	6	Present/Absent	
AIDS	6	Present/Absent	
			Total Score _____

Appendix I

Patient Demographic Form

Patient Demographic Form

Patient ID:

Gender:

Race:

Age:

Years of Education:

Length of Hospital Stay (in Days):

Number of Previous DMH/MR Hospitalizations:

Diagnoses:

Appendix J

BATD Adherence Form

BATD – Harper Center
Therapist Adherence and Competency Ratings

Therapist _____

Date of Session _____

Session Number _____

Group Number _____

<u>**Scale:**</u>
Adherence: 0 (None) - 2 (Mild) - 4 (Somewhat) - 6 (Most) - 8 (Complete)

Competence: 0 (None) - 2 (Weak) - 4 (Good) - 6 (Very good) - 8(Excellent)

SESSION 1

1. **MOTIVATIONAL EXERCISES**

    Competence _____
    Adherence   _____

2. **PSYCHOEDUCATION**

    Competence _____
    Adherence   _____

3. **TREATMENT RATIONALE**

    Competence _____
    Adherence   _____

4. **ADDITIONAL SKILLS** – Did the therapist use any techniques/skills not included in the manual for this session?

    Yes _____   No _____
    If Yes, Please list: _____

SESSION 2

1. DAILY DIARY

    Competence _____
    Adherence   _____

2. REVIEW GOALS FOR SESSION

    Yes _____   No _____

3. ADDITIONAL SKILLS – Did the therapist use any techniques/skills not included in the manual for this session?

    Yes _____   No _____

    If Yes, Please list: _____

SESSION 3

1. Life Areas Assessment

    Competence _____
    Adherence   _____

2. REVIEW GOALS FOR SESSION?

    Yes _____   No _____

3. ADDITIONAL SKILLS – Did the therapist use any techniques/skills not included in the manual for this session?

    Yes _____   No _____

    If Yes, Please list: _____

SESSION 4

3. REVIEW GOALS FOR SESSION?

    Yes _____   No _____

4. DESIGNING Activity Hierarchy

    Competence _____
    Adherence   _____

5. DESIGNING BEHAVIORAL CHECKOUT

    Competence _____
    Adherence   _____

5. ADDITIONAL SKILLS – Did the therapist use any techniques/skills not included in the manual for this session?

    Yes _____   No _____

    If Yes, Please list: _____

SESSIONS 5-8

1. REVIEW OF PRACTICE EXERCISES (i.e., behavioral checkout)– Did the therapist "check in" regarding the patient's practice exercises?

```
 0------------1------------2------------3------------4-----------5------------6-----------7------------8
 No                 Some              Moderate          Considerable         Optimal
 Review            Review             Review               Review            Review
```

2. REVIEW GOALS FOR SESSION?

Yes _____   No _____

3. MODIFICATION OF BEHAVIORAL ASSIGNMENTS

Competence _____
Adherence   _____

4. ADDITIONAL SKILLS – Did the therapist use any techniques/skills not included in the manual for this session?

Yes _____   No _____

If Yes, Please list: _____

Appendix K

BATD Knowledge Quiz

BATD Knowledge Quiz

1. What does behavioral activation mean?
2. What is the purpose of behavioral activation?
3. What are some ways that you are using behavioral activation?
4. What are some things that we discussed in group that can help your mood?

Appendix L

Brief Behavioral Activation Therapy for Depression (BATD) Manual

A Brief Behavioral Activation Treatment for Depression

Lejuez, Hopko, & Hopko, 2001

Contents

Group Leader Name:_____

Group Day and Time:_____

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UNIT 1: INTRODUCTION

This manual provides a step-by-step outline of a brief behavioral activation treatment for depression. You will use it in treatment sessions with your group leader. Your leader's name is

_____.

This manual should be used along with your medications and other group and individual activities here at the Harper Center.

Here is an overview of the manual:

- Units 1-3:

  - general information about depression

  - the treatment for depression described in this manual

- Units 4-6:

  - how we will work on your depression

  - what you can do to make your depression better

Your group leader will work with you to make sure your treatment is right for YOU and will make sure you are going at a comfortable pace.

UNIT 2: RECOGNIZING DEPRESSION

What is depression?

- an extended period of time (at least 2 weeks) in which a person experiences depressed mood or a loss of interest or pleasure in activities that were once enjoyed.

Who is depressed?

- Between 10% and 25% of women and 5% to 12% of men will experience at least one episode of major depression in their lifetime (*Diagnostic and Statistical Manual of Mental Disorders* [*DSM-IV*], American Psychiatric Association, 1994).

- Although depression most often occurs between the ages of 25 and 45, it can affect people of all ages, cultures, income, education, and marital status.

- For some people, the onset of depression is clearly related to stressful life events (e.g., loss of a loved one, financial difficulty, job loss).

- For others, the specific causes of depression may be unclear, and onset may occur without warning.

What causes depression?

- Depression is influenced by lots of things including

  - the actions we do

  - what is happening around us

  - our thoughts and beliefs

  - other people around us

  - our genes and our brain chemicals (a chemical imbalance)

How long does depression last?

- anywhere from a couple of weeks to several years

What are some of the effects of depression?

- significant impairment in life functioning (e.g., unable to work, cook, or take care of children).

- decreased optimism/motivation

- low self-esteem

- impaired concentration

- fatigue

- possibly extreme behaviors such as self-injury and/or suicide.

- heart disease,

- decreased ability to fight off diseases

- abuse of or dependence on alcohol or drugs

- impaired nutrition.

- may isolate from others

- assume a more negative approach to life that may result in a depletion of social support, divorce, decreased job satisfaction or unemployment, and educational failure.

Given these possible consequences, identification and treatment of depression is critical.

If depressive symptoms are severe, major depression may be diagnosed. Major depression can be distinguished from ordinary "blues" or "feeling down" by several factors. *DSM-IV* (American Psychological Association, 1994) specifies that to meet criteria for a major depressive episode, there must be a period of at least 2 weeks during which there is either depressed mood or the loss of interest or pleasure in nearly all activities. Additionally, at least four of the following symptoms must be present:

• significant weight loss or weight gain

• decrease or increase in appetite

• insomnia or oversleeping

• feelings of agitation or irritability

• fatigue or loss of energy

• feelings of worthlessness or excessive or inappropriate guilt

• diminished ability to think or concentrate, or indecisiveness

• suicidal thoughts or attempts

Although most individuals experience some form of many of the above

symptoms, these symptoms must either result in significant feelings of

distress or interfere with day-to-day functioning (e.g., making it difficult to

work, manage household or family responsibilities, or interact socially with

other people) for a diagnosis of depression to be made. Additionally, the

depressed mood cannot be a result of a medical condition or be caused by

medications, alcohol, or other drug use.

UNIT 3: THE RATIONALE FOR BEHAVIORAL ACTIVATION THERAPY FOR DEPRESSION

This manual should be used along with other ways of treating depression and other symptoms that are recommended by your treatment team.

This manual targets changes in your environment and behavior as a method for improving your thoughts, mood, and overall quality of life. Although we are focusing on behavior change, we are not ignoring thoughts and feelings. Instead, we suggest that negative thoughts and feelings often will change only after positive events and consequences are experienced more frequently. <u>Said more simply, it is difficult to feel depressed and have low self-esteem if you are regularly engaging in activities that bring you a sense of pleasure and/or accomplishment.</u>

Increased Healthy Behavior

	Positive Experiences →	Improved Thoughts and Mood
→		
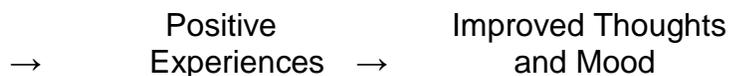
Decreased Depressed Behavior

To place the focus on your behavior and motivation level, we refer to actions related to your depression and depressive symptoms as *depressed behavior*. Accordingly, we refer to positive actions that are inconsistent with

depressed behavior as *healthy behavior*. In general, both depressed and

nondepressed behaviors occur (a) to obtain or to acquire something or (b)

to avoid or to escape something. Despite this simple formula, it is

sometimes difficult to determine the specific reasons why we behave in

particular ways. With regard to depressed behavior, possible benefits

include the avoidance of certain unpleasant or stressful activities, other

people completing your responsibilities, or receiving more attention and

sympathy from your family and friends. Because of these immediate

benefits, it is not surprising that depressed behaviors may become more

frequent, especially if the benefits of healthy behavior appear to be more

difficult to achieve and less immediate. Unfortunately, as the frequency of

depressed behaviors increase and the frequency of healthy behaviors

decrease, important life areas may become

neglected (work absences or decreased social contact), and long-term

negative consequences often result. Again not surprisingly, these

consequences produce a downward spiral that may make you feel both

overwhelmed and trapped in your depression.

Assessing reasons for your depressed behavior is not designed to

make you feel badly or guilty. Instead, it is meant to highlight the fact that

the experience of depression often is the result of natural responses to

stressful environmental situations and changes. Indeed, the depressed

behavior you are currently engaging in may be the best way you know to

cope with overwhelming life events and situations. Nevertheless, we

believe that the best way to stop the downward spiral of depression is that

one must become active first and then the exposure to more positive

experiences will produce positive changes in thoughts and mood. More

positive and adaptive ways of responding to negative events require one to

behave in a way that initially may feel uncomfortable and awkward.

However, persistence and hard work eventually will produce favorable

results.

Is this treatment right for you? This treatment may work for you if

• You are experiencing depressive symptoms.

• You believe that changing your behavior can help change your mood.

• You are willing to actively work toward changing your behavior.

UNIT 4: PREPARING FOR TREATMENT

Before beginning the treatment program, it is important to develop a clear picture of your current depressive symptoms and the ways in which these symptoms interfere with your everyday functioning. The following measures and exercises will give you and your treatment provider an idea of the present severity of your depression. This beginning assessment will be useful in treatment planning and will help you to assess your progress throughout treatment.

Monitoring already occurring activities. As the main focus of this treatment is increasing your frequency of healthy behavior, it is important to get an accurate assessment of your daily schedule of activities. Although you may believe that you have a good idea of how you are spending your time, we would like you to spend 1 day objectively recording your current activity level. This may be useful for several reasons.

- First, it provides a beginning measurement to compare your progress when you have increased your activity level later in treatment.

- Second, an examination of your current level of activity may enable you to realize that you are less active than you originally thought.

Seeing evidence of this reality may provide motivation for you to

increase your activity level.

- Third, a close examination of your daily routine might lead you to

  develop some ideas as to what activities you have time for and might

  enjoy.

What do I do?

- Keep a detailed record (hour by hour) of all activities that you engage

  in for one day, including those that seem insignificant, such as

  sleeping or watching television.

- Use the log on the next page.

Daily Activity Record

Complete this record for _____(Day of Week), _____Date.

Time	Activity
AM: 12-1	
1-2	
2-3	
3-4	
4-5	
5-6	
6-7	
7-8	
8-9	
9-10	
10-11	
11-12	
PM: 12-1	
1-2	
2-3	
3-4	
4-5	
5-6	
6-7	
7-8	
8-9	
9-10	
10-11	
11-12	

UNIT 5: GETTING STARTED

Now you can see what your daily activities look like. You are ready to begin your treatment.

Step 1: Determine the activities you would like to do. You might want to consider activities related to the following life areas (adapted from Hayes, Strosahl, & Wilson, 1999):

1. **Family Relationships** (e.g., What type of brother/sister, son/daughter, father/mother, husband/wife do you want to be? What qualities are important in your relationship with those in your family?)

2. **Social Relationships** (e.g., What would an ideal friendship be like to you? What areas could be improved in your relationships with your friends?)

3. **Education/Training** (e.g., Would you like to pursue further education or receive specialized training? What would you like to learn more about?)

4. **Employment/Career** (e.g., What type of work would you like to do? What kind of worker would you like to be?)

5. **Hobbies/Recreation** (e.g., Are there any special interests you would like to pursue, or new activities you would like to experience?

6. **Volunteer Work/Charity/ Political Activities** (e.g., What contribution would you like to make to the larger community?)

7. **Physical/Health Issues** (e.g., Do you wish to improve your diet, sleep,

exercise, etc.?)

8. **Spirituality** (e.g., What, if anything, does spirituality mean to you?

Are you satisfied with this area of your life?)

9. **Psychological/Emotional Issues** (e.g., What are your goals for this

treatment? Are there other issues besides depression that you would like to

explore?)

Complete the form on the next page.

You do NOT have to set goals in every area. Choose 2-3 areas that are

important to YOU!

Life Areas Assessment

Family Relationships

_____

_____

Social Relationships

_____

_____

Education/Training

_____

_____

Employment/Career

_____

_____

Hobbies/Recreation

_____

_____

Volunteer Work/Charity/Political Activities

_____

_____

Physical/Health

_____

_____

Spirituality

_____

_____

Psychological/Emotional Issues

_____

_____

Once you have determined areas you would like to address, you are ready to start identifying actual activities and listing them in the chart on the next page (McPhillamy&Lewinsohn, 1971).

- You may want to break your goals up into smaller activities. For example, let's say your goal is "Spend more time outside my room." You may set one goal of sitting in the day area for an hour each day. You may set another goal of attending mental health group Monday-Friday.

- In general, if you believe that completing a particular activity would bring a sense of pleasure and/or accomplishment, then it probably would be good to include it.

- When selecting activities, they should be both observable by others and measurable. Therefore, a general goal like "thinking more positively" is not appropriate. Instead, a more appropriate activity might include "writing a letter to my brother at least once per week."

- Sometimes it is tempting to select very difficult activities. We suggest that you select at least one easy activity that you are already doing regularly. You may work toward more difficult activities.

Instructions:
Step 1: Compile your desired activities (up to 15).
Step 2: Rate the difficulty of each item: 1=least difficult to 15=most
          difficult.
Note: Although there are 15 spaces, you do NOT have to choose 15
activities. Your group leader will help you choose the best number for you.

Activity	Rank

Now you are ready to list your activities in order from least difficult to most

difficult. You may not need to fill in every level. It depends on the number

of activities chosen. Your group leader will help you.

Activity Hierarchy

LEVEL ONE

A._____

B._____

C._____

LEVEL TWO

A._____

B._____

C._____

LEVEL THREE

A._____

B._____

C._____

LEVEL FOUR

A._____

B._____

C._____

LEVEL FIVE

A._____

B._____

C._____

UNIT 6: CHARTING PROGRESS

Now you are ready to record your progress on a daily basis, using the weekly behavior checkout. This form should be completed each day. You may want to do it at the same time every day.

Step 1: Under Activity, copy the activities from your Activity Hierarchy.

Step 2: Under #/Time, write how many times per week you want to do the activity.

Step 3: Yes or No

For each day of the week, circle Yes if you did the activity and No if you did not do the activity. Sometimes you will not plan to do an activity every day, so it is fine if you did not do an activity on some days.

Example: You plan to attend the group "Understanding Aging" twice per week with Dusty Walker. If you attend it on Tuesday and Thursday, you would circle Yes on Tuesday and Thursday and No on the other days of the week.

Behavior Checkout

Behavior Checkout – Week __1__

Activity	#/Time	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No

Behavior Checkout

Behavior Checkout – Week __2__

Activity	#/Time	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No	Yes No

Reward Yourself!

Give yourself a reward when you meet your goals for the week.

My Rewards:

_____
_____
_____
_____

Reward Week 1?   **Yes   No**
Reward Week 2?   **Yes   No**