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Cognitive Behavioral Interventions with Older Adults:  
Integrating Clinical and Gerontological Research

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### Abstract

Psychotherapeutic interventions utilizing cognitive behavioral strategies have been used widely with older adults. To appropriately adapt these techniques, characteristics unique to older adults must be taken into account. These factors include aspects of the social environment, cohort effects, cognitive changes with aging, personality and emotional development, which have been described in an emerging body of research literature from the field of gerontology. In addition, clinical studies have examined the efficacy of cognitive behavioral interventions in treating older clients for anxiety, depression, insomnia and other disorders. This review describes current empirical evidence in gerontology and treatment outcome research that inform the practice of psychotherapy in this population, and provides recommendations for conducting therapy with older adults.

## Cognitive Behavioral Interventions with Older Adults: Integrating Clinical and Gerontological Research

A growing body of literature demonstrates that cognitive behavioral interventions are useful in psychotherapy with older adults. However, there is also evidence that adaptations in several domains helps to maximize treatment effectiveness in this population. In this article, we describe recent findings relevant to cognitive behavioral therapy (CBT) with older clients, including studies of maturational changes in cognitive processes, personality and emotional development. The effects of social context and cohort membership on older people also influence the practice of psychotherapy. We describe the aspects of this body of research most relevant to clinical services, addressing each topic briefly.

CBT is adaptable to treating many psychological problems and life challenges that older adults encounter. These include DSM-IV disorders such as anxiety, depression, alcohol abuse and insomnia; and challenges to well being such as physical disability and grief. A learning-based treatment model, CBT includes both cognitive and behavioral components (Beck, Rush, Shaw & Emery, 1979), applied selectively or in combination. Although detailed review of the model and the process of its adaptation are beyond the scope of the present article, we note that the flexibility of CBT is an advantage in addressing the complex clinical issues of older adults. While psychotherapy cannot eliminate the significant problems facing many older adults (such as loss of loved ones, and increased prevalence of disability and physical illness), treatment can be effective in reducing psychological distress.

In the past, older clients have often been subject to negative stereotyping and inaccurate generalizations, hindering their access to and success in psychotherapy. For example, the loss-deficit model of aging took a negative approach to life span development, and portrayed the normative course of later life as a series of losses and the typical response as depression

(Berezin, 1963; Gitelson, 1948). More recently, writing about therapy has drawn upon scientific gerontology rather than stereotypes, and has portrayed the aging process more positively (Knight & Satre, 1999; Knight, Nordhus & Satre, 2003). This led to the proposal of a contextual, cohort-based maturity/specific challenge model (Knight, 2004), informed by research on aging in developmental and cognitive psychology, medicine and sociology. According to this model, the special social context of older adults and their membership in earlier-born cohorts raised in different socio-cultural circumstances may require adaptations to psychotherapy not dictated by developmental aging processes. Older adults are often more mature than younger adults, but also are facing some of life's hardest challenges, such as chronic illness, disability and grief. These factors, in addition to social context, cohort differences and maturation, have significant relevance to working with older adults in therapy.

#### Social Context Factors

It is important that younger therapists have general familiarity with the distinctive social context of older adults. This may include specific environments (e.g., age-segregated housing, social and recreational centers, the aging services network) and laws affecting older adults (e.g., Medicare regulations, Older Americans' Act regulations, and conservatorship law). Therapists' knowledge of these systems need not be extensive, but should include some understanding of the likely experiences of older adults in navigating complex networks of agencies and regulations. For example, informal visits to locations where the elderly receive health and social services helps create an experiential framework for understanding specialized environments. With the client's consent, psychological interventions may need to be coordinated with providers in these settings to maximize treatment effectiveness.

A working knowledge of an older client's social context is essential for delivering appropriate interventions based on both classic behavioral and social learning treatment models,

since aspects of the environment often reinforce maladaptive behavior. In nursing homes, staff may reward older adults by approving of their passive conformity to scheduled routines, resulting in reduced activity levels, decreased sense of control and worsened mood (Baltes, 1995; Segal, 2005). To treat a client's depression the therapist must often change the environment through consulting with staff (Lichtenberg, 1994). To be effective the therapist needs an accurate and older-client-centered view of the environment, with a realistic understanding of what can and cannot be changed in a highly structured residential setting.

#### Cohort differences

In addition to social context, generational or “cohort” effects influence the observed differences between older and younger adults. Cohort differences are explained by membership in a birth-year-defined group. Each generation is socialized into beliefs, attitudes, personality dimensions, and even academic abilities that remain relatively stable and which distinguish that cohort from generations born earlier and later. To understand the effects of aging, therefore, one must separate maturation effects from cohort membership effects. Research in social gerontology has discovered that many differences between the old and the young previously attributed to the aging process are actually due to cohort effects. For example, cohort differences in intellectual skills have been identified. Later-born cohorts tend to be stronger in reasoning ability and spatial orientation (Gilbert & Rogers, 1999; Schaie, 1996) and vocabulary (Alwin & McCammon, 2001; Bowles, Grimm, & McArdle, 2005), while some earlier born cohorts are superior in arithmetic ability and verbal fluency (Schaie, 1996). In the United States, later-born cohorts have more years of formal schooling than groups of individuals born earlier in the century, which may contribute to intellectual skill differences observed between older and younger adults.

Personality may also be affected by both aging and birth cohort (Mroczek & Spiro, 2003). For example, Schaie (1995) found that from 1900 until World War II, successive cohorts

declined in extroversion. But in the cohorts that followed, extroversion increased. Likewise, threat reactivity has increased with each cohort since the beginning of the 20th Century (Schaie, 1995). Particularly relevant to clinical practice, cohort effects have also been found in prevalence of psychological problems such as substance abuse (Levenson, Aldwin & Spiro, 1998) and depression (Kasen, Cohen, Chen & Castille, 2003). These findings suggest that the personality and clinical differences observed between younger and older adults are often cohort effects rather than developmental aspects of aging.

Another salient cohort effect is the increased familiarity with psychology and psychotherapy evident in later-born cohorts: many later-born adults are willing to consider use of psychological services (Areán, Alvidrez, Barrera, Robinson & Hicks, 2002). In contrast, some earlier-born adults are acquainted primarily with popular stereotypes of psychoanalytic therapy involving years of treatment with multiple sessions per week. Therapists may need to explain cognitive behavioral therapy, that in many respects it is similar to receiving instruction in using practical life skills, and that it has a collaborative, structured format (Knight & Satre, 1999). Careful explanation of the model can significantly help in developing therapeutic rapport with older clients (Hyer, Kramer & Sohnle, 2004), which is critical for treatment success.

#### Cognitive changes with aging

Speed of processing. The most pervasive change with developmental aging is reduced performance on most cognitive tasks where speed of response is a factor (Salthouse, 1996). While reaction time can be decreased in older adults through practice, exercises, and other interventions, age differences are seldom completely eliminated. Salthouse (1996) argued that the central nervous system is likely the locus of slowing, and posited that age-related slowing leads to impairments in cognitive functioning because of what are termed the limited time mechanism and the simultaneity mechanism. In this view, cognitive performance decreases when

processing is slow because operations have a limited time for successful execution, and because the products of early processing may not be available by the time later processing is completed. However, there are some tasks (such as vocabulary), which may represent “crystallized” rather than “fluid” intellectual abilities (Dixon, 2003), rely less on speed of processing, and show smaller age-related decrements.

Learning and memory. Memory is a complex topic in the study of cognitive changes in late life (Hess, 2005), so we discuss it here just briefly. Recent longitudinal investigations of memory change in older adults over time have generally confirmed decline with age on some memory functions, such as word recall (e.g., Zelinski & Burnight, 1997; Small et al., 1999), while other functions such as recognition memory are relatively preserved. Zelinski and Burnight (1997) point out that memory change starts earlier than is often thought (observable in middle age) and occurs slowly. They suggest that studies longer than six years are usually needed to detect longitudinal memory change. Working memory typically declines with age (Light, 2000; Salthouse, 1994). Working memory is the limited capacity resource through which information is processed before it is registered in long term memory. A limitation of this capacity could influence new learning and affect language comprehension. This would suggest another reason for simpler phrasing when working with some older adult clients.

In general, current research suggests that even differences between younger and older adults in memory performance are not large when the material is meaningful and relevant to the older adult (Hultsch & Dixon, 1990; Smith, 1996). Older adults usually perform well with structured material, more time to study the information, greater environmental support (able to use notes, recognition and cued recall are better than free recall; Smith, 1996), and less time pressure (Earles, 2004). In contrast, younger adults do much better than older adults on novel information and learning tasks with no intrinsic meaning (learning lists of words, for example).

Of special interest for psychotherapy, there is evidence that older adults retain emotional material better than neutral material (Carstensen & Turk-Charles, 1994), with memory also favoring positive rather than negative emotional content (Mather & Carstensen, 2005). It is wise to keep in mind when teaching older adults new information (one aspect of psychotherapy interventions) that it may require more effort from the client and more repetition from the therapist. Older adults, of course, have large individual differences in learning and memory abilities, and many older clients will be at least as able as younger adult clients.

Due to these potential cognitive changes, the therapist should take steps to ensure that the client is remembering information and skills learned during the session. In addition to the therapist's summary at the end of each session, repetition and summary should occur several times throughout the session. It may be helpful for the client to take notes on key points. Greater duration of the course of treatment may also be appropriate for older adults with cognitive changes in order to facilitate learning and retention. In CBT it is particularly important for the client to complete homework assignments between sessions. Research with older adults has shown that homework compliance significantly improves post-treatment outcomes (Coon & Thompson, 2003). Studies have shown that homework reminders and trouble shooting calls (Mohlman, Gorenstein, Kleber, de Jesus, Gorman, & Papp, 2003), handouts and forms (Stanley, Diefenbach, & Hopko, 2004) are helpful in increasing homework completion.

#### Emotional development

As with memory, emotional changes over the adult life span are important for psychotherapists to understand in working with older clients. Of particular relevance, Carstensen (1992) proposed a developmental model called socioemotional selectivity theory (SST). SST began with the observation that social support networks get smaller as we age, but life satisfaction remains stable. Carstensen suggested that younger adults have a motivational focus



on information seeking and finding a mate and so need large networks of contacts. Later in adulthood, the motivational focus shifts to maintaining emotional balance. In other words, younger adults have large networks with low emotional investment per person, and older adults have relatively smaller networks with more emotional investment. A shift toward more positive emotion occurs in later life, likely due to active management of the social environment to minimize negative emotion (Carstensen, Gross, & Fung, 1997). Also, younger adults report more pure emotions, while older adults report greater emotional complexity (Ong & Bergeman, 2004).

Studies have also examined biological aspects of emotion. Levenson and his colleagues (Levenson, Carstensen, Friesen, & Ekman, 1991; Tsai, Levenson, & Carstensen, 2000) reported that older adults have a lower physiological response to emotionally evocative cues (remembered experiences or film clips). However, older and younger adults show similar profiles of physiological response (patterns of emotional arousal) and report equal levels of subjectively experienced emotion. This line of research calls into question the old assumption that the lower physiological response meant that older adults experienced emotions less intensely.

Based on this literature, more emotionally subtle interventions may be appropriate to older clients. In cognitive therapy, it may be prudent to help the client manage both the positive and negative emotion, rather than substituting one for the other. For example, older adults needing assistance from their children may be happy that their children can assist while saddened at the thought of being a burden. Rather than labeling the burden cognition as irrational, it may be useful to frame willingness to help as a loving motivation, and also encourage problem-solving strategies that limit the sense of burden.

Similarly, work with older adults may involve schemas and relationship scripts in addition to simple cognitions. Using their fund of knowledge, older adults can approach cognitive distortions across multiple domains, based on years of practice in analyzing a variety

of problems and situations. Therapy may involve a more abstract level of cognitive intervention due to longer life histories, in addition to modifying automatic thoughts about specific situations.

Summary. In this section we have described differences between younger and older adults in several relevant areas, recognizing that these general research findings and clinical observations represent overall group differences. On an individual level there is substantial variation-- clinicians will always need to consider particular client's characteristics, abilities and life circumstances. This process of assessment (of social context, cognitive functioning, etc.) essential to the initial stages of psychotherapy, helps to inform the extent to which standard cognitive behavioral methods require adaptation. In addition to this individualized process, the research literature on the utility of CBT for specific disorders provides resources (such as specialized treatment manuals) guiding the adaptation of CBT for use with older clients. While the adaptations to therapy for work with older adults based on the gerontological literature described above are broadly relevant to work with older adults with a variety of diagnoses, particular problems may require CBT treatment strategies somewhat different from those used with younger adults. We review these issues in the following sections of the paper.

#### Cognitive Behavioral Interventions for Specific Problems

Many older adults in psychotherapy are dealing with issues that threaten well being at any point in life: chronic illness, disability, and the death of loved ones. While not unique to late life, these problems occur more frequently as people age. People who have struggled with depression, anxiety, substance abuse or psychosis all of their lives may continue to struggle with these problems. The cumulative effect of longstanding psychiatric disorders can make the additional challenges of aging particularly difficult.

Treatment efficacy. Empirical evidence for the effectiveness of cognitive behavioral interventions with older adults has grown over the past three decades. These studies have often

used treatment manuals specifically developed for older adults, which incorporate many of the same clinical recommendations described here. A meta-analysis of psychological interventions in depression treatment among older adults found an aggregate effect size ( $d = .78$ ; Scogin & McElreath, 1994), roughly equal to that found in a meta-analysis of anti-depressant medication trials ( $d = .57$ ; Schneider, 1994). These values fall within the range of effect sizes found for younger adults in meta-analyses using cognitive behavioral approaches ( $d = .65$  up to 2.15, Lambert & Bergin, 1994, some studies overlap with those analyzed by Scogin & McElreath, 1994). The factors affecting outcomes with older adults were explored in a meta-analysis by Pinquart and Sörensen (2001), who found that longer treatment duration (more than nine sessions) and specialized training of the therapist were significant.

To establish a set of standards for evaluation of therapy effectiveness, the American Psychological Association's Division 12 has concentrated on empirically validated treatments for specific psychological problems (Chambless et al., 1998). Gatz et al. (1998) utilized these guidelines in their literature review, reporting that probably efficacious treatments for older adults include cognitive behavioral therapy (CBT) for sleep disorders and for depression. They also found that CBT had above-average effects on ratings of subjective well-being. A more recent meta-analysis of psychotherapeutic interventions with older adults found that CBT had above-average effects on depression (Pinquart & Sörensen, 2001), with individual interventions generally more efficacious than group-based interventions. Studies have also added to the evidence supporting CBT for late-life anxiety (Wetherell, Sorrell, Thorp & Patterson, 2005).

Disability and medical illness. Older adults frequently are struggling to adjust to physical disabilities and acute or chronic medical conditions. Most adults over age 55 have at least one chronic condition (National Center for Health Statistics, 1999). In addition, obesity contributes substantially to disability in older adults (Sturm, Ringel, & Adreyeva, 2004). Because of the

correlation of physical and psychological problems, the therapist's ability to discuss health and its impact on well being is a vital skill. The therapist should understand the psychological impact of chronic illnesses, control of pain, adherence to medical treatment, and indications of adverse medication reactions. The medical systems serving older adults are a key contextual environment of which therapists should have a working knowledge.

Depression is frequently associated with chronic illness and disability. Prevalence studies of depression in this population have found rates up to 59% (Finch, Ramsay, & Katona, 1992; Harper, Kotick-Harper, & Kirby, 1990). One analysis of this correlation found that the disability that often accompanies physical illness was a risk factor for depression in older adults, rather than illness diagnoses per se (Zeiss, Lewinsohn, Rohde, & Seeley, 1996). Conversely, depression seriously affects physical health, and has been associated with increased disability, poorer rehabilitation from health problems, and greater risk of mortality. Depression is also a risk factor for cognitive decline (Wilson et al., 2004). Unfortunately, physicians frequently do not detect symptoms of depression in their older patients (Rapp, Parisi, Walsh, & Wallace, 1988), and when it is recognized, the patients are rarely referred to psychotherapy (Alvidrez & Areán, 2002; Unutzer, 2002), so opportunities for behavioral interventions are often missed.

Anxiety is also associated with medical illness in older adults, and often occurs comorbidly with depression. Common medical problems that can result in anxiety symptoms include cardiovascular, pulmonary, and neurological disorders (Lauderdale & Sheik, 2003). Pulmonary conditions such as chronic obstructive pulmonary disease, in which the patient experiences choking sensations and gasping for air, are associated with intense anxiety (Brenes, 2003). Frequently prescribed medications such as steroids, anticholinergic medications, and antidepressants can cause anxiety, as can caffeine and alcohol. For these reasons, therapists working with medically ill or disabled older adults should be alert to anxiety symptoms.

Few studies have broadly examined CBT with medically ill older adults, since most interventions target specific disease groups. In one investigation, Lopez and Mermelstein (1995) found CBT successful in treating depression with inpatients in a hospital geriatric unit. The study authors describe an intervention in which patients received 30-minute therapy sessions three to four times per week, with an emphasis on increasing pleasant events and cognitive restructuring. Psychological treatment was coordinated with physicians and nurses involved in patient care.

Important aspects of CBT with chronically ill older adults were identified by Rybarczyk et al. (1992); these included resolving practical barriers to participation, accepting depression as a separate and reversible problem, and minimizing excess disability (medically unnecessary limitations in functioning that dependency on caregivers can sometimes foster). It is also important to counteract the loss of important social roles and autonomy and to challenge the belief that the client is a burden to caregivers. For example, challenging the burden perception may involve helping the client recall the past help they have given their caregiver. Rather than eliminate a distressing cognition associated with dependency, cognitive intervention can help to minimize its negative impact on mood.

Cognitive impairment. Depression and dementia may present similar symptoms, and a client suspected of dementia should be screened for depression. Likewise, the clinician should be aware of possible cognitive impairment. As an initial screening, clinicians may routinely use a brief instrument such as the Folstein Mini Mental State Exam (Folstein, 1975). If screening suggests dementia, additional evaluation to diagnose the etiology and extent of the impairment may be warranted and may facilitate selection of an appropriate intervention.

Depression is a significant problem for many elders with cognitive impairment, Alzheimer's disease and other forms of dementia. Findings that older adults with executive dysfunction have worse response to antidepressants have increased interest in psychotherapy

(Alexopoulos, 2000; Dunkin et al., 2000). In one approach, researchers have begun to investigate the efficacy of problem solving therapy (PST) in this population (Nezu, Nezu, & Perri, 1988). PST has some similarities to CBT, in that it involves re-conceptualization of the challenges and frustrations faced by patients as “problems” with potential solutions, and the adoption of specific skills to identify and test these solutions. Initial findings indicate that this is a promising approach for older adults with executive dysfunction (Alexopoulos, Raue, & Areán, 2003).

Cognitive techniques may be appropriate for individuals with a milder degree of impairment. In applying these techniques, the strategies described earlier for maximizing retention of material covered in session should be followed. However, behavioral techniques are more appropriate for moderate and severely demented patients (Teri & Gallagher Thompson, 1991). The intervention may address issues such as dysphoria, loss of pleasure, feelings of worthlessness, agitation, appetite and weight change, and sleep disturbances. For more severely demented clients, caregivers may need to assist in behavioral strategies such as increasing pleasant events. (Teri, Logsdon, Uomoto, & McCurry, 1997). These behavioral approaches are appropriate when the client no longer has the capacity to participate directly in psychotherapy.

Pain management. Chronic pain is highly prevalent among older adults and frequently contributes to depression (Parmalee, Katz, & Lawton, 1991). Approximately 25% to 50% of older adults in community samples suffer from chronic pain (Crook, Ridout, & Browne, 1984). Among older adults who live in nursing homes, rates of chronic pain range from 45% to 80% (Roy & Michael, 1986). Chronic pain is associated with rheumatoid arthritis, delayed healing from injuries, and other causes, and is frequently treated with medication. However, cognitive factors such as locus of control also influence the subjective experience of pain (Gibson & Helme, 2000), and there is evidence that pain is experienced differently by different people.

CBT can reduce distress and improve functioning for older adults suffering from chronic pain. Strategies include distracting oneself from the pain, reinterpreting pain sensations, pleasant imagery, calming self-statements, and increasing daily pleasurable activities (Widner & Zeichner, 1993). Outcome studies have shown that cognitive and behavioral techniques are effective tools in pain management. For example, in a randomized study of 22 nursing home residents, those who received cognitive behavioral pain management training reported less pain and less pain-related disability than those in an attention/supportive control group (Cook, 1998). Participants were screened to eliminate subjects with serious cognitive impairment. Treatment gains in the cognitive behavioral group were maintained at 4 months.

Depression. The prevalence, etiology and treatment of depression among older adults have received much study in the past 20 years. Fortunately, epidemiological studies have found that depression prevalence in older adults is actually lower than in younger people. These lower prevalence rates are consistent with the experimental literature (described above) showing an increase in positive emotion in late life (Carstensen et al., 1997). Prevalence of major depression is estimated at 1% to 5% in older adult community samples (Hybels & Blazer, 2003). However, clinical samples, such as primary care, medical inpatient, home health and nursing home (Bruce et al., 2002; Lyness et al., 1999) show higher prevalence. The rate of depressive symptoms in individuals not meeting diagnostic criteria for a disorder is as high as 27% based on ECA studies (Hybels & Blazer, 2003). Therefore, depression should be evaluated in all patients during the early stages of psychotherapy.

Fortunately, outcome studies show that older adults respond well to cognitive and behavioral approaches to psychotherapy for depression (Karel & Hinrichsen, 2000; Laidlaw, Thompson, & Gallagher-Thompson, 2004). For example, Gallagher and Thompson (1983) compared cognitive, behavioral, and brief insight-oriented therapy with a total of 38 adults over

the age of 55. All three groups showed reduction in depression symptoms, but the cognitive and behavioral groups maintained gains better at follow-up. A similar study with 115 subjects over the age of 60 with the same three treatment conditions and a wait-list control found all three approaches superior to the control group. (Thompson, Gallagher & Breckenridge, 1987). At follow up, the three groups maintained treatment gains equally. Using CBT alone resulted in similar levels of improvement as treatment with CBT in combination with antidepressant medication in a sample of mild to moderately depressed older adults (Thompson et al., 2001).

Self-help manuals based on cognitive behavioral principals may also be useful (Scogin, Jamison & Gochneaur, 1989). In a study comparing cognitive therapy to bibliotherapy for depression, 31 adults aged 60 and over received either 16 sessions of individual therapy or were assigned to read the cognitively-oriented self-help book *Feeling Good* (Burns, 1980). Both groups had better outcomes than a delayed treatment control group, and there was no difference between the two intervention groups at follow-up (Floyd et al., 2004). Another cognitively-oriented self-help book is *Mind Over Mood* (Greenberger & Padesky, 1995), which may be a useful adjunct to individual or group psychotherapy. This manual is briefer and written at a simpler level than *Feeling Good*, possibly an advantage in working with patients with fewer years of formal education (a potential cohort difference between younger and older adults).

The CBT approach to depression treatment focuses on teaching new coping skills, combined with addressing dysfunctional thinking patterns (Knight & Satre, 1999). Behavioral components of therapy may be emphasized strongly in the early sessions, with a focus on the client's daily activities. To help the client see the connection between pleasant events and moods, the therapist may use a diary or chart for self-monitoring. One especially useful chart is the Older Person's Pleasant Events Schedule (Teri & Lewinsohn, 1986), which lists many enjoyable activities. The therapist and the client work together to help the client increase the frequency of



pleasant events (Zeiss & Steffen, 1996). Using the dysfunctional thought record, the therapist helps the client to identify cognitive distortions and to substitute negative and irrational thoughts with more adaptive ones (Gallagher-Thompson & Thompson, 1996). As with the behavioral component of treatment, cognitive therapy helps to teach clients new coping skills to manage periods of depressed mood.

Anxiety disorders. Clinicians and researchers have focused increasingly on psychotherapeutic interventions for anxiety disorders in older adults. Some anxiety disorders decrease in severity with age, such as social anxiety (Gretarsdottir et al., 2004) and panic (Sheikh, Swales, Carlson & Lindley, 2004), but overall anxiety prevalence remains high. In a large community sample of adults aged 55 to 85 in the Netherlands, the overall prevalence of anxiety disorders was 10.2% (Beekman et al., 1998). Generalized anxiety disorder (GAD) was the most common (7.3%), followed by phobias (3.1%), panic (1.0%) and obsessive compulsive disorder (0.6%). Risk factors included female gender, lower education, trauma during World War II, external locus of control, recent death in the family and chronic physical illness.

The basic principles of CBT for anxiety are applicable to both older and younger adults. As with depression treatment, however, specific modifications to CBT treatment for anxiety disorders have been described in manualized protocols (Stanley, Diefenbach & Hopko, 2004). Before beginning treatment, it is recommended that a comprehensive evaluation include a clinical interview, self-report measures, as well as a medical evaluation to identify potential physiologic factors (Lauderdale & Sheikh, 2003).

Not all anxiety disorders have received treatment outcome study in older adult populations, but limited evidence indicates that cognitive behavioral interventions are promising. A recent study of treatment of GAD found that brief CBT had large beneficial effects (Wetherell, Gatz & Craske, 2003). Another GAD treatment study of older adults using CBT resulted in

decreased worry, depression, and improved quality of life relative to a minimal contact control group (Stanley et al., 2003), although the post-treatment scores of CBT patients showed that they had not reached a normative level of functioning.

Alcohol abuse and dependence. Community samples show that older adults have lower rates of alcohol abuse and dependence than younger adults (Caetano & Tam, 1995). Demonstrating a significant cohort effect, adults born after Prohibition are more likely to use or abuse alcohol than earlier-born cohorts (Grant, 1997). However, the high prevalence observed in medical and other clinical settings indicates that alcohol remains a serious problem among the elderly (Bucholz, Sheline, and Helzer, 1995). Older adults who misuse alcohol are at risk for numerous physical health problems, as well as psychiatric comorbidity such as anxiety, depression, adverse medication interactions and cognitive impairment (Oslin, 2000). Therefore, misuse of alcohol among older adults should be taken very seriously.

Unfortunately, greater age may function as a treatment access barrier, possibly due to health, mobility, transportation problems and the effects of cognitive impairment, as we found in studies of older veterans seeking alcohol and drug treatment (Satre, Knight, Dickson-Fuhrmann & Jarvik, 2003, 2004). Once patients initiate treatment, however, older adults have outcomes as good as or better than younger adults (Satre, Mertens, Areán, & Weisner, 2004). Therefore, positive outcome helps to justify the additional effort necessary to facilitate treatment access.

Older adults with an alcohol problem may drink in response to loneliness, depression, and poor social support networks (Schonfeld & Dupree, 1995). As a result, cognitive behavioral approaches focus on improving the client's life in a variety of ways in addition to abstaining from alcohol. Describing a cognitive approach to treatment of older clients, Glantz (1995) suggested setting goals in these areas: (1) social life and friends; (2) family; (3) intimate or romantic

relationships; (4) employment or practical achievement; (5) recreation or avocation; and (6) drinking. The therapist should look for evidence of irrational thinking in each domain.

In a review of psychological studies, Schonfeld and Dupree (1995) found some evidence for the effectiveness of CBT over twelve-step and social support models. However, not all the reviewed studies that supported cognitive and behavioral treatment included control groups (e.g., Dupree, Broskowski, & Schonfeld, 1984). In a long term study, Carstensen, Rychtarik and Prue (1985) found that a behavioral treatment program for older males was successful in maintaining treatment gains at a 2-year follow-up. Older adults appeared to benefit from group settings with other older clients and from a less confrontational group style.

Sleep disorders. Insomnia is a frequent problem for older adults, and may interfere significantly with day to day functioning (Schubert et al., 2002). Insomnia prevalence increases with each decade of life and affects women more often than men (Nau, McCrae, Cook & Lichstein, 2005). Between 12% and 25% of adults over 65 report chronic sleep problems (Ford & Kamerow, 1989). Insomnia in older adults appears to be both a cause and an effect of depression (Buysse, 2004). In sleep-maintenance insomnia, individuals are unable to get back to sleep after waking in the middle of the night. Feeling tired during the day, they nap to make up the sleep lost, and spend more and more time in bed in order to get a normal amount of sleep.

A combination of education, sleep restrictions, and stimulus-control interventions may be effective in treating this problem. In sleep education, the client is taught how age and lifestyle factors such as caffeine and exercise affect sleep. Understanding that older people generally sleep less than younger ones helps reduce unrealistic expectations regarding sleep time. Explaining that minimal harm results from sleep deprivation for most people also lessens the client's anxiety. The therapist asks the client to eliminate naps during the day, and to not watch TV, read, or rest in bed. Sleep restriction limits the amount of time spent in bed to the amount of

time sleeping. For example, if a client reports sleeping 6 hours per night out of 9 hours spent in bed, the initial sleeping schedule would be for 6 hours, perhaps from midnight to six a.m. The time in bed can be gradually increased as "sleep efficiency" (the amount of time spent sleeping as a percentage of time in bed) increases.

This approach was found effective in controlled outcome studies, with gains maintained up to 1 year following treatment (Morin, Kowatch, Barry, & Walton, 1993). Improvements in sleep efficiency in older adults were associated with cognitive components of treatment, demonstrating the importance of challenging irrational beliefs about sleep (Morin, Blais & Savard, 2002). Cognitive behavioral therapy was effective in combination with tapering of benzodiazepines in the treatment of chronic insomnia (Morin et al., 2004), and also demonstrated efficacy in a controlled trial of older adults with comorbid medical illness (Rybarczyk, Lopez, Benson, Alsten & Stepanski, 2002). The effectiveness of cognitive behavioral insomnia treatment represents an important advance, given the high prevalence of insomnia and the negative side effects of sedative-hypnotic medications in older adults.

#### Implications for Research and Practice

As we have described in this review, CBT can be adapted for use with older adults by applying relatively minor modifications to clinical technique, informed by the gerontological and clinical research literature. For the most part, the core principles of treatment are not different for older people than for younger ones. However, some problems faced by older adults are encountered more frequently in later life and have therefore come to be identified with old age.

In particular, coping with chronic illness and disability can be a major challenge. The Beck and Ellis argument that emotional distress is unrealistic or irrational may not be acceptable to persons facing such real problems (Beck, Shaw, Rush, & Emery, 1979; Ellis, 1958). However, the cognitive behavioral approach can be seen as optimistic in arguing that some improvement in

depressed mood is virtually always possible. Experience suggests both that older clients may have much to be unhappy about and that they may be more unhappy than is necessary, because they (in Ellis' terms) catastrophize negative events or overgeneralize the causes or effects of bad events. For example, sadness over lost eyesight is considered normal, but clinical depression may result from overgeneralizing the loss to anticipating that hearing, thinking, and other functions will also be lost. This type of work may be different and challenging for therapists used to working with younger, healthy clients whose mood problems are more likely due to misperceptions and faulty thinking rather than actual limitations.

The chronicity of the problems facing older adults (the death of loved ones, ongoing caregiving for a frail family member) may indicate a need to modify the traditional focus of cognitive behavior therapy on short term interventions. This recommendation is supported by recent research-- Pinquart and Sörensen (2001) found that longer lengths of therapy were associated with better outcomes for older adults. We have noted earlier that older clients may benefit from more time in therapy due to cognitive changes with age. The chronic nature of many of the stressors of late life also supports a longer course of treatment. CBT was developed initially for younger adults primarily dealing with acute stressors. With the younger client, typically the stress event is sudden and discrete, and therapy is focused on managing cognitive and emotional reactions to an event from the recent past. In contrast, the stressors of late life are often ongoing.

While the clinical research we have summarized in this review clearly supports the use of CBT with older adults, there is a great need for further investigation. Current research on cognitive behavioral interventions with older adults is of limited quantity, with some key areas particularly neglected. Studies examining effectiveness of CBT with ethnic minority groups are especially lacking. There is also a need for research into the processes that influence adaptations

to therapy with older adults. This includes a better understanding of how information gathered during clinical assessment, in addition to knowledge of gerontological and treatment research findings, affects the development of interventions and the practice of psychotherapy.

Theory and research on emotion in late life has entered a highly productive phase. Socioemotional selectivity theory posits a greater salience of emotion for the elderly and a tendency to foster social interactions that support positive emotion (Carstensen, Gross, & Fung, 1997; Lang, 2001). Future research on CBT with older adults should address to what degree this salience of emotion influences cognitions among older adults, and explore ways in which to apply findings from experimental studies of emotion to clinical practice.

### Conclusion

Cognitive behavioral therapy has much to offer older adults, including improvement in emotional functioning within reasonable periods of time. When informed by current research in gerontology, including studies of cognition and emotion, it is readily adaptable for use with a variety of issues. Clinical intervention studies indicate that these treatments are effective in addressing many common problems in late life, including depression, anxiety, alcohol abuse and dependence, insomnia, and issues related to physical illness and disability. Older adult clients offer cognitive behavioral therapists the chance to work with problems that are among the most severe that adults face, and an abundance of life experiences and problem solving skills that have been developed over decades. The application of cognitive behavioral therapy to older clients involves learning about specific social environments, working with clients whose learning history may differ from the therapist's own, and confronting the interplay of physical and psychological problems. As such, it is likely that younger therapists' ideas about therapy and about the aging process will be challenged and broadened in the course of clinical practice with older adults.

## References

- Alexopoulos, G. S., Meyers, B. S., Young, R. C., Kalayam, B., Kakuma, T., Gabrielle, M., Sirey, J. A., & Hull, J. (2000). Executive dysfunction and long-term outcomes of geriatric depression. *Archives of General Psychiatry*, *57*, 285-290.
- Alvidrez, J., & Areán, P. A. (2002). Physician willingness to refer older depressed patients for psychotherapy. *International Journal of Psychiatry in Medicine*, *32*, 21-35.
- Alwin, D. F. & McCammon, R. J. (2001). Aging, cohorts, and verbal ability. *Gerontologist*, *56*, S151-S161.
- Areán, P. A., Alvidrez, J. Barrera, A., Robinson, G. S., & Hicks, S. (2002). Would older medical patients use psychological services? *Gerontologist*, *42*, 392-398.
- Barrett, T. R., & Wright, M. (1981). Age-related facilitation in recall following semantic processing. *Journal of Gerontology*, *36*, 194-199.
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Guilford.
- Beekman, A. T., Bremmer, M. A., Deeg, D. J., vanBalkom, A. J., Smit, J. H., de Beurs, E., van Dyck, R., & van Tilburg, W. (1998). Anxiety disorders in later life: a report from the Longitudinal Study Amsterdam. *International Journal of Geriatric Psychiatry*, *13*, 771-726.
- Berezin, M. (1963). Some intrapsychic aspects of aging. In N. E. Zinberg & I. Kaufman (Eds.), *Normal psychology of the aging process*. New York: International Universities Press.
- Botwinick, J. (1984). *Aging and behavior* (3rd Ed.). New York: Springer Publishing Co.
- Bowles, R. P., Grimm, K. J., & McArdle, J. J. (2005). A structural factor analysis of vocabulary knowledge and relations to age. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *60*, P234-P241.

- Brenes, G. A. (2003). Anxiety and chronic obstructive pulmonary disease: prevalence, impact and treatment. *Psychosomatic Medicine*, *65*, 963-970.
- Bruce, M. L. McAvay, G.J., Raue, P. J., Brown, E. L., Meyers, B. S., Keohane, D. J., Jagoda, D. R., & Weber, C. (2002). Major depression in elderly home health care patients. *American Journal of Psychiatry*, *159*, 1367-1374.
- Bucholz, K. K., Sheline, Y. I., & Helzer, J. E. (1995). The epidemiology of alcohol use, problems and dependence in elders. In T. Beresford & E. Gomberg (Eds.), *Alcohol and aging* (pp.19-41). New York: Oxford University Press.
- Burns, D. D. (1980). *Feeling good: The new mood therapy*. New York: Avon Books.
- Buysse, D. J. (2004). Insomnia, depression and aging. Assessing sleep and mood interactions in older adults. *Geriatrics*, *59*, 47-51.
- Caetano, R., & Tam, T. (1995). Prevalence and correlates of DSM-IV and ICD-10 alcohol dependence: 1990 US National Alcohol Survey. *Alcohol and Alcoholism*, *30*, 177-186.
- Carstensen, L. L. (1992). Social and emotional patterns in adulthood: Support for socioemotional selectivity theory. *Psychology and Aging*, *7*, 331-338.
- Carstensen, L. L., Gross, J. J., & Fung, H. H. (1997). The social context of emotional experience. In K. W. Schaie & M. P. Lawton (Eds.), *Annual Review of Gerontology and Geriatrics*, *17*. New York: Springer.
- Carstensen, L. L., Fung, H. H., & Charles, S. T. (2003). Socioemotional selectivity theory and the regulation of emotion in the second half of life. *Motivation & Emotion*, *27*, 103-123.
- Carstensen, L. L., Rychtarik, R. G., & Prue, D. M. (1985). Behavioral treatment of the geriatric alcohol abuser: A long-term follow-up study. *Addictive Behavior*, *10*, 307-311.
- Carstensen, L. L., & Turk-Charles, S. (1994). The salience of emotion across the adult life span. *Psychology and Aging*, *9*, 259-264.



- Chambless, D. L., Baker, M. J., Baucom, D. H., Beutler, L. E., Calhoun, K. S., Crits-Christoph, P., Daiuto, A., DeRubeis, R., Detweiler, J., Haaga, D. A. F., Bennett Johnson, S., McCurry, S., Mueser, K. T., Pope, K. S., Sanderson, W.C., Shoham, V., Stickle, T., Williams, D. A., & Woody, S. R. (1998). Update on empirically validated therapies, II. *The Clinical Psychologist, 51*, 3-16.
- Chambless, D. L., Sanderson, W. C., Shoham, V., Bennett Johnson, S., Pope, K. S., Crits-Christoph, P., Baker, M., Johnson, B., Woody, S. R., Sue, S., Beutler, L., Williams, D. A., & McCurry, S. (1996). An update on empirically validated therapies. *The Clinical Psychologist, 49*, 5-18.
- Cook, A. J. (1998). Cognitive-behavioral pain management for elderly nursing home residents. *Journal of Gerontology: Psychological Sciences, 53B*, P51-59.
- Coon, D. W., & Thompson, L. W. (2003). The relationship between homework compliance and treatment outcomes among older adult outpatients with mild-to moderate depression. *American Journal of Geriatric Psychiatry, 11*, 53-61.
- Craik, F. I. M., & Trehub, S. (1982). *Aging and cognitive processes*. New York: Plenum.
- Crook, H., Ridout, E., & Browne, G. (1984). The prevalence of pain complaints among a general population. *Pain, 18*, 299-314.
- Dixon, R. A. (2003). Themes in the aging of intelligence: Robust decline with intriguing possibilities. In R. J. Sternberg & J. Lautrey (Eds.), *Models of intelligence: International perspectives* (pp. 151-167). Washington, DC: American Psychological Association.
- Dunkin, J. J., Leuchter, A. F., Cook, I. A., Kasl-Godly, J. E., Abrams, M., & Rosenberg-Thompson, S. (2000). Executive dysfunction predicts nonresponse to fluoxetine in major depression. *Journal of Affective Disorders, 60*, 13-23.

- Dupree, L. W., Broskowski, H., & Schonfeld, L. (1984). The Gerontology Alcohol Project: A behavioral treatment program for elderly alcohol abusers. *Gerontologist, 24*, 510-516.
- Earles, J. L., Kersten, A. W., Berlin, M. B., & Miccio, D. M. (2004). Aging and memory for self-performed tasks: effects of task difficulty and time pressure. *Journals of Gerontology B: Psychological Sciences and Social Sciences, 59*, 285-293.
- Ellis, A. (1958). A rational psychotherapy. *Journal of General Psychology, 59*, 35-49.
- Finch, E., Ramsay, R., & Katona, C. (1992). Depression and physical illness in the elderly. *Clinics in Geriatric Medicine, 8*, 275-287.
- Floyd, M., Scogin, F., McKendree-Smith, N. L., Floyd, D. L. & Rokke, P. D. (2004). Cognitive therapy for depression: a comparison of individual psychotherapy and bibliotherapy for depressed older adults. *Behavior Modification, 28*, 297-318.
- Folstein, M. F. (1975). Mini-Mental State: A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research, 12*, 189-98.
- Ford, D. E., & Kamerow, D. B. (1989). Epidemiologic study of sleep disturbances and psychiatric disorders: An opportunity for prevention? *Journal of the American Medical Association, 262*, 1479-1484.
- Frankfather, D. (1977). *The aged in the community*. New York: Praeger Press.
- Gallagher, D. E., & Thompson, L. W. (1983). Treatment of major depressive disorder in older adult outpatients with brief psychotherapies. *Psychotherapy: Theory, Research, and Practice, 19*, 482-490.
- Gallagher-Thompson, D., & Thompson, L. W. (1996). Applying cognitive-behavioral therapy to the psychological problems of late life. In S. Zarit & B. G. Knight (Eds.), *A guide to psychotherapy and aging*, (pp. 61-82). Washington, DC: American Psychological Association.

- Gatz, M., Fiske, A., Fox, L. S., Kaskie, B., Kasl-Godley, J., McCallum, T., & Wetherell, J. (1998). Empirically-validated psychological treatments for older adults. *Journal of Mental Health and Aging, 4*, 9-46.
- Gatz, M., Kasl-Godley, J. E., & Karel, M. J. (1996). Aging and mental disorders. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (4<sup>th</sup> ed., pp. 365-382). San Diego: Academic Press.
- Gibson, S. J., & Helme, R. D. (2000). Cognitive factors and the experience of pain and suffering in older persons. *Pain, 85*, 375-383.
- Gilbert, D. K., & Rogers, W. A. (1999). Age-related differences in the acquisition, utilization, and extension of a spatial mental model. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 54*, P246-P255.
- Gitelson, M. (1948). The emotional problems of elderly people. *Geriatrics, 3*, 135-150.
- Glantz, M. (1995). Cognitive therapy with elderly alcoholics. In T. Beresford & E. Gomberg (Eds.), *Alcohol and aging* (pp. 211-229). New York: Oxford University Press.
- Grant, B. F. (1997). Prevalence and correlates of alcohol use and DSM-IV alcohol dependence in the United States: results of the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Studies on Alcohol, 58*, 464-73.
- Greenberger, D., & Padesky, C. (1995). *Mind over mood*. New York: Guilford.
- Gretarsdottir, E., Woodruff-Borden, J., Meeks, S., & Depp, C. A. (2004). Social anxiety in older adults: phenomenology, prevalence, and measurement. *Behavior Research and Therapy, 42*, 459-475.
- Gum, A., & Areán, P. A. (2004). Current status of psychotherapy for mental disorders in the elderly. *Current Psychiatry Reports, 6*, 32-38.

- Harper, R. G., Kotick-Harper, D., & Kirby, H. (1990). Psychometric assessment of depression in an elderly general medical population. *Journal of Nervous and Mental Disease, 178*, 113-119.
- Hess, T. M. (2005). Memory and aging in context. *Psychological Bulletin, 131*, 383-406.
- Hultsch, D. F., & Dixon, R. A., (1990). Learning and memory in aging. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (3rd ed., pp. 259-274). New York: Academic Press.
- Hybels, C. F., & Blazer, D. G. (2003). Epidemiology of late-life mental disorders. *Clinics in Geriatric Medicine, 19*, 663-696.
- Hyer, L., Kramer, D., & Sohnle, S. (2004). CBT with older people: Alterations and the value of the therapeutic alliance. *Psychotherapy: Theory, Research, Practice, Training, 41*, 276-291.
- Karel, M. J. & Hinrichsen, G. (2000). Treatment of depression in late life. Psychotherapeutic interventions. *Clinical Psychology Review, 20*, 707-729.
- Kasen, S., Cohen, P., Chen, H., & Castille, D. (2003). Depression in adult women: Age changes and cohort effects. *American Journal of Public Health, 93*, 2061-2066.
- Knight, B.G. (2004). *Psychotherapy with older adults*, 3<sup>rd</sup> edition. Thousand Oaks (CA): Sage Publications.
- Knight, B. G., Nordhus, I. H., & Satre, D. D. (2003). Psychotherapy with the older client: An integrative approach. In I. B. Weiner (Series Ed.) & G. Stricker & T. A. Widiger (Vol. Eds.), *Comprehensive Handbook of Psychology, Vol. 8: Clinical Psychology* (pp. 453-468). New York: John Wiley and Sons.
- Knight, B. G., & Satre, D. D. (1999). Cognitive behavioral psychotherapy with older adults. *Clinical Psychology: Science and Practice, 6*, 188-203.

- Laidlaw, K., Thompson, L. W., & Gallagher-Thompson, D. (2004). Comprehensive conceptualization of cognitive behavior therapy for late life depression. *Behavioral and Cognitive Psychotherapy, 32*, 389-399.
- Lang, F. R. (2001). Regulation of social relationships in later adulthood. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 56*, P321-P326.
- Lauderdale, S. A., & Sheikh, J. I. (2003). Anxiety disorders in older adults. *Clinics in Geriatric Medicine, 19*, 721-724.
- Levenson, M. R., Aldwin, C. M., & Spiro, A. (1998). Age, cohort and period effects on alcohol consumption and problem drinking: Findings from the Normative Aging Study. *Journal of Studies on Alcohol, 59*, 712-722.
- Levenson, R. W., Carstensen, L. L., Friesen, W. V., & Ekman, P. (1991). Emotion, physiology, and expression in old age. *Psychology and Aging, 6*, 28-35.
- Lichtenberg, P. A. (1994). *A guide to psychological practice in geriatric long term care.* New York: Haworth Press.
- Light, L. L. (2000). Memory changes in adulthood. In S. H. Qualls & N. Abeles (Eds.), *Psychology and the aging revolution: How we adapt to longer life* (pp. 73-97). Washington, DC: American Psychological Association.
- Lopez, M. A., & Mermelstein, R. J. (1995). A cognitive-behavioral program to improve geriatric rehabilitation outcome. *The Gerontologist, 35*, 696-700.
- Lyness, J. M., King, D. A., Cox, C., Yoediono, Z., & Caine, E. D. (1999). The importance of subsyndromal depression in older primary care patients: prevalence and associated functional disability. *Journal of the American Geriatrics Society, 47*, 647-652.

- Malatesta, C. Z., & Izard, C. E. (1984). The facial expression of emotion Young, middle-aged, and older adult expressions. In C. Z. Malatesta & C. E. Izard (Eds.), *Emotion in adult development* (pp. 253-273). Beverly Hills, CA: Sage Publications, Inc.
- Mather, M., & Carstensen, L. L. (2005). Aging and motivated cognition: The positivity effect in attention and memory. *Trends in Cognitive Science, 9*, 496-502.
- Mohlman, J., Gorenstein, E. E., Kleber, M., de Jesus, M., Gorman, J. M., & Papp, L. A. (2003). Standard and enhanced cognitive-behavior therapy for late-life generalized anxiety disorder: Two pilot investigations. *American Journal of Geriatric Psychiatry, 11*, 24-32.
- Morin, C. M., Bastien, C., Guay, B., Radouco-Thomas, M., Leblanc, J., & Vallieres, A. (2004). Randomized clinical trial of supervised tapering and cognitive behavior therapy to facilitate benzodiazepine discontinuation in older adults with chronic insomnia. *American Journal of Psychiatry, 161*, 332-342.
- Morin, C. M., Blais, F. Savard, J. (2002). Are changes in beliefs and attitudes about sleep related to sleep improvements in the treatment of insomnia? *Behavioral Research and Therapy, 40*, 741-752.
- Mroczek, D. K., & Spiro, A. (2003). Modeling intraindividual change in personality traits: Findings from the Normative Aging Study, *Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 58*, P153-P165.
- Morin, C. M., Kowatch, R. A., Barry, T., & Walton, E. (1993). Cognitive-behavior therapy for late-life insomnia. *Journal of Consulting and Clinical Psychology, 6*, 137-146.
- National Center for Health Statistics. (1999). *Health, United States, 1999, with Health and Aging Chartbook*. Hyattsville, Maryland: U.S. Government Printing Office.
- Nau, S. D., McCrae, S. S., Cook, K. G. & Lichstein, K. L. (2005). Treatment of insomnia in older adults. *Clinical Psychology Review, 25*, 645-672.

- Nezu, A. M., Nezu, C. M., & Perri, M. G. (1988). *Problem-solving Therapy for Depression*. New York: Wiley-Interscience.
- Norcross, J. C., & Knight, B. G. (2000). Psychotherapy and aging in the 21st century: Integrative themes. In S. H. Qualls & N. Abeles (Eds.), *Psychology and the aging revolution: How we adapt to longer life* (pp. 259-286). Washington, DC, US: American Psychological Association.
- Ong, A. D. & Bergeman, C. S. (2004). The complexity of emotions in later life. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 59, P117-P122.
- Oslin, D. W. (2000). Alcohol use in late life: Disability and comorbidity. *Journal of Geriatric Psychiatry and Neurology*, 13, 134-140.
- Parmalee, P. A., Katz, I. R., & Lawton, M. P. (1991). The relation of pain to depression among institutionalized aged. *Journals of Gerontology*, 46, P15-21.
- Pinquart, M., & Sörensen, S. (2001). How effective are psychotherapeutic and other psychosocial interventions with older adults? A meta-analysis. *Journal of Mental Health & Aging*, 7, 207-243.
- Poon, L. W. (1985). Differences in human memory with aging: Nature, causes, and clinical implications. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (2nd ed., pp. 427-62). New York: Van Nostrand Reinhold.
- Rapp, S. R., Parisi, S. A., Walsh, D. A., & Wallace, C. E. (1988). Detecting depression in elderly medical inpatients. *Journal of Consulting and Clinical Psychology*, 56, 509-513.
- Robinson, L. A., Berman, J. S., & Neimeyer, R. A. (1990). Psychotherapy for the treatment of depression: A comprehensive review of controlled outcome research. *Psychological Bulletin*, 108, 30-49.

- Roy, R., & Michael, T. (1986). A survey of chronic pain in an elderly population. *Canadian Family Physician, 32*, 513-516.
- Rybarczyk, B., Gallagher-Thompson, D., Rodman, J., Zeiss, A., Gantz, F. E., & Yesavage, J. (1992). Applying cognitive-behavioral psychotherapy to the chronically ill elderly: Treatment issues and case illustration. *International Psychogeriatrics, 4*, 127-140.
- Rybarczyk, B., Lopez, M., Benson, R., Alsten, C., & Stepanski, E. (2002). Efficacy of two behavioral treatment programs for comorbid geriatric insomnia. *Psychology and Aging, 17*, 288-298.
- Salthouse, T. A. (1985). Speed of behavior and its implications for cognition. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (2nd ed., pp. 400-426). New York: Van Nostrand Reinhold.
- Salthouse, T. A. (1994). The aging of working memory. *Neuropsychology, 8*, 535-543.
- Salthouse, T. A. (1996). The processing-speed theory of adult age differences in cognition. *Psychological Review, 103*, 403-428.
- Satre, D. D., Knight, B. G., Dickson-Furhmann, E., & Jarvik, L. F. (2003). Predictors of alcohol treatment seeking in a sample of older veterans in the GET SMART program. *Journal of the American Geriatrics Society, 51*, 380-386.
- Satre, D. D., Knight, B. G., Dickson-Furhmann, E., & Jarvik, L. F. (2004). Substance abuse treatment initiation among older adults in the GET SMART program: Effects of depression and cognitive status. *Aging and Mental Health, 8*, 346-354.
- Satre, D. D., Mertens, J. M., Areán, P. A., & Weisner, C. (2004). Five-year alcohol and drug treatment outcomes of older adults versus middle-aged and younger adults in a managed care program. *Addiction, 99*, 1286-1297. .



- Schaie, K. W. (1995). *Intellectual development in adulthood: The Seattle Longitudinal Study*. New York: Cambridge University Press.
- Schaie, K. W. (1996). Intellectual development in adulthood. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (4th ed., pp. 266-286). San Diego: Academic Press.
- Schneider, L. S. (1994). Meta-analysis from a clinician's perspective. In L. S. Schneider, C. F. Reynolds, B. D. Liebowitz, & A. J. Friedhoff (Eds.), *Diagnosis and treatment of depression in late life: Results of the NIH Consensus Development Conference* (pp 361-374). Washington, DC: American Psychiatric Press.
- Schonfeld, L., & Dupree, L. W. (1995). Treatment approaches for older problem drinkers. *The International Journal of the Addictions*, 30, 1819-1842.
- Schubert, C.R., Cruickshanks, K. J., Dalton, D. S., Klein, B. E., Klein, R. & Nondahl, D. M. (2002). Prevalence of sleep problems and quality of life in an older population. *Sleep*, 25, (8), 889-893.
- Schulz, R. (1982). Emotionality and aging: A theoretical and empirical analysis. *Journal of Gerontology*, 37, 42-51.
- Scogin, F., Jemison, C. & Gochneaur, K. (1989). Comparative efficacy of cognitive and behavioral bibliotherapy for mildly and moderately depressed older adults. *Journal of Consulting and Clinical Psychology*, 57, 403-407.
- Scogin, F., & McElreath, L. (1994). Efficacy of psychosocial treatments for geriatric depression: A quantitative review. *Journal of Consulting and Clinical Psychology*, 62, 69-74.
- Segal, D. L. (2005). Relationships of assertiveness, depression, and social support among nursing home residents. *Behavior Modification*, 29, 689-695.

- Sheikh, J. I., Swales, P. J., Carlson, E. B., & Lindley, S. E. (2004). Aging and panic disorder: Phenomenology, comorbidity, and risk factors. *American Journal of Geriatric Psychiatry, 12*, 102-109.
- Small, B. J., Dixon, R. A., & Hultsch, D. F. (1999). Longitudinal changes in quantitative and qualitative indicators of word and story recall in young-old and old-old adults. *Journal of Gerontology: Psychological Sciences, 54B*, P107-P115.
- Smith, A. D. (1996). Memory. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (4th ed., pp. 236-250). San Diego, CA: Academic Press.
- Stanley, M. A., Beck, J. G., Novy, D. M., Averill, P. M., Swann, A. C., Diefenbach, G. J., & Hopko, D. R. (2003). Cognitive-behavioral treatment of late-life generalized anxiety disorder. *Journal of Consulting and Clinical Psychology, 71*, 309-319.
- Stanley, M. A., Diefenbach, G. J., & Hopko, D. R. (2004). Cognitive behavioral treatment for older adults with generalized anxiety disorder: A therapist manual for primary care settings. *Behavior Modification, 28*, 73-117.
- Sturm, R., Ringel, J. S., & Andreyeva, T. (2004). Increasing obesity rates and disability trends. *Health Affairs, 23*, 199-205.
- Teri, L., & Gallagher-Thompson, D. (1991). Cognitive-behavioral interventions for treatment of depression in Alzheimer's patients. *The Gerontologist, 31*, 413-416.
- Teri, L., & Lewinsohn, P. M. (1986). *Geropsychological assessment and treatment*. New York: Springer.

- Teri, L., Logsdon, R. G., Uomoto, J., & McCurry, S. M. (1997). Behavioral treatment of depression in dementia patients: a controlled clinical trial. *Journal of Gerontology B: Psychological Sciences*, *52*, P159-P166.
- Thompson, L. W., Gallagher, D., & Breckenridge, J. S. (1987). Comparative effectiveness of psychotherapies for depressed elders. *Journal of Consulting and Clinical Psychology*, *55*, 385-390.
- Thompson, L. W., Coon, D. W., Gallagher-Thompson, D., Sommer, B. R., & Koin, D. (2001). Comparison of desipramine and cognitive/behavioral therapy in the treatment of elderly outpatients with mild-to-moderate depression. *American Journal of Geriatric Psychiatry*, *9*, 225-240.
- Tsai, J. L., Levenson, R. W., & Carstensen, L. L. (2000). Autonomic, subjective, and expressive responses to emotional films in older and younger Chinese Americans and European Americans. *Psychology and Aging*, *15*, 684-693.
- Unutzer, J. (2002). Diagnosis and treatment of older adults with depression in primary care. *Biological Psychiatry*, *52*, 285-292.
- Wetherell, J. L., Gatz, M., & Craske, M. G. (2003). Treatment of generalized anxiety disorder in older adults. *Journal of Consulting & Clinical Psychology*, *71*, 31-40.
- Wetherell, J. L., Sorrell, J. T., Thorp, S. R., & Patterson, T. L. (2005). Psychological interventions for late-life anxiety: a review and early lessons from the CALM study. *Journal of Geriatric Psychiatry and Neurology*, *18*, 72-82.
- Widner, S., & Zeichner, A. (1993). Psychologic interventions for the elderly chronic pain patient. *Clinical Gerontologist*, *13*, 3-18.

Wilson, R. S., Mendes de Leon, C. F., Bennett, D. A., Bienias, J. L., & Eva, D. A. (2004).

Depressive symptoms and cognitive decline in a community population of older adults.

*Journal of Neurology, Neurosurgery and Psychiatry*, 75, 126-129.

Zeiss, A. M., Lewinsohn, P. M., Rohde, P., & Seeley, J. R. (1996). Relationship of physical

disease and functional impairment to depression in older people. *Psychology and Aging*,

11, 572-581.

Zeiss, A. M., & Steffen, A. (1996). Behavioral and cognitive-behavioral treatments: An overview

of social learning. In S. H. Zarit & B. G. Knight (Eds.), *A guide to psychotherapy and*

*aging* (pp. 25-60). Washington, DC: American Psychological Association.

Zelinski, E. M., & Burnight, K. P. (1997). Sixteen-year longitudinal and time lag changes in

memory and cognition in older adults. *Psychology and Aging*, 12, 503-513.