



# PSYCHOSOCIAL INTERVENTIONS FOR INDIVIDUALS WITH DEMENTIA: AN INTEGRATION OF THEORY, THERAPY, AND A CLINICAL UNDERSTANDING OF DEMENTIA

*Julia Kasl-Godley, Ph.D.*

*Veterans Affairs, Palo Alto Health Care System*

*Margaret Gatz, Ph.D.*

*University of Southern California*

**ABSTRACT.** *We reviewed six psychosocial interventions for individuals with dementia. Interventions are described in terms of theoretical basis, how knowledge about dementia is incorporated, techniques, and empirical support. Psychodynamic approaches appear helpful for understanding intrapsychic concerns of demented individuals. Support groups and cognitive/behavioral therapy assist early stage individuals to build coping strategies and reduce distress. Reminiscence and life review provide mild to moderate stage individuals with interpersonal connections. Behavioral approaches and memory training target specific cognitive and behavioral impairments and help to optimize remaining abilities. Reality orientation reflects a similar goal, yet is probably more useful for its interpersonal functions. © 2000 Elsevier Science Ltd.*

OVER A QUARTER of a century ago, before the etiology, course and the diagnostic category of dementia were understood, efforts were being made to treat “confused,” “disoriented” and “regressed” individuals, who variously were diagnosed with conditions such as organic brain syndrome, chronic brain syndrome or senile dementia. During the past 20 years there has been an increased understanding of these syndromes, now more commonly referred to as dementia, coupled with efforts to develop more effective psychosocial and pharmacological treatments for the behavioral, cogni-

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Correspondence should be addressed to Julia Kasl-Godley, Department of Veterans Affairs, Palo Alto Health Care System, 3801 Miranda Avenue, Palo Alto, California 94304, USA. E-mail: Kasl-godley.julia@Palo-Alto.VA.GOV

tive, and social problems arising from dementia-related changes. This paper will review six of the most commonly used psychosocial interventions for individuals with dementia. Before discussing the specific interventions, we briefly review the changes in functioning that characterize dementia and describe the psychological effects of these changes, thereby providing a foundation for intervention.

Dementia of the Alzheimer's type, typically referred to as Alzheimer's disease (AD), and the vascular dementias (VaD), including multi-infarct dementia, represent the most common irreversible dementia syndromes (Cummings & Benson, 1992). Less common dementias include dementia due to Parkinson's disease, Lewy body disease, Pick's disease, frontal-temporal dementia and progressive dementing disorders such as Huntington's disease and Creutzfeldt-Jakob disease. All dementias are characterized by impairment in multiple cognitive domains including memory, language, problem solving, judgment and abstraction, visuospatial abilities, and skilled movement (Zec, 1993). Dementias also may be associated with psychiatric symptoms (e.g. hallucination, delusions), behavioral disturbances, (e.g. agitation), personality changes (e.g., irritability), and disturbances of affect (e.g. depression, emotional lability) (Burns, 1992; 1996; Gilley, 1993). These changes can be viewed as both a manifestation of the underlying disease process and a psychological reaction to it.

The main distinction between AD and VaD is disease course, with AD showing a pattern of steady progressive deterioration whereas VaD may show a more stepwise deterioration (Metter & Wilson, 1993). When differences in psychiatric symptomatology and behavioral problems are found between diagnostic groups, the differences are more often attributable to differences in severity of impairment or stage of the disease, rather than to diagnosis (Verhey, Ponds, Rozendaal, & Jolles, 1995; Seltzer, Vasterling, & Buswell, 1995; Burns, 1992; 1996).

Although the type of cognitive and functional impairments experienced by demented individuals is well delineated, the demented individual's subjective experience of these impairments is not. The likely effect of limited information about the subjective experience of the disease is that treatable distress and excess disability may go undetected, remaining abilities and psychological resources underutilized, and means of coping and adaptation unfacilitated (e.g. Cohen, 1991; Cotrell & Schulz, 1993; Harrison, 1993; Kitwood, 1990; Kitwood, 1993; Kitwood & Bredin, 1992).

What we know about demented individuals' subjective experience of the disease comes from a mixture of clinical interviews and observation. For example, Solomon (1982) conducted one- to two-hour semi-structured interviews with 86 individuals diagnosed with Alzheimer's disease. Depressive symptoms were common, particularly in those individuals in the early stages of dementia who were more aware of their problems. These symptoms usually reflected grief over loss of intellectual abilities and capacity to function independently, coupled with diminished feelings of mastery and control. In both early and middle stage individuals, panic and specific fears of becoming incapacitated and of passing on the disease were observed as well as frustration and anger directed at others. Suspiciousness was generally reported by those in the middle stage.

These findings were supported by a second interview-based investigation entailing individual, biweekly, half-hour meetings between a psychiatrist and seven demented persons (Bahro, Silber & Sunderland, 1995). The investigators noted additional stressors, such as increased dependency on others and loss of self-esteem. Individuals appeared to cope with these stresses in different ways, including self-blame, somatization, blaming others, minimization of the severity of the impairment, and denial of the condition (by avoiding naming the illness or gathering information about it).

A third study was based on semi-structured clinical notes made during one-time individual counseling sessions with 22 persons diagnosed with mild Alzheimer's disease but free of clinical depression (LaBarge, Rosenman, Leavitt & Cristiani, 1988). The investigators reported many of the same coping responses as those observed in the Bahro et al. (1995) study. However, the data also revealed other—generally positive and mature—coping strategies, including: emotional management such as pep talks or conscious attitude adjustments, use of mnemonic aids, appreciation that one has successfully mastered prior life crises, use of humor, maintenance of a social support network, use of philosophical tenets such as believing that one is not alone, and modeling.

Cohen, Kennedy and Eisdorfer (1984) suggest that there is actually a sequence of reactions in how demented individuals perceive and react to their illness. These phases are (1) recognition and concern, (2) denial, (3) anger, guilt and sadness, (4) coping, (5) maturation and (6) separation from self. In this scenario, one would expect demented individuals to move from use of less mature defense mechanisms to more mature forms of coping such as those described by LaBarge et al. (1988). The authors further argue that an understanding of these phases is necessary to defining treatment goals and intervention strategies.

In this paper, we take the view that the symptoms and behaviors of demented individuals are not solely a manifestation of the underlying disease process, but also reflect the social and environmental context, as well as the demented individual's perceptions and reactions. Psychosocial interventions can address these factors. Ideally, an intervention should (1) reflect a theoretical view for understanding the person and psychological health prior to dementia, (2) build on knowledge of the psychological impact of dementia, including how cognitive changes caused by dementia contribute to distress, (3) apply strategies that alleviate distress, facilitate coping, support personal resources and maximize functioning, and (4) have empirical evidence for the intervention when used with individuals with dementia.

In this paper, we review existing psychological interventions for people with dementia using the integrated framework outlined above. These interventions include: psychodynamic approaches, reminiscence and life review therapy, support groups, reality orientation (RO), memory training, and cognitive/behavioral approaches. The interventions are sequenced roughly according to those that target more psychological and social outcomes and those that target more behavioral and cognitive outcomes. This grouping, however, reflects a relative emphasis rather than a strict distinction because there is significant overlap among the approaches. While these six interventions by no means constitute an exhaustive list, they do represent some of the major intervention approaches used with individuals with dementia.

### **PSYCHODYNAMIC APPROACHES**

The psychodynamic theories relevant to this review encompass psychoanalytic and ego analytic theory, ego developmental psychology, object relations theory and self psychology. While these approaches have much in common, ego analytic psychology puts relatively more emphasis on how the ego successfully copes with and adapts to conflict, rather than how it defends against it (Wolitzky, 1995). Object relations theory and self psychology view the self as determined by relationships and people as striving to form good relationships (Karon & Widener, 1995). According to these theoretical

perspectives, people never lose the need for other people to acknowledge one's competencies and provide support in times of stress (Lazarus, 1980; Sadavoy, 1991).

### ***How Dementia Influences Psychodynamic Conceptualizations of Person and Behavior***

There have been a number of efforts to describe dementia in terms of psychodynamic, ego analytic, and ego developmental concepts. Dementia results in weakened ego functioning, diminished mastery over the environment and increased dependency. These changes may trigger unresolved psychodynamic conflicts depending on the adequacy of defenses (Solomon & Szabo, 1992). In early stage dementia, the weakened ego tries to protect itself from current and subsequent losses, often through defense mechanisms such as denial, projection, splitting, or withdrawal. As the dementia progresses, the individual struggles to maintain a sense of self and becomes increasingly dependent. The person may show an increasing need for reassurance and shadowing of others. Eventually defense mechanisms fail and the individual becomes more distressed, showing aggression, agitation, hostility, outbursts, catastrophic reactions, isolation, despair and loneliness.

Self psychologists and object relations theorists emphasize the ways that dementia compromises one's capacity to maintain a sense of self through internalized self-object relations. The individual must rely increasingly on others to provide the ego functions that maintain a sense of self (Unterbach, 1994; O'Connor, 1993). The result of this increased reliance on others is insecurity, fear of separation, and the need for constant contact. The merging of past experiences with the present, stemming from memory decline, can support self-concept and self-worth if the images of the past evoke a sense of pleasure and accomplishment; it also may fragment the self, (e.g., if dead or absent individuals are thought to exist in the present or, if people from the past are not recognized or remembered in the present). As the dementia becomes more severe, even the ability to use others as a means to enhance one's sense of self becomes impaired, resulting in extreme confusion, anxiety and psychotic defenses (Sadavoy, 1991).

### ***Treatment Models for Individuals with Dementia Based On Psychodynamic Theories***

The basic rationale for approaches based on these theories is that ego functions and object relationships can be maintained through a safe, accepting therapeutic relationship, where the individual feels understood and supported (Hausman, 1992). Psychodynamic interventions are conducted in either individual or group format, on either an inpatient (e.g., long term care facility) or outpatient (e.g., adult day care centers) basis. Typically, individual sessions are held 2-3 times a week for 15 to 30 minutes, in order to maximize emotional and cognitive carry-over. However, some authors state that sessions may need to be held several times daily for 5-15 minutes, depending on the individual patient. The general goals of individual psychotherapy are to reorganize the self to incorporate the disease process, replace inadequate coping with adequate coping, and reduce emotional distress (Solomon & Szabo, 1992). Group sessions, which supplement individual goals with socialization and sharing of common concerns, are typically ongoing, meet at least weekly, and last for no longer than one hour.

To help patients achieve insight into their disease, Solomon and Szabo (1992) emphasize the use of concrete interpretations rather than more abstract or existential observations and the limited use of transference and confrontation. Although not ex-

explicitly stated, this approach is likely to be more suitable for early to mid-stage individuals. These authors do explicitly indicate that insight-oriented approaches are not appropriate for moderate to later stage individuals.

Other writers describe more supportive approaches. Unterbach (1994) takes an ego-developmental and self-psychological perspective, where the goal is to maintain the self by having the therapist serve as an auxiliary self for the demented person, thereby providing a sense of internal continuity and identity (Unterbach, 1994). O'Connor (1993) adds that a sense of self is maintained through empathic listening, acceptance of defenses, and use of the therapeutic relationship to validate remaining abilities and competencies, and to provide a calming, reassuring and supportive presence. Sadavoy (1991) proposes that a sense of self is maintained by meeting the demented person's needs to feel competent, worthwhile and supported.

Finally, although Hausman (1992), Solomon and Szwabo (1992), and others offer techniques that derive from a generic psychodynamic perspective, these authors also advocate techniques that overlap with other intervention approaches. These adjunctive techniques include reminiscence, breathing and relaxation exercises, behavior modification, and therapeutic use of touch.

### ***Empirical Evidence***

Psychodynamic approaches with individuals with dementia remain virtually untested through controlled clinical trials. Support for the utility of these approaches tends to be drawn from case vignettes. We found two published empirical investigations of psychodynamic therapy with demented individuals. The number of participants cited, as true throughout this review, refers to the number of participants who completed the study (if the distinction was made between enrolled and completed participants).

The first investigation compared cognitive and emotional functioning in five demented inpatients after receiving initially, reality orientation (RO), followed by, psychodynamic group therapy (Akerlund & Norberg, 1986). Neither condition is described in detail. Sessions were held for approximately an hour and one-half, four times a week for an unknown duration. Based on retrospective, qualitative observations made by the group leaders, the patients appeared to be more active and participated at a higher cognitive level while in the psychodynamic group compared to the RO group. The authors conducted a subsequent pilot study of psychodynamic group therapy with another four moderately demented inpatients. Clinical impressions of videotapes of these sessions supported the authors' conclusion that patients showed improved cognitive and emotional functioning and social interaction while participating in the psychodynamic group. While these observations are encouraging, it should also be recognized that clinical impressions are subject to bias, particularly when done by a single clinician and with no formal coding system or reliability checks.

A second study examined change in interpersonal behavior during group therapy sessions in 39 demented and non-demented geriatric inpatients randomly assigned to either psychoanalytic group therapy or remotivation therapy (Birkett & Boltuch, 1973). The psychoanalytic therapy condition was not described. Sessions were held for one hour, once a week for 12 weeks. Behavior was assessed by raters blind to the participants' assignment, using two scales, one of which had established reliability and validity with non-demented individuals. Mean improvement for each group is reported, showing that participants in both groups improved slightly, but the groups did not differ from each other.

In summary, the impact of dementia on the self and behavior has been explained by psychoanalytic, ego developmental, self psychological and object relations theory. These models provide a sound link to theory and provide a clear explanation of psychological distress, mechanisms of change and the associated treatment strategies. Thus, psychodynamic approaches may be helpful in thinking about the intrapsychic experience of the individual with dementia and may be helpful for the therapist to bear in mind when trying to establish rapport. Specific strategies often are not operationalized, making it difficult to evaluate and replicate the treatment. Few empirical investigations address the efficacy of psychodynamic interventions for demented individuals. Available studies provide limited evidence for the efficacy of these interventions. Notably, writers advocating these models (Sadavoy, 1991; Unterbach, 1994) at times recommend approaches that use some combination of psychodynamic theory and other techniques.

### REMINISCENCE AND LIFE REVIEW

Reminiscence and life review approaches have been developed specifically for older adults, and most tend to refer to Erikson's (1950, 1959) theory of psychosocial development for a theoretical framework. The primary goals of reminiscence therapy are to facilitate recall of past experiences so to promote intrapersonal and interpersonal functioning and thereby improve well-being. Reminiscence functions intrapersonally to enhance self-understanding and a sense of personal continuity, aid in achieving a sense of meaning to one's life, and facilitate resolution of the final life state—ego integrity versus despair. Reminiscence also serves interpersonal functions such as leaving a legacy (Molinari & Reichlin, 1984-85; Romaniuk, 1981; Romaniuk & Romaniuk, 1981). The goals of reminiscence therapy are typically achieved with the use of themes, props and triggers (Burnside, 1994). One problem lies in whether the use of these tools will necessarily promote the sorts of reflection and integration of experience which are the critical components to achieving resolution of the crisis of ego integrity versus despair. Furthermore, little attention has been given to minimizing negative outcomes.

Butler (1963) makes a theoretical distinction between the process of reminiscence and of life review. Life review involves the evaluation and re-synthesis of past experiences precipitated by the need to resolve conflicts and achieve a sense of meaning to one's life before one dies, whereas reminiscence is the act or process of recalling the past. The goals of life review therapy are to facilitate the inevitable life review process and minimize distress by providing support, understanding and acceptance. Methods to engage older adults in the life review process include: written or taped autobiographies; pilgrimages, either in person or through correspondence; reunions; construction of a genealogy; creation of memorabilia through scrapbooks, photo albums, collection of old letters; verbal or written summary of life work; and preservation of ethnic identity (Butler, 1974; Lewis & Butler, 1974). Information is sparse about specific strategies used in conjunction with these methods to support the individual during the life review process.

#### ***How Dementia Influences the Rationale and Application of Reminiscence and Life Review***

Little attention has been given to how dementia might affect the ability to reflect upon and integrate experiences or to determine whether life was meaningful. Lewis and But-

ler (1974) comment that, "Life-review therapy need not be ruled out because of brain damage . . . Brain damage, of course, cannot be reversed, but overlying depression may be alleviated and adaptation may be encouraged (pp. 169)." In addition, it is argued that reminiscence may be particularly important for demented individuals' psychological health given that the progressive deteriorating nature of the disease erodes the ability to achieve present successes and makes individuals increasingly dependent on past accomplishments for a sense of competency (Cook, 1984; Kiernat, 1979).

Some have suggested that demented individuals retain much of the capacity to recall and integrate the past because remote memory is spared through most of the disease process (Cook, 1984; Woods, Portnoy, Head, & Jones, 1992). However, it is likely that the active reflection upon and re-integration of the past is compromised. A compromised ability to process past experiences is likely to affect some interpersonal functions, such as leaving a legacy, but not others, such as developing relationships. Indeed, reminiscence may provide a structured way to be involved with others (Woods et al. 1992). Based on findings from memory research and on his own clinical experiences, Woods (1994) adds that affective aspects of memories may persist even if factual content becomes difficult to recall.

### ***Treatment Models for Individuals with Dementia Based On Reminiscence and Life Review***

Reminiscence therapy with demented individuals is usually conducted in groups, focusing more on its socialization functions rather than its intrapersonal functions. Facilitators need to be active; ensure the participation of each member; limit repetitive discourse; use cues that can stimulate memories of the past; and provide continuity (Cook, 1984; Goldwasser, Auerbach, & Harkins, 1987). Also, there is some suggestion that individuals of varying levels of impairment should not be placed together (Goldwasser et al. 1987).

Kiernat (1979) provides a description of what seems to be a prototypic reminiscence group for demented individuals. Each session covers a different period, starting from childhood and ending with the present. The sessions are designed to promote reminiscing about a specific person, event or era in the individuals' life and to identify and reinforce accomplishments and other positive aspects of the recalled experiences. Props such as pictures, books, or old objects may be used. Woods et al. (1992) suggest that triggers through music are particularly effective. One caution should be noted when considering reminiscence therapy. Activities that always have been used in homes for the aged, such as playing songs on the piano that were contemporary when the residents were young adults, have tended to be recast in terms of reminiscence therapy, although bearing only superficial resemblance to Erikson's conceptualization of the search for ego integrity.

### ***Empirical Evidence***

Several investigations offer evidence about the effectiveness of reminiscence. No controlled studies of life review therapy with demented older adults were found. Early studies of reminiscence groups in confused nursing home patients (Cook, 1984; Kiernat, 1979) reported improvement in interpersonal communication. However, findings were based on group leaders' clinical observations, which are prone to bias such as expectancy effects. In addition, there was no comparison group; thus, one cannot confidently attribute behavioral change to the intervention itself as opposed to some non-specific treatment influence such as attending a group activity.

A controlled study of reminiscence group therapy with 27 demented nursing home residents was conducted by Goldwasser et al. (1987). Participants were randomly assigned to reminiscence group therapy, an attention-placebo support group that focused on present or future events and problems, and a no-treatment control condition. The reminiscence and support groups met twice a week for five weeks. Measures included cognitive functioning (a mental status test), depression, and activities of daily living. Improvement from pre-test to post-test was found only for depression, with symptoms decreasing significantly for the reminiscence group participants in comparison to both control conditions. However, baseline differences in depressive symptoms, despite random assignment, suggest that the findings could reflect regression to the mean. Furthermore, the improvement in mood all but disappeared by the five week follow-up.

Baines, Saxby, and Ehlert (1987) used a cross-over design to examine the effects of group reminiscence therapy compared to classroom reality orientation (RO) for 15 cognitively impaired older adult nursing home residents. Participants were matched for age and cognitive impairment and randomly assigned to reminiscence, RO, or a no-treatment control group. Each group met daily, for ½ hour over four weeks, followed by a four-week no treatment interval, then the second intervention. Assessments were completed before and after each intervention and again one month after the sessions ended. The report does not provide information about item content or psychometric properties of the measurement instruments. When participating in the reminiscence groups, residents' gross cognitive functioning (orientation) maintained or showed a trend towards improvement, a finding that held at follow up. No changes were reported for behavioral functioning or life satisfaction. Staff knowledge of the residents increased significantly for both therapy groups in comparison to the control group. Staff knowledge was in turn associated with increased interaction with and enjoyment of the residents, presumed ultimately to benefit the psychological well-being of the residents.

Head, Portnoy, and Woods (1990) examined the effects of reminiscence group therapy in comparison to alternative group activities (group games and individual endeavors such as knitting) on communication between 10 cognitively impaired participants and staff. Two settings were used, a community and an institutional day care setting. Groups met for one hour, weekly for six weeks. Data were collected using event recording, based on observation of live and videotaped interactions both within and outside of the group. Inter-rater reliability averaged 90% agreement. The results indicate that in the setting where there was little baseline interaction and more cognitively impaired individuals (the institutional setting), reminiscence facilitated within-group, staff-to-participant interaction and participant-to-staff interaction, and did so significantly better than alternative activities. However, reminiscence did not change participant-to-participant interaction, raising questions about the possibility of fostering peer interaction in moderately to severely impaired persons.

In summary, reminiscence and life review therapy have been extended to demented individuals, based on the assumption that they show the same need to find meaning and a consistent self and that they retain the capacity for psychological adaptation through the process of reminiscence. This assumption (which maps onto the intrapersonal goals of reminiscence) may be appropriate only for individuals with mild impairment. Interpersonal goals may be more relevant to individuals with more moderate impairment. Studies examining the use of reminiscence with demented individuals find that, in general, individuals show minor improvement in social and psy-



chological functioning, including improved relations with staff providers, and a decrease in problem behaviors. Changes in cognitive functioning tend not to be observed but would not be predicted based on the theoretical model.

## SUPPORT GROUPS

The basis for using support groups as a psychosocial intervention is the assumption that when individuals who have experienced a similar traumatic event (stressor) gather together to share their concerns, they can cope with the stress better than on their own. The group supplies: (a) emotional bonding that creates closeness and reduces feelings of isolation; (b) enhanced self-esteem in having information to share about current coping strategies; and (c) information exchange that creates a sense of hope and efficacy (Toseland, 1995).

### *How Dementia Influences Conduct of Support Groups*

The role of support groups with respect to dementia has chiefly revolved around support groups for caregivers to relatives with dementia. Only recently has the notion of support groups been expanded to include individuals with dementia themselves, in part propelled by spontaneous self-help groups of Alzheimer's disease patients. Support groups for people in the early stages of a dementia presume that individuals with dementia have the same needs as others for distress reduction, interpersonal connection and acceptance, feelings of competence, and practical assistance. Those individuals with moderate to severe dementia are believed not to be able to benefit from support groups, because they are less able to articulate their thoughts and feelings (Yale, 1995).

### *Treatment Models for Individuals with Dementia Based On Support Group Model*

Support groups vary in structure, format and content which makes it difficult to draw conclusions about their use as a whole. However, this limitation is true for all group therapies and is not unique to this intervention approach. Groups range from those highly structured around particular themes to those loosely organized around a few discussion topics or questions, such as coping with changes and developing support systems (see Davies, Robinson, & Beville, 1995, and Yale, 1995). Goals include grief work, achieving balance between maintaining independence and facing dependence, responding to altered interpersonal interactions, and provision of information about the disease and community resources (Yale, 1989; 1991; 1995). Some groups incorporate relaxation, reminiscence, or exercise. Groups tend to be closed-ended, that is, no new members are accepted after the group starts, and tend to meet for a pre-designated number of weeks, typically eight.

Several general guidelines are recommended for facilitating support groups for individuals with dementia, although they also are relevant to any group therapy. These guidelines include: create a safe, comfortable atmosphere; communicate interest, empathy, and acceptance; encourage group decision making; and foster member-to-member interaction. Suggested techniques that reflect the special needs of demented individuals include: (a) introduce one question at a time; (b) be concrete and specific in

repeating themes and providing explanations; (c) remain tolerant and provide reassurance if anxiety or confusion occur; (d) acknowledge limitations and (e) be prepared to adopt an increasing active role over time (see discussions by La Barge & Trtanj, 1995; Yale, 1989; 1991; 1995).

One infrequent but significant variation in the format is holding a support group for demented individuals and one for their care providers, concurrently, and then having the members from both groups come together for part of the time (e.g. Aronson et al., 1984; Snyder et al., 1995). This format allows the respective participants to address their independent, individual needs, while using their conjoint time to enhance communication (Snyder, et al., 1995) and to educate caregivers about the impaired family member's capabilities (Aronson et al. 1984).

### ***Empirical Evidence***

There have been few empirical evaluations of support groups for individuals with dementia. David (1991) described an open-ended bi-weekly support group held at an adult day care center for five individuals with moderate impairment due to Alzheimer's disease. Reminiscence was a key component, with modifications made to improve recall (e.g., hanging photographs of group members on the wall of the group room, videotaping the group and then replaying segments at the next group meeting). The evaluation, although positive, was based only on the group leaders' general impressions and descriptions of each participant.

LaBarge and Trtanj (1995) examined a support group for 10 individuals with early-stage Alzheimer's disease. The group, which met concurrently with a group for family caregivers, was held twice a month, for 1 1/2 hours for a total of eight sessions. Two sessions provided education about memory functioning and six sessions were guided by the question—"Tell us about one good thing and/or bad thing that happened to you since we met the last time." The authors conclude that the group was beneficial based on positive responses on a participant evaluation questionnaire and on qualitative data analysis (audit trail) of group-process observations of bonding, acceptance of decline, and ability to consider coping responses. Whether or not these changes were maintained after the cessation of the group is unknown. Participant evaluations can be subject to distortion due to social desirability or the need for approval and the process observations may be prone to bias, particularly because they were recorded by the group facilitators who are invested in having the group do well. However, convergence of findings from these two types of measurement make the conclusions more credible.

Yale (1994) conducted a more systematic examination in which fifteen early AD individuals and their caregivers were assigned to either treatment or control conditions. The treatment condition consisted of eight, weekly 1 1/2 hour psychoeducational/support group meetings for dementia participants, with the last session open to both caregivers and care-recipients. The control condition consisted of usual care; assignment was non-random. Objective assessments and interview data were collected pre-test, post-test and two month follow-up, including cognitive and social functioning for the dementia participants and depression and burden for the caregivers. No statistically significant differences on objective measures were observed, possibly due to small sample size. Group process observations, which had good inter-observer reliability, were done for every group. Participants in the support group were found to be

more likely than controls to discuss problems related to their illness. Finally, subjective evaluations of the group were positive.

Published evaluations of conjoint support groups for early stage demented individuals and their family caregivers primarily employ clinical observation and participant evaluations (Aronson et al. 1984; McAfee, Ruh, Bell and Martichuski, 1989; Snyder, et al. 1995). For example, Aronson et al. (1984) reported that caregivers described positive carryover of care-recipient behavior from the group to the home environment. McAfee et al. (1989) describe the outcome of a weekly support group that met with seven families over a four month period (six conjoint sessions). According to these authors, caregivers reported a sense of empowerment by including their demented family member in discussions. Demented individuals reported that the honest discussions helped them understand the reality of their situation. They also expressed an empathic understanding of the caregiver's difficult future role.

Snyder et al. (1995) describe a conjoint psychoeducational/supportive seminar series for demented individuals and their caregivers. Fifteen participants completed the series, which met for eight weeks, generally separately for one hour and together for another half hour. Each meeting was structured around a specific topic and incorporated handouts. Topics included issues such as daily living, self-esteem, and legal and financial concerns. Systematic coding of participant statements and content-analysis were used to identify themes where there was inter-coder agreement of .90. Results indicated spontaneous participation, sharing of feelings and learning experiences and group cohesiveness. No data were available on changes in the interaction between the caregiver and care-recipient as a result of the sessions.

In summary, the support group model assumes that a supportive exchange is created when individuals who have experienced the same type of stressor gather together to share their common concerns. Only early stage demented individuals are considered capable of expressing concerns and forming supportive exchanges. More information is necessary, however, about the increased need for and reliance on a group facilitator as well as specific strategies that the facilitator may require in order to facilitate member-to-member supportive exchanges. There also often tends to be a convergence of intervention approaches, for example, reminiscence strategies used in support groups. As yet, evaluation of support groups for demented individuals are based predominantly on clinical observations by group leaders and participants' subjective evaluations. They do not involve a comparison group, precluding any strong conclusions about their merit.

## **REALITY ORIENTATION**

Reality Orientation (RO) is a general philosophy of inpatient treatment articulated by Folsom (1968) in concert with the nursing staff of a rehabilitation program for geriatric patients with long-standing and severe psychiatric problems, including confusion. According to the RO philosophy, confusion results from: (a) understimulation, (b) a lack of insistence or expectation that normal behaviors be performed, and (c) non-reinforcement of desired behaviors when they are performed. It was assumed, therefore, that confusion could be reduced through mental stimulation, social interaction, and adjusting behavioral contingencies. Mental stimulation was presumed to reduce confusion by activating unused neural pathways and requiring the use of behaviors diminished through disuse. Social interaction was thought to reduce confusion by pro-

viding encouragement and raising expectations for performance as well as by providing new ways of functioning that can compensate for lost behaviors (Citrin & Dixon, 1977; Powell-Proctor & Miller, 1982; Schwenk, 1979; Williams, 1994).

### ***How Dementia Affects Conceptualization of Person and Behavior According to Reality Orientation***

RO was developed for reducing confusion in institutionalized individuals. Whether the source of confusion stemmed from long-standing psychiatric disorder or dementia was not distinguished, and thus no consideration was given to whether there should be differences in RO according to the reasons for confusion. More recently, some modifications of RO have been suggested when working with individuals with dementia, particularly in those individuals whose dementia is more advanced. Woods (1992) recommends that staff need to be aware of the effects of their own body language, tone of voice, and facial expressions, while in turn being sensitive to the impaired individuals' non-verbal communication, because as verbal expression becomes more difficult, non-verbal gestures give cues about what individuals are trying to communicate.

### ***Treatment Models for Individuals with Dementia Based On Reality Orientation***

In its initial conceptualization, RO entailed three components. The first component was maintenance of a specific attitude toward the patient, usually one of "active" or "passive" friendliness, although a "matter of fact" attitude also was used (Folsom, 1968). In the second component, staff were instructed: (a) to present basic orienting information during the interactions with confused residents (e.g. reminding them of who and where they are, the time of day and year), and (b) to involve the residents in what was happening around them, by commenting on what was happening in the environment at that time and by reinforcing the individuals' awareness of and interest in their environment. The use of props or environmental cues was encouraged, including signs, clocks, calendars, Reality Orientation Boards (which contain information about location, date, day, weather, holidays, etc.), directional arrows, color contrasts, newspapers, televisions, pictures, and personal belongings. The third component was the use of specific classes, basic and advanced, in orientation. Classes were run in small groups with an optimal size of three to six individuals meeting with one or two staff members (Woods, 1992); however, group size in practice tends to be much larger. The second and third components make up, respectively, what is currently known as 24-hour Reality Orientation and Classroom Reality Orientation.

Since the 1960's, therapeutic goals have been elaborated, objectives more clearly stated and techniques defined (e.g., American Psychiatric Association, 1969; Drummond, Kirchoff, & Scarbrough, 1978; Holden & Sinebruchow, 1978; Schwenk, 1979). Certain aspects of the philosophy have proliferated, for example, use of calendars and other orienting material can be found in almost all long-term care facilities. Current RO programs typically use Classroom RO without 24-hour RO, despite the assertion of the originators that classroom RO will not be effective on its own. Classes teach techniques of repetition and external cues, such as a diary. As currently implemented, RO also de-emphasizes the focus on social interaction with others in the environment.

Woods (1979) suggested that RO permits the demented individual to have success experiences thereby reducing feelings of helplessness, engendered by repeated failing

at simple tasks that can no longer be accomplished because of progressive impairment. However, feelings of competence are contingent on the use of activities that are appropriate to the ability level and needs of the demented individual. Targets must also be carefully considered; for example, rote learning of the day, date, and time does no good the following day. Powell-Proctor and Miller (1982) aptly explain this point: "Repeatedly informing a moderately demented patient that the month is March, and thus later enhancing his ability to state the month when asked, is not of any great interest or value in itself. If it also helps to produce evidence of a more general improvement in functioning, then it is of much greater consequence (pg. 458)." Consequently, Woods (1992) has recommended that it may be better to teach a general mnemonic strategy such as use of a diary (e.g. Hanley & Lusty, 1984) rather than to teach orienting information directly that either is not that important or that could be obtained from external sources.

### ***Empirical Evidence***

A number of good reviews of RO are available (Campos, 1984; Jenkinson, 1992; Powell-Proctor & Miller, 1982; Schwenk, 1979; Storandt, 1978; Williams, 1994) but they are not limited to studies examining RO with demented individuals. Our focus is empirical examinations clearly identified as conducted with demented individuals. Studies can be placed into three clusters: five evaluations of inpatient RO, two evaluations of RO in day hospitals, and two evaluations addressing the active therapeutic ingredients underlying RO.

Brook, Degun, and Mather (1975) examined cognitive and social functioning of 18 demented geriatric inpatients randomly assigned either to RO groups or to a control condition held in the RO classroom, where participants were allowed to use the material if they wished but received no active encouragement or participation with the therapists. Groups were held daily. Ratings of cognitive and social functioning were taken every two weeks for 16 weeks, with no information provided about the rating scale or its psychometric properties. Ratings and clinical observations indicated that all patients in the control group deteriorated whereas patients in the RO group maintained or improved in function, especially for those who initially were rated the highest on cognitive and social functioning.

Johnson, McLaren, and McPherson (1981) examined the effectiveness of three levels of exposure to Classroom RO, in comparison to a no-treatment control group, in 98 demented inpatients. The three levels of RO were: (1) standard classroom RO which met for 30 minutes, five days a week for four weeks; (2) twice daily RO which was identical to standard RO except that the groups met twice daily and (3) individual classroom RO, in which individual patients met daily with a therapist for 10 minutes. Assignment of patients was not random, but patients showed no baseline differences on important demographic variables. All RO conditions performed better than the control group on orientation; no differences emerged among different levels of exposure (or among individuals with different levels of cognitive impairment). Questions about the clinical significance of the findings can be raised given that change was small (two points on orientation measure).

Hanley, McGuire and Boyd (1981), Goldstein, Turner, Holzman, Kanagy, Elmore, and Barry (1982), and more recently Baldelli, Pirani, Motta, Abati, Mariani, and Manzi (1993) all compared Classroom RO to no-treatment control groups. The first two studies used random assignment; Goldstein et al. added a cross-over component

to their design. Numbers of participants were 57, 14, and 23 respectively. Hanley et al. (1981) used standard classroom RO; Goldstein et al.'s (1982) groups met for 15 minutes, five days a week, for three weeks; and Baldelli et al. (1993) held one hour classes, three times per week, for three months. Hanley et al. (1981), using questionnaire and behavior rating scales (not blind, inter-rater reliability of .83), found a small improvement in basic orientation, with those participants who lived in a residential home for the aged improving more than participants on a psychogeriatric unit, irrespective of degree of dementia. No change in behavior was observed. Maintenance of gains was not reported. Goldstein et al. (1982) found a significant increase in orientation after RO, measured with 10 questions taught in the RO classes, but no generalization to different but similar items. For example, the RO item could be "What is the name of this hospital?" and the generalization item could be "How long have you been in the hospital?" Further, no change in activity level was observed, assessed by percent of time spent in a particular activity over the course of the week. Baldelli et al. (1993) were among the few studies to use standardized scales. They found that, at post-test, the RO group improved on the Mini-Mental State Examination (Folstein, Folstein, & Hugh, 1975) and on subclinical depressive symptoms measured by the Geriatric Depression Scale (Yesavage et al., 1983); whereas the control group declined. The changes in cognitive functioning were essentially maintained at three-month follow-up.

Evaluations of RO in a day hospital setting were conducted by Zanetti et al. (1995) and Greene, Timbury, Smith, and Gardiner (1983), with 28 and 20 participants respectively. Zanetti et al. (1995) modified RO to include topics of general interest such as historical events and famous people, and attention, memory and visuospatial exercises. RO groups were held for 45 minutes, five days a week for one month (RO cycle) then repeated again every five-seven weeks. RO participants were assessed at the beginning and end of each RO cycle by staff blind to condition, for up to four RO cycles. Average length of treatment, including the period between cycles was  $8.2 \pm 4.0$  months. Non randomly assigned control participants were assessed at baseline and then after an average of  $8.5 \pm 3.1$  months. At the end of eight months, control and RO groups differed only on the MMSE, with the RO group showing mild improvement (.68 point) and the control group showing some decline (2.58 points). Within RO cycles, MMSE scores improved but always dropped again during resting periods; of note is that many items on the MMSE are taught during RO. There was no change on word fluency, digit span, instrumental ADL, or GDS.

Greene et al. (1983) modified RO to include giving demented participants personal information about their family, home and neighborhood, to which they were returning each night. RO was held twice daily for  $\frac{1}{2}$  hour, two to three days a week for six weeks. The design included baseline, intervention, and follow-up phases. Caregivers, who were blind to the phases of the study, answered questions about the demented individuals' behavior and mood as well as about their own mood and stress level. Psychometric properties of the measures are not reported. Demented individuals' orientation and mood and caregiver mood improved significantly from baseline (three weeks before the intervention) to post-intervention but returned to near baseline levels at three-week and six-week follow-up.

In an effort to test whether attention alone could explain the effects of RO, Woods (1979) replicated the original Brook et al (1975) controlled design but added a non-contingent attention control condition (attention given regardless of appropriateness of behavior). Fourteen cognitively impaired board and care residents were randomly assigned to the three conditions. Treatment groups met  $\frac{1}{2}$  hour, five days a week for

20 weeks. Assessments of cognition (using well-established tests of information, orientation, memory, psychomotor speed) and behavior (ratings by staff blind to group status, showing inter-rater reliability of .79) were taken at baseline and then three, nine and 20 weeks after treatment. At the end of 20 weeks, RO participants showed significantly better memory performance than the control group and a trend toward better performance than the non-contingent attention group. Information and orientation tended to improve in the RO group relative to the other groups. All three groups showed, on average, a significant decline in behavior function.

In a much later study, Gerber et al. (1991) examined the role of social activity as a non-specific mechanism for the effectiveness of RO. Twenty-four demented geriatric inpatients were randomly assigned to an enhanced classroom RO group (included simple exercises, self-care, food preparation and orientation), a recreational activities group, or a control group that received standard hospital care but no group activities. Treatment groups lasted for one hour a day, four days a week for 10 weeks. A dementia rating scale was used to assess change (test-retest reliability was .59). Ratings of participants' language and orientation improved significantly in both treatment groups over the course of treatment, but scores returned to pre-test levels at 10-week follow-up. No change was observed in the control group. These results suggest that improvement in orientation may be facilitated through social activity, supporting the authors' questions about the therapeutic mechanism of RO.

In summary, reality orientation is a philosophy of treatment focused on reducing confusion in disoriented individuals. Empirical evaluations have focused almost exclusively on Classroom RO. In general, RO has circumscribed cognitive effects, largely on orientation, and little to no effect on behavioral functioning. Continuation of gains after the discontinuation of treatment is uncommon, although Baldelli et al. (1993) reported that gains on a mental status test with a large orientation component persisted for three months after RO was discontinued. A number of design issues with the research have been noted such as the procedure of using training material in the evaluation of the technique; and variability in administration of intervention techniques, which is especially problematic when other potentially therapeutic components are introduced such as increasing the number of activities available to residents. Non-specific treatment effects (e.g., increased communication with staff, involvement in social activity, attention to appropriate behavior) apparently do help to explain treatment outcomes (cf. Woods, 1979; Gerber et al., 1991). Possibly, the role of social activity for reducing confusion (namely ongoing interactions with care providers that focus on maintaining communication and contact) is the more useful component of reality orientation, as originally suggested by its proponents.

## MEMORY TRAINING

Memory training refers to a set of techniques to: (a) enhance objective memory performance, such as mnemonics or memory skills training, (b) develop adaptive beliefs about memory functioning and perception of control over performance, such as cognitive restructuring and/or (c) manipulate variables that can influence memory performance such as depression or anxiety, for instance, through relaxation exercises (e.g., Hill, Sheikh, & Yesavage, 1989; Hill, Allen, & Gregory, 1990; Hill, Storandt, & Simeone, 1990; Hill, Allen, & McWhorter, 1991; Lachman, Weaver, Bandura, Elliott, & Lewkowicz, 1992; Scogin, Storandt, & Lott, 1985). This review focuses specifically on memory skills training.

In non-demented older adults, these skills training programs typically address normal age-related declines. Age-related declines tend to be observed in explicit memory under conditions that require deliberately remembering something, trying to perform two cognitive tasks at once, or when perceptual speed is required (Smith, 1996). Training tends to focus on teaching visual and verbal strategies that improve encoding efficiency and increase the likelihood that enhanced elaboration will occur spontaneously (Hill, Allen & Gregory, 1990). Visual strategies include: (1) the peg and loci method, or generation of an ordered list of familiar locations (loci) or objects (pegs) and then the formation of a visual association between these locations and the target(s) to be remembered and (2) novel interacting images, or the use of interacting images to remember names and faces. Verbal strategies include: (1) first letter mnemonic, or working through the alphabet in an attempt to cue retrieval with the initial letter; (2) narrative stories, or the construction of a personal story around the target words; (3) categorization and chunking; (4) simple association, or attempting to associate the target material with something familiar; and (5) repetition. Overall, these types of strategies are associated with improvements in subjective and objective memory performance. (See Floyd and Scogin, 1997 and Verhaeghen, Marcoen & Goossens, 1992 for reviews of the efficacy of memory training programs with non-demented older adults).

### ***How Dementia Affects Strategies of Memory Training***

Memory impairment in dementia is characterized by impairment in episodic memory, or the memory for personally experienced events or material; semantic memory, or the memory for general information; and prospective memory, which involves remembering that something is to be done and then performing the action at a specific and appropriate time. Implicit memory and procedural memory appear to be relatively spared in dementia. Implicit memory represents the facilitation of cognitive processing based on experience but without the deliberate or conscious retrieval of information. Procedural memory is memory for skills, such as swinging a baseball bat or vacuuming (see Miller & Morris, 1993).

Many of the strategies used to enhance memory in non-demented older individuals are ineffective in demented individuals because they require use of the very memory functions that are impaired (Bäckman, 1992). Thus, modifications are necessary. For any facilitation to be seen, both encoding and retrieval need to be supported. Other characteristics that are important to achieving performance gains are: (1) an extensive training period; (2) use of training strategies that are based on skills that are relatively well preserved, e.g. implicit and procedural memory, rather than on skills that are grossly impaired; (3) use of strategies that strongly support the retrieval process and place low demands on self-initiated cognitive processes, including the restructuring of tasks to involve recognition rather than recall (Zarit, Zarit, & Reever, 1982) and a shift in emphasis from internal strategies to external aids, for example, labeling doors; (4) an approach which involves caregivers as a way of making the task cooperative, thereby enhancing the demented individual's sense of support (Arkin, 1991), and (5) use of methods that directly involve the person with the to-be-remembered material (Sandman, 1993). Training approaches that include one or more of these characteristics are spaced-retrieval learning, memory wallets and diaries and, cognitive remediation programs. The latter programs expand the targets to take into consideration the more generalized cognitive impairment in dementia, that is, memory, prob-



lem solving, and communication (rather than a more circumscribed focus on declines in memory function) (Quayhagen, Quayhagen, Corbeil, Roth & Rodgers, 1995).

### ***Treatment Models for Individuals with Dementia Based on Memory Training***

Strategies to enhance memory performance include: (a) environmental adaptations that reduce the need to remember, such as sign-posting directions; (b) external aids, which include reminders to do something, and reminders of how to do something, where something is located or even what something is; and (c) rehearsal and repeated practice (Woods, 1994).

Most experts hold that environmental adaptations and external aids that aim to reduce the demands on the demented individual's memory are the most effective but may need to be supplemented by care providers' input, such as drawing the individual's attention to the aid. Prosthetic memory aids, such as diaries (Hanley & Lusty, 1984) or memory wallets (Bourgeois, 1990; 1992; 1993; Bourgeois & Mason, 1996) are used to reduce the demands on orientation and memory for relevant personal information. Memory wallets contain information about personally relevant facts, including photographs and a series of simple, declarative sentences, representing the facts as the person is likely to say them. Typical topic areas are family, daily activities, and life history. After training in how to use the sentences in conversation, the wallet is used to self-prompt factual personal information during conversations.

Expanded rehearsal (also referred to as spaced retrieval) is advocated as a strategy for demented individuals. It involves adjusting the retrieval period during learning, one item at a time, according to whether the item was successfully recalled on the previous trial. If the item was successfully recalled, the subsequent retrieval period is doubled; if the item was not successfully recalled, the retrieval period is halved. In this way the item becomes fully registered. Brief but expanding intervals are placed between recall attempts (Stevens, O'Hanlon & Camp, 1993). It has been argued that spaced retrieval learning is effective because it relies on implicit memory and requires little cognitive effort (Camp, Foss, O'Hanlon & Stevens, 1996).

Cognitive remediation programs focus on exercising remaining abilities or relearning of skills. One of the most comprehensive programs is that of Quayhagen, Quayhagen and colleagues (Quayhagen & Quayhagen, 1989; Quayhagen et al., 1995). This program involves a three pronged approach of: (1) enhancing memory functioning through visual and verbal mnemonic strategies designed to facilitate recall and recognition, (2) improving executive functioning through problem solving exercises using planning, conceptualization and classification within the context of interpersonal skills; and (3) increasing social interaction through communication skills using targeted conversation exercises of word fluency and verbal exchange (Quayhagen et al., 1995). Thus, both cognitive remediation and memory wallets intend to affect not only cognitive, but also social functioning.

### ***Empirical Evidence***

There are several good conceptual and empirical reviews of memory training strategies for demented individuals (Arkin, 1991; Bäckman, 1992; Camp et al., 1996; Woods, 1994). We will highlight a number of representative individual studies. In general, memory skills strategies that focus on teaching visual or verbal strategies, devel-

oped with non-demented older adults, do not enhance memory performance in individuals with dementia.

Spaced-retrieval learning has been used, successfully, to teach names of common objects (McKittrick & Camp, 1993), face-name associations (Camp & Stevens, 1990), object-location associations (Camp & Stevens, 1990), strategies for using an external memory aid, e.g. a calendar (Stevens, O'Hanlon & Camp, 1993) and to enhance prospective memory performance (McKittrick, Camp, & Black, 1992). Unfortunately, all of the above studies were conducted mostly with single case designs. Generalizability and long-term retention are unknown. The technique is very circumscribed and yet time intensive for the caregiver. Woods (1994) believes that the effort required may exceed the gains achieved and recommends that the technique be used sparingly and only with items that will affect quality of life.

Bourgeois demonstrated improved conversational ability with the use of memory wallets (Bourgeois, 1990; 1992) in two multiple baseline designs (across three conversational topics with replications across subjects). In the first study, in which caregivers were given intensive training in how to use the wallets, three women with moderate Alzheimer's disease were able to learn to use a memory wallet when conversing with familiar conversational partners (friend or adult child). Coded transcriptions of conversations (mean interrater agreement ranged from 87% to 91% across subjects) revealed that the women made more statements of fact and fewer incorrect, ambiguous, unintelligible or perseverative utterances when using the wallets. Improvements were maintained at six week follow-up, but tended not to carry over to conversations about non-stimulus items. In the second study, although caregivers were given varying amounts of training, ranging from daily to none, nine mild to moderately impaired demented individuals all learned to use the memory wallets. Subsequent studies found that memory wallets improved the quality and quantity of conversations among six moderately demented individuals themselves (Bourgeois, 1993) and between four demented individuals and volunteer staff at a day care center (Bourgeois & Mason, 1996).

Comprehensive cognitive skills remediation programs have shown positive outcomes. Quayhagen & Quayhagen (1989) evaluated their program using sixteen family dyads (caregiver and demented care-recipient) randomly assigned to one of two treatment conditions (dual versus single implementation). Six families refused to participate in their assigned dual condition because they did not want to work with another family, and served as a no-treatment comparison group. Groups did not differ at baseline on basic demographic characteristics. Established self-report assessment instruments and behavior logs were used to evaluate outcome. After eight months of practice (one hour per day for a total of six hours a week), care-recipients in the treatment program maintained their levels of cognitive and behavioral functioning and improved emotionally whereas comparison care-recipients declined. Caregivers in the treatment program showed no change in perceived burden or psychological distress whereas caregivers in the comparison group showed an increase in these areas. Caregivers also reported positive changes in their interaction with the care-recipient as well as changes in the mood and coping responses of the care-recipient. These findings were upheld in a subsequent larger study of 78 family dyads (Quayhagen et al. 1995).

Less comprehensive cognitive remediation training programs are less effective. For example, Beck, Heacock, Mercer, Thatcher, & Sparkman (1988) examined a program that consisted of cognitive exercises of graded difficulty, focused on increasing attention, reading, concentration and memory. Communication and social interaction were not explicit targets. Twenty moderately impaired inpatients were randomly as-

signed to cognitive training or a control condition. Training was held individually for 30-40 minutes, three times a week for six weeks. At the end of the six weeks, groups differed only on one measure of memory.

In summary, memory training programs seek to enhance cognitive functioning, particularly memory performance. Using knowledge of memory systems and the nature of cognitive changes with dementia, increasingly sophisticated strategies have been tried. The nature and degree of the impairment limits the scope of available techniques and requires more active support of declining memory systems and greater reliance on intact systems. More comprehensive cognitive remediation programs seem better than specific memory techniques but are likely to be applicable only to individuals with mild impairment. There also appears to be an increasing convergence of memory training approaches and behavioral interventions, e.g. applying learning principles such as shaping, reinforcement, and external cueing.

### BEHAVIORAL APPROACHES

Behavioral interventions focus on managing disabilities and problem behaviors using principles of learning. Change may be defined as the elimination of undesirable behaviors; decrease in behavior frequency, duration and intensity of undesirable behaviors; or increase in desirable behaviors. Before initiating change, a functional analysis is recommended, in which observations are made about frequency, antecedents, and consequences of behavior. If a change program is not successful, the way in which behavior is defined and measured, as well as its contingencies, are reevaluated (McGovern & Koss, 1994). Both direct and indirect contingency principles may be applied. Direct contingency principles include positive and negative reinforcement, schedules of reinforcement, differential reinforcement, stimulus control, punishment, contingency, cueing, shaping, extinction, etc. Indirect contingency principles refer to verbal control. (For a more detailed discussion of application of principles of learning to psychotherapy, see Hayes, Follette, & Follette, 1995).

Behavioral approaches also include problem solving, behavioral rehearsal and relaxation training (see Goldfried & Davison, 1976) and are used in conjunction with cognitive approaches, most notably in the treatment of depression and anxiety. A combined approach is recommended because both behavioral factors (reduced environmental reinforcement) and cognitive factors (effect of negative, unrealistic thoughts on mood and behavior) play a role in precipitating and maintaining depression. Treatment focuses on teaching individuals: (1) how to identify, track, and increase pleasant events (Lewinsohn, Antonuccio, Steinmetz, & Teri, 1984) as well as (2) how to identify distorted, negative thinking; to become aware of the association between their thoughts and their feelings; and to challenge their negative thoughts in order to replace them with alternative assumptions about themselves and the world (Beck, Rush, Shaw, Emery, 1979; O'Leary & Wilson, 1987).

#### ***How Behavioral Approaches are Altered in the Treatment of Individuals with Dementia***

***Behavior management.*** The application of behavioral gerontology to dementia is based on the assumption that demented individuals' behavior can be explained by the same learning principles as those used to explain non-demented individuals' behavior, and

that change can be achieved using the same techniques (Burgio & Burgio, 1986; Hussian, 1981). At the same time, a somewhat different array of strategies is recommended for demented persons (e.g., Gwyther, 1994; McGovern & Koss, 1994). For example, stimulus control, environmental modification, and distraction may be important tools, particularly in individuals whose dementia is moderate to severe.

**Cognitive-behavioral treatment.** The primary modification in established cognitive behavioral approaches when treating depression in demented individuals has entailed reducing the cognitive load (by increased repetition, use of concrete examples and external aids such as cue cards), using a highly structured format, continually monitoring the person's comprehension of the therapeutic material, and involving the family (Teri, 1996; Teri & Gallagher-Thompson, 1991; Thompson, Wagner, Zeiss, & Gallagher, 1989). Cognitive approaches are more appropriate for early stage persons; whereas, behavioral approaches can be used with both early and moderate stage persons.

### ***Treatment Models for Individuals with Dementia Based on Behavioral Approaches***

**Behavior management.** Therapeutic goals include a reduction in disturbing behaviors—agitation, aggression, verbal outbursts, wandering, inappropriate sexual behavior, withdrawal and depression—and maintenance of current self-care skills—grooming, feeding oneself, eating and toileting. Techniques reflect the principles of learning theory. (See Beck & Heacock, 1988; Fisher & Carstensen, 1990). The specific techniques chosen are dependent on the specific behavior to be changed and the conditions associated with its maintenance. For example, Horgas, Wahl, and Baltes (1996) have demonstrated how staff in nursing homes may inadvertently set up contingencies that reward dependency rather than self-care. Thus, the functional analysis must be comprehensive and include the entire social and physical environment. Another important consideration is clarifying for whom behaviors are problematic, lest interventions be developed that have more to do with staff convenience than with patient benefit.

The incorporation of external cues or environmental manipulations variously referred to as ward orientation measures, prosthetic orientation aids, stimulus manipulation or discriminative stimuli are used to reduce behavioral problems believed to be a manifestation of confusion (e.g., Hanley, 1981; Hussian, 1988; Reeve & Ivison, 1985; Williams, Reeve, Ivison, & Kavanagh, 1987). These manipulations include coloring each door within the ward according to function (e.g., blue for bedroom) and then having its function detailed with verbal and non-verbal symbols (e.g., 'bedroom' and a picture of a bed), or placing signposts in the center of the ward that indicate the directions of different rooms or facilities and their color codes. Technological or mechanical devices (e.g., electronic alarm systems on exits, semi-locked doors whose entry mechanisms are beyond the cognitive capacity of most dementia patients, identity bracelets) may be useful adjuncts (Cohen-Mansfield, Werner, Culpepper, Wolfson, & Bicket, 1996).

Behavioral interventions are typically implemented in institutional settings but they can be applied in community settings and private home environments (e.g. Pinkston, Linsk, & Young, 1988). Family members are taught how to identify a specific target behavior to be changed, to develop a clearly defined plan for dealing with the target behavior, to implement the plan, to evaluate it, and to modify the plan as needed (e.g. Haley, 1983).

**Cognitive behavioral treatment.** Cognitive and behavioral treatments for depression are conducted with individual demented older adults or with dyads that include the demented person and caregiver. Therapeutic goals include: (a) increasing pleasant activities; (b) strengthening and relearning basic problem-solving skills, and (c) increasing coping with current problems by setting realistic goals and expectations (Thompson et al., 1989; Teri, 1994).

### **Empirical Evidence**

**Behavior management.** In general, behavioral interventions are associated with reductions in the overall level of behavioral disturbance. The empirical literature of behavioral interventions with cognitively impaired older adults is too extensive to describe individual studies. Many reports were published in the 1970s and consist of case studies and single subject designs. Most studies were in institutions and patients included not only dementia patients but also those with other chronic mental disorders. For reviews of behavioral approaches organized by specific target behaviors see Fisher and Carstensen (1990) or Teri et al., (1992). For reviews of behavioral approaches organized more by specific strategies, such as discriminatory stimulus control or contingency management, see Plaud, Moberg & Ferraro, (1998).

**Cognitive-behavioral treatment.** Behavioral and cognitive behavioral therapy with demented individuals is a relatively new area and tends to be focused on the treatment of depression. Most of the research uses a predominantly behavioral model and has been done by the same group of researchers.

Teri and Uomoto (1991) examined the effects of a behavioral treatment program on diagnosed depression in four demented patients. Through a series of eight, one hour sessions (three of which included the care-recipient), caregivers were taught how (1) to track the care recipient's mood and pleasant activities, (2) to plan and increase pleasant activities and (3) to decrease behavioral disturbances that interfered with the engagement of pleasant activities. Caregivers were successful in increasing the frequency and duration of pleasant activities and decreasing the care-recipients' depressed mood. Caregivers' own depression also was reduced. However findings must be considered as very tentative given the small sample size, lack of comparison group and possible bias entailed in the caregiver's rating the demented person's mood.

Teri (1994) reports preliminary results of an investigation in which 41 depressed, demented individuals (and their caregivers) were randomly assigned to a control condition or to a behavioral therapy condition, consisting of nine weekly, one hour sessions, similar to the previous study. Participants were assessed at pre-test, post-test and follow-up (although follow up data were not reported). Results indicated significant improvements in mood and decreases in frequency of troublesome behaviors among demented persons. Depression in caregivers also was reduced.

Further support for this approach is provided in a detailed single case design (Teri, 1996) and a randomized study of 72 depressed caregiver-care-recipient dyads (Teri, Logsdon, Uomoto, & McCurry, 1997). In the latter study, dyads were assigned to one of four conditions, each lasting nine weeks: behavioral, emphasizing caregiver problem solving; behavioral, emphasizing demented individuals' pleasant events; typical care; or a wait list. Demented individuals and their caregivers in both of the behavioral conditions showed significant improvements in mood in comparison to the two control conditions. Improvements were maintained at six-month follow-up.

Two descriptions of cognitive-behavioral therapy are available. Wisner and Green (1986) report a case study showing reduced anger outbursts in a demented man after six weekly, one hour sessions of cognitive behavioral therapy. Teri and Gallagher-Thompson (1991) report improved mood and decreased frequency of troublesome behaviors among demented individuals, and increased perceived caregiver ability to cope with these behaviors, using cognitive-behavioral therapy. No details about the study population or outcome data are provided.

In summary, when dealing with behavioral problems, stimulus cueing, manipulation of environmental consequences, and modification of behavior-reinforcement contingencies are recommended. Individuals in the early stage of dementia appear to respond to most principles of learning, whereas those with more moderate impairment may still respond to reinforcement but show less sensitivity to variations in schedules of reinforcement. In later stages of dementia, techniques cannot rely on the individual's active participation. Types of behavioral problems that can be addressed include agitation, wandering, self-care, as well as withdrawal and depression. Behavioral and cognitive-behavioral treatments for depression in non-demented older adults can be adapted for demented individuals, for whom depression can often be an important co-morbid condition.

### **CONCLUSION AND RECOMMENDATIONS FOR FUTURE DIRECTIONS**

We have provided an overview of approaches used by mental health providers who work with older adults with dementia. At the same time, we proposed a framework for evaluating any intervention. (a) Does the intervention articulate a theoretical view for understanding the person and psychological health prior to dementia? (b) Does the approach incorporate knowledge of the psychological impact of dementia, including how changes caused by dementia contribute to distress? (c) Does the intervention specify strategies that should serve the goals of alleviating distress, facilitating coping, supporting personal resources and maximizing functioning? (d) Is there empirical evidence for effectiveness? In examining the different approaches, we also attended to the stage of disease for which different treatments were intended.

Different interventions tend to target particular factors and place more or less emphasis on different goals. Psychodynamic, reminiscence and life review therapy, and support groups all deal to some extent with the individual's subjective experience of the disease. Behavioral and cognitive therapies for depression, by definition, target subjective distress. One presumed source of distress, memory, is addressed by reality orientation and memory training.

Psychodynamic approaches appear to be helpful for understanding the intrapsychic experience of demented individuals and the continuing challenges they face of integrating the disease into their self-concept. Support groups and cognitive-behavioral approaches for treating depression assist early stage individuals with this integration process, focusing on building coping strategies and reducing psychological distress. When dementia is moderate to severe, optimizing the individual's remaining abilities becomes a central concern. Behavioral approaches and memory retraining programs target specific cognitive deficits and their behavioral correlates and help optimize remaining abilities. Reality orientation achieves this goal to a lesser extent and is probably more useful for its interpersonal functions. Reminiscence and life review groups provide mild to moderate stage individuals with a means to create interpersonal con-

nections; these connections become increasingly more important as the disease progresses because they offer one of the few means for demented individuals to continue to feel productive and needed.

The disease process may interact with the social and environmental context. In long term care settings, reality orientation and reminiscence groups were found to serve an indirect goal of increasing staff attentiveness to individual residents. Some behavioral interventions explicitly target staff behavior in order to create change in residents' behavior.

In addition to common goals, there also is a convergence of techniques among intervention approaches. Reminiscence and life review therapy and support groups, in particular, use group as a mechanism of change. However, all approaches recommend the supportive involvement of others as a way to increase social contact, interpersonal communication and psychological health, although the degree to which they provide a means to involve others varies. With respect to improving the memory, orientation, and other cognitive skills of demented older adults, a great deal of progress has been made. Institutional environments can be designed to support memory and to reduce disruptive behavior. More current cognitive remediation efforts use preserved skills and external aids. As noted, there appears to be some convergence of memory training and behavioral approaches. Arguably, convergence of techniques and goals may reflect the interdependence of social, environmental, cognitive and psychological factors in producing the symptoms and behaviors seen in individuals with dementia.

In conclusion, increased attention to the demented older adult as a recipient of psychological intervention is welcomed, while future directions most usefully would include well-designed evaluations.

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