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SPECIAL POPULATIONS

Comparative Effectiveness of Social Problem-Solving Therapy and Reminiscence Therapy as Treatments for Depression in Older Adults

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Compared the effects of 2 psychotherapies based on divergent conceptualizations of depression in later life. Seventy-five older adults diagnosed with major depressive disorder were assigned randomly to problem-solving therapy (PST), reminiscence therapy (RT), or a waiting-list control (WLC) condition. Participants in PST and RT were provided with 12 weekly sessions of group treatment. Dependent measures, taken at baseline, posttreatment, and 3-month follow-up, included self-report and observer-based assessments of depressive symptomatology. At posttreatment, both the PST and the RT conditions produced significant reductions in depressive symptoms, compared with the WLC group, and PST participants experienced significantly less depression than RT subjects. Moreover, a significantly greater proportion of participants in PST versus RT demonstrated sufficient positive change to warrant classification of their depression as improved or in remission at the posttreatment and follow-up evaluations.

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Depression constitutes the most common emotional disorder found in older people (Butler, Lewis, & Sunderland, 1991). Estimates of the prevalence of major depressive disorder in the elderly range from 2% to 10% (Blazer, Hughes, & George, 1987), with milder forms of depression such as dysthymia and dysphoria affecting 20% to 30% of older adults (Butler et al., 1991). Moreover, the clinical significance of depression in the elderly is underscored by the consistent finding that suicide occurs more frequently in the elderly than in any other age group (Rich, Young, & Fowler, 1986).

Recently, a consensus development panel of the National Institutes of Health (NIH; 1992) urged vigorous treatment of depressed elderly with somatic therapies (i.e., drugs, electroconvulsive therapy [ECT], or both); psychosocial therapies were recommended as secondary or supplemental interventions. In justifying these recommendations, members of the NIH panel noted that, in comparison with the substantial research base supportive of somatic therapies (for a review, see Gerson, Plotkin, & Jarvik, 1988), there exists a relative dearth of research on the benefits of psychological treatments for depression in the elderly (Adler, 1992).

Various psychological conceptualizations have been proposed to explain and to treat depression in the elderly. These range from the developmental-existential perspective of reminiscence therapy (RT; Butler, 1974) to the social reinforcement formulation of behavior therapy (Teri & Lewinsohn, 1982). Although the research literature on psychotherapy for depression in the elderly is not extensive, several controlled studies have supported the effectiveness of various psychosocial treatments, including RT (e.g., Goldwasser, Auerbach, & Harkins, 1987), psychodynamic psychotherapy (e.g., Steuer et al., 1984; Thompson, Gallagher, & Breckenridge, 1987), behavior therapy (e.g., Brand & Clingempeel, 1992; Gallagher & Thompson, 1982), and cognitive therapy (e.g., Beutler et al., 1987; Steuer et al., 1984). Further research is warranted by the scope and seriousness of depression in the elderly and by limitations of the existing research base (i.e., few studies, small samples, failure to include measures specific to the nature of depression in the elderly, and an overreliance on self-reports as outcome measures). Research on psychological interventions is also needed because somatic therapies are contraindicated in the treatment of many older adults, particularly those who are medically ill and cannot tolerate the side effects of antidepressant medications or ECT (Butler et al., 1991; Winstead, Mielke, & O'Neill, 1990).

Because age-related psychosocial factors often contribute to the occurrence of depression in the elderly (Ruegg, Zisook, & Swendlow, 1988), successful treatment (and prevention of relapse) may require modification of those psychological factors that are etiologically related to depression in later life. Nezu and his colleagues (Nezu, 1987; Nezu, Nezu, & Perri, 1989) have recently articulated a problem-solving model of unipolar depression that may hold particular relevance for understanding and treating depression in older adults. Within this formula-

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tion, social problem-solving encompasses the processes by which people develop effective means of coping with stressful life events; deficits in problem-solving skill serve as one important vulnerability factor for depression. When deficits in problem-solving lead to ineffective coping attempts under high levels of stress (emanating either from major negative life events or from continuous daily problems), depression is likely to ensue (Nezu et al., 1989).

Many of the changes that occur in later life often constitute significant stressors. For example, declining socioeconomic status, deteriorating physical health, and the loss of loved ones can each have a powerful impact on overall mood and self-esteem (Butler et al., 1991; Ruegg et al., 1988). Whether such stressors precipitate a major depression may be determined, in part, by the individual's ability to cope effectively with the major and minor problems posed by these life changes (Lazarus, 1991; Nezu et al., 1989). Indeed, some recent research has found that depressed older adults show deficits in social problem-solving ability—deficiencies that may impair one's ability to cope with stressors related to depression (e.g., Fry, 1989).

One corollary of the conceptual model proposed by Nezu et al. (1989) suggests that problem-solving training will lead to decreases in depressive symptomatology. Two outcome studies (Nezu, 1986; Nezu & Perri, 1989) have provided a direct test of this hypothesis and have demonstrated the clinical effectiveness of problem-solving therapy (PST) in middle-aged adults with unipolar depression. Only one investigation (Hussian & Lawrence, 1981) has directly tested the effectiveness of PST in depressed older adults. Hussian and Lawrence found that PST was superior to a social reinforcement approach for reducing depression in institutionalized older adults, but the findings were limited by an exclusive reliance on self-reports as dependent measures. Although the results of these studies provide initial support of the problem-solving model of depression, additional research is needed regarding the effectiveness of PST as a treatment for depression in older adults and as compared with other treatments (e.g., RT) derived from alternative conceptualizations of depression in the elderly.

RT, a commonly recommended psychotherapy for older adults, is based on the premise that life review constitutes a normal developmental process brought about by increasing awareness of one's mortality (Butler, 1974). A failure to successfully integrate one's life experiences is viewed as contributing to despair and depression (Erikson, Erikson, & Kinvick, 1986). RT entails a progressive return to an awareness of past experiences, both successful and unsuccessful, so that salient life experiences may be reexamined and reintegrated. The life review process gives older people opportunities to place their accomplishments in perspective, to resolve lingering conflicts, and to find new significance and meaning in their lives, thereby relieving the despair and depression that often accompany aging (Butler et al., 1991). Support for the effectiveness of RT as a treatment for depression in older people has been found in several studies (Goldwasser et al., 1987; Rattenberg & Stones, 1989).

Thus, in the present study, the comparative efficacy of two psychotherapies for the treatment of depression in older adults was examined. We conducted a randomized, prospective investigation to evaluate the effectiveness of PST and RT, compared with each other and to a waiting-list control (WLC) condition.

Method

Subjects

Announcements of a university-sponsored depression program for adults over the age of 55 years were placed in community newspapers, churches, synagogues, and senior citizen centers. Interested individuals were required to complete the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and the Geriatric Depression Scale (GDS; Yesavitch et al., 1983). Individuals with scores of 20 or higher on the BDI and 10 or higher on the GDS were invited to participate in a 1.5-hr semistructured clinical intake interview (scheduled 2 weeks later) and to complete a battery of self-report inventories, including a second BDI and a second GDS. Intake interviewers were conducted by advanced clinical psychology graduate students who had been trained to criterion in the use the Schedule of Affective Disorders and Schizophrenia (SADS; Endicott & Spitzer, 1978). In addition to diagnostic decisions based on the Research Diagnostic Criteria (RDC; Spitzer, Endicott, & Robins, 1978), the interviewers also completed the 17-item version of the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960) for each subject. All interviews were recorded on audiotapes and were rated by an independent assessor who was unaware of the interviewee's treatment status.

Criteria for inclusion in the study involved (a) meeting the RDC requirements for a diagnosis of unipolar, major depressive disorder; (b) scores of 20 or greater on the BDI and 10 or greater on the GDS on both the screening and pretreatment evaluations; (c) HRSD scores of 18 and above; and (d) meeting the age of 55 years or older, not exceeding 80 years. Exclusionary criteria included a diagnosis of bipolar disorder, psychosis, dementia, depression secondary to a physical disorder (e.g., hypothyroidism; not simply a reaction to physical illness), borderline or antisocial personality disorder, active substance, or current involvement in psychological or pharmacological treatment for depression.

A total of 156 people responded to the program announcements. Each was contacted by telephone and was provided with information about the nature of the treatment and the requirements of the study; 16 felt that the treatment would not meet their needs; the other 140 individuals were sent a packet of materials that included detailed information about the study, an informed consent statement, a demographic questionnaire, a BDI, and a GDS. One hundred fifteen people completed and returned the consent statement and questionnaires, and 105 of them met the requirements for face-to-face interviews. The 25 individuals who did not return materials were contacted a second time to ensure that they had received the study packet: 6 indicated that they were no longer interested in participating in the program; 12 reported receipt of the materials but failed to return them, even after repeated reminders; and 7 did not return our phone calls.

Of the 105 people offered an interview, 93 appeared for their scheduled interview, and 75 of them met the criteria for major depressive disorder. Telephone contacts with the 12 individuals who failed to show for scheduled interviews indicated that 5 had sought treatment elsewhere, 4 were "feeling better," and 3 did not return our calls. Among the 18 people who were interviewed but excluded from participation, 1 met the criteria for bipolar disorder, 2 showed obvious signs of dementia, and the remaining 15 showed some signs or symptoms of depression but did not meet all the criteria for a diagnosis of major depressive disorder. The individuals not accepted into the program were provided with referral information to local mental health facilities. The demographic characteristics of the 75 individuals accepted for participation in the study are summarized in Table 1.

Measures

Depression. Severity of depression was assessed through both observer-based and self-report measures of depression. Observer-based measures of depression were obtained through a structured interview using

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Table 1
Baseline Demographic Characteristics of Participants

Characteristic	PST (n = 28)		RT (n = 27)		WLC (n = 20)	
Mean age (and *SD*)	67.0	(7.5)	66.7	(8.5)	65.5	(6.3)
Mean months depressed (and *SD*)	11.6	(5.7)	12.0	(4.8)	11.0	(6.2)

	PST		RT		WLC	
Gender	%	n	%	n	%	n
% Male (and n)	21	6	29	8	25	5
% Female (and n)	79	22	70	19	75	15
Ethnic group						
% African American (and n)	18	5	15	4	15	3
% Hispanic (and n)	7	2	7	2	5	1
% Middle Eastern (and n)	0	0	4	1	0	0
% White (and n)	75	21	77	21	80	16
Employment						
% Full time (and n)	25	7	22	6	15	3
% Part time (and n)	18	5	19	5	20	4
% Retired (and n)	50	14	55	15	60	12
% Unemployed (and n)	7	2	4	1	0	0
Marital status						
% Single (and n)	7	2	7	2	10	2
% Married (and n)	54	15	63	17	50	10
% Divorced/separated (and n)	18	5	19	5	25	5
% Widowed (and n)	21	6	15	4	15	3

Note. PST = problem-solving therapy; RT = reminiscence therapy; WLC = waiting-list control.

the SADS to generate HRSD ratings and RDC diagnostic classifications. At posttreatment and follow-up, interviews were scheduled by a third party, and subjects were asked not to disclose whether they had been in treatment or the type of treatment they had received. Interrater reliability for the SADS was .91 at pretreatment, .95 at posttreatment, and .95 at follow-up. Interrater reliability for the HRSD was .87 at pretreatment, .84 at posttreatment, and .84 at follow-up. Self-report measures included the BDI (Beck et al., 1961), a 21-item self-report measure, and the GDS (Yesavitch et al., 1983), a 30-item self-report measure of depression in older adults. Psychometric evaluations of the BDI (Gallagher, Breckenridge, Steinmetz, & Thompson, 1983) and the GDS (Dunn & Sacco, 1989) have shown these instruments to be reliable and valid measures of depression in the elderly.

Social problem-solving ability. Ability to solve problems was measured using the Social Problem-Solving Inventory (SPSI; D'Zurilla & Nezu, 1990), a 70-item self-report measure of problem-solving ability that yields scale scores for five component processes of problem solving: problem orientation; problem definition and formulation; generation of alternative solutions; decision making; and solution implementation and verification. D'Zurilla and Nezu have provided psychometric data supporting the reliability and validity of the SPSI.

Integration of life events. The Life Integration Scale (LIS; Ryff & Heinke, 1983) is a 64-item self-report measure that yields scale scores indicating degree of integrity (one's level of life integration), interiority (one's ability to introspect), generativity (concerns of instructing a younger generation), and complexity (rate of engagement in work and activities). Ryff and Heinke have reported psychometric data supporting the reliability and validity of the LIS.

Procedure

The 75 subjects were assigned randomly to one of three conditions: PST (n = 28); RT (n = 27); and a WLC group (n = 20). Treatment was conducted within a group format with one of three therapists. Each of the three therapists led one PST group and one RT group. Each treatment was implemented over 12 weekly sessions, with each session lasting approximately 1.5 hr. The therapists, who were advanced graduate students in clinical psychology, included one Hispanic woman, one White woman, and one man of Indian descent; their ages were 28, 26, and 26 years, respectively. Their self-identified theoretical orientations were cognitive-behavioral, eclectic, and psychodynamic. All three therapists had previous experience in group psychotherapy with depressed patients in general, and all were trained to criterion independently in both treatment approaches. Each of the two treatment conditions was carried out in accord with a detailed manual describing the theoretical underpinnings of the approach, the general strategies involved, the major techniques that could be used, and suggestions for dealing with specific problems. Weekly supervision of the therapists regarding the implementation of PST and RT was provided independently by two licensed clinical psychologists, one experienced in PST (M. G. Perri), the other proficient in the use of RT (F. Christopher).

PST. This program was adapted from the problem-solving training procedures detailed by Nezu et al. (1989). PST began with intensive training in developing an appropriate orientation to coping with depression and the problems associated with it (Nezu & Perri, 1989). Training in problem orientation was geared to provide participants with a rational, positive, and constructive set toward problems in living and to have participants view problem solving as a means of coping with the current stressors in their lives. Participants were taught to label emotions as cues for identifying the existence of a problem, to inhibit the tendency to respond automatically to problems, and to engage instead in the problem-solving process. Training in the remaining component skills of problem solving involved teaching participants (a) to better define and formulate the nature of problems, (b) to generate a wide range of alternative solutions, (c) to systematically evaluate the potential consequences of a solution and select the optimal ones to implement, and (d) to monitor and evaluate the actual solution outcome after its implementation.

RT. This program was adapted from the RT procedures described by Matteson (1984) and from Butler's (1974) recommendations for the adaptive use of reminiscence in life review therapy. Treatment was focused on specific themes derived from Erikson's conceptualization of later life as a time when individuals must grapple with a psychosocial crisis involving "integrity versus despair" (Erikson et al., 1986, p. 54). The goal of treatment was to have participants review their life histories so as to gain a greater sense of perspective and satisfaction with what they had and had not achieved during their lives. Weekly topics were used to guide each participant through a life history review and to stimulate discussion of the major positive and negative events in their lives. Reminiscences were directed toward discussion and interpretation of how past events were similar or dissimilar to the problems that the participants were currently facing. Discussion also included an examination of past goals, lingering regrets, and future plans. The major objectives of the review process were (a) to facilitate acceptance of one's life with both its successes and shortcomings, (b) to enhance resolution of unresolved conflicts, and (c) to encourage participants to pursue future goals that would enhance the meaning of their lives.

WLC. Subjects in this condition were told that the program, because of limited capacity, was unable to accommodate any more members but that at the end of 12 weeks they would be able to receive treatment. Each WLC member was contacted twice during the waiting period to assess the need for referral for immediate treatment as well as to provide assurance that treatment would be available at the end of the waiting period. Subjects in the WLC group were provided with treatment after 12 weeks and were not evaluated at the 3-month follow-up assessment.

Results

Preliminary Analyses

Before evaluating treatment outcome, we conducted a series of preliminary analyses geared to address various validity is-

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sues. First, a series of three one-way multivariate analyses of variance (MANOVAs) were conducted to determine possible differences among initial levels of the dependent variables across the three experimental conditions. One MANOVA included the three depression measures, a second incorporated the five scales of the SPSI, and the third comprised the four scales of the LIS. No between-group differences were found to be significant (all $ps > .60$). Additional ANOVAs and chi-square tests were conducted regarding the various demographic variables listed in Table 1. Once again, no significant between-group differences emerged. On the basis of these results, we concluded that our randomization procedure resulted in comparable groups of subjects.

A second validity check involved possible differences in outcome that may be attributable to subjects' perceptions of treatment efficacy, therapist competency, or both. To that end, subjects in the PST and RT conditions were requested to anonymously complete a questionnaire at the conclusion of both the 1st and 12th treatment sessions. Specifically, they were asked to rate, using a 7-point Likert-type scale ranging from *disagree very strongly* (1) to *agree very strongly* (7), their level of agreement regarding the following four items: (a) "I believe this treatment program will help (has helped) me to become less depressed"; (b) "I believe that my therapist is (was) competent and can (has been) effective in helping me to cope better with my problems"; (c) "I agree with the rationale that this program is based upon"; and (d) "Based upon the first session (entire program), I believe that I will be (have been) helped to become less depressed."

A 2 (conditions) × 2 (trials) × 3 (therapists) MANOVA incorporating all four items indicated no significant differences as a function of group assignment, therapist, or assessment point. Although such ratings are subject to social desirability factors, these findings provide some support for the notion that any consequent differences between conditions were not likely attributable to subjects' expectations, satisfaction, or perception of the competency of their therapists.

In addition, because therapist effects have often been found to be stronger than differential treatment effects (Beutler et al., 1991), additional analyses were conducted to investigate the equivalence of therapist effects for each treatment condition. Accordingly, a series of 2 (PST versus RT) × 3 (the three therapists) × 2 (pretreatment versus posttreatment) repeated measures MANOVAs were conducted on all relevant dependent variables, with the therapist factor treated as a random effect. In ruling out therapist effects in preliminary analyses, we followed the guidelines of Crits-Cristoph and Mintz (1991) in using an alpha level of .3, rather than the standard .05, to determine significance. In all of these analyses, no significant Therapist or Therapist × Condition effect was found to be significant (all $ps > .32$). Given the absence of such significant differences, all subsequent analyses combined data across therapists.

The last validity check focused on subject attrition. During the course of the study, 16 subjects dropped out of treatment (9 from the PST condition and 7 from the RT condition), representing an overall attrition rate of 29.1%. Participants were found to leave treatment for a variety of reasons: physical illness (2 in PST, 1 in RT); "dissatisfaction with the treatment" (1 in PST, 3 in RT); unexpected time conflicts (2 in PST, 1 in RT); moved to another location (1 in PST, 1 in RT); death in family (0 in PST, 1 in RT); conflict with another group participant (1 in PST, 0 in RT); discomfort in being the "only male subject in the group" (1 in PST, 0 in RT); and reason unknown (1 in PST, 0 in RT). Analyses indicated that subjects who dropped out did not differ from those who completed the program on any of the pretreatment measures (all $ps > .10$). Moreover, the rates for attrition and reasons for dropping out did not vary according to treatment condition. All 20 subjects in the WLC group returned for the posttreatment assessment.

Evaluation of Differential Treatment Effects

To evaluate overall and relative effects of the differing treatment approaches, we used a general statistical analytic strategy that incorporated a series of 3 × 2 (Condition × Pre- versus Posttreatment Analysis) repeated measures MANOVAs. One repeated measures MANOVA included the three measures of depression (BDI, GDS, and HRSD), a second incorporated the five scales of the SPSI (Problem Orientation, Problem Definition and Formulation, Generation of Alternatives, Decision Making, and Solution Implementation and Verification), and the third comprised the four scales of the LIS (Integrity, Interiority, Complexity, and Generativity). Individual contrasts between mean scores of interest were conducted using the Newman-Keuls multiple range test on the basis of error terms generated by the omnibus (Wilks's lambda estimates) and respective subsequent measure-specific univariate F tests.

Table 2 contains the means and standard deviations for all dependent variables over the three assessment points.

Depression. This overall MANOVA initially yielded a nonsignificant omnibus effect for condition, $F(2, 56) = 2.25$, $p = .12$, but significant omnibus effects for both the Trials effect, $F(5, 52) = 45.82$, $p < .001$, and the Interaction effect, $F(10, 280) = 8.06$, $p < .001$. Individual contrasts indicated that subjects in both the PST and RT conditions were found to exhibit significantly less depression at posttreatment as compared with their pretreatment scores according to all three depression measures (all $ps < .05$), whereas WLC subjects displayed no significant improvement. Furthermore, as again exemplified by all three measures, PST and RT participants reported significantly lower depression scores at posttreatment than individuals in the WLC condition (all $ps < .05$). Finally, PST participants were found to be significantly less depressed than RT subjects according their posttreatment HRSD and GDS scores ($ps < .05$) but not according to their posttreatment BDI scores.

Another strategy to evaluate differential treatment effects involves considering variations in the proportions of subjects at posttreatment who no longer meet the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., rev.; *DSM-III-R;* American Psychiatric Association, 1987) diagnostic criteria for major depressive disorder (see Table 3). The data are reported first for those subjects who completed treatment (i.e., excluding dropouts) and then for the entire sample of subjects who started treatment (i.e., including dropouts). In the latter set, missing data were substituted using the conservative assumption that subjects who dropped out of treatment continued to remain depressed. For both sets of data, chi-squared tests showed that at posttreatment (and follow-up) a significantly greater proportion of participants in the PST condition, compared with those in

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Table 2
Means and Standard Deviations for All Dependent Measures by Condition at Pretreatment, Posttreatment, and Follow-Up Assessments

Measure	PST (n = 19)		RT (n = 28)		WLC (n = 20)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Hamilton Rating Scale for Depression						
Pretreatment	25.2_{Aa}	5.7	25.3_{Aa}	6.1	22.4_{Aa}	5.5
Posttreatment	8.8_{Ba}	6.3	17.6_{Bb}	9.9	22.0_{Ac}	4.5
Follow-up	8.5_{Ba}	6.0	18.4_{Bb}	8.8	—	—
Geriatric Depression Scale						
Pretreatment	19.8_{Aa}	4.8	19.2_{Aa}	6.6	17.0_{Aa}	5.1
Posttreatment	13.6_{Ba}	6.6	16.5_{Bb}	6.8	18.4_{Ac}	4.3
Follow-up	13.8_{Ba}	6.2	14.5_{Ba}	6.2	—	—
Beck Depression Inventory						
Pretreatment	23.7_{Aa}	5.2	23.6_{Aa}	6.5	23.0_{Aa}	4.3
Posttreatment	15.7_{Ba}	6.9	16.9_{Ba}	9.5	21.2_{Aa}	6.0
Follow-up	16.7_{Ba}	9.9	15.6_{Ba}	9.0	—	—
Social Problem Solving Inventory						
Problem orientation						
Pretreatment	59.1_{A}	24.6	51.8_{A}	20.6	59.8_{A}	27.1
Posttreatment	65.6_{AB}	26.4	55.2_{A}	23.2	65.0_{A}	23.3
Follow-up	67.7_{B}	26.8	59.4_{A}	24.9	—	—
Problem definition and formulation						
Pretreatment	16.0_{A}	7.3	18.8_{A}	10.2	16.3_{A}	6.9
Posttreatment	19.5_{B}	7.0	17.1_{A}	9.7	16.0_{A}	6.9
Follow-up	20.5_{B}	7.4	19.1_{A}	11.0	—	—
Generation of alternatives						
Pretreatment	17.7_{A}	8.6	19.0_{A}	9.0	18.4_{A}	7.8
Posttreatment	21.6_{B}	7.9	20.0_{A}	9.9	17.6_{A}	7.7
Follow-up	23.0_{B}	7.4	22.1_{A}	6.2	—	—
Decision making						
Pretreatment	20.8_{A}	7.4	20.7_{A}	9.1	20.8_{A}	6.2
Posttreatment	23.0_{B}	8.1	19.9_{A}	8.8	20.1_{A}	6.6
Follow-up	23.5_{B}	8.2	19.4_{A}	6.9	—	—
Solution implementation and verification						
Pretreatment	18.8_{A}	8.3	18.7_{A}	9.2	19.0_{A}	7.1
Posttreatment	21.9_{A}	8.6	19.0_{A}	8.0	19.3_{A}	7.9
Follow-up	22.1_{A}	8.4	20.7_{A}	9.6	—	—
Life Integration Scale						
Integrity						
Pretreatment	7.4_{A}	3.4	5.6_{A}	3.7	6.9_{A}	3.7
Posttreatment	9.0_{B}	3.5	6.0_{A}	3.9	7.6_{A}	3.6
Follow-up	9.0_{AB}	3.9	6.4_{A}	4.2	—	—
Interiority						
Pretreatment	7.7_{A}	3.0	7.2_{A}	3.4	7.4_{A}	2.7
Posttreatment	7.7_{A}	2.8	8.1_{A}	3.3	7.3_{A}	2.7
Follow-up	8.0_{A}	2.8	7.3_{A}	3.7	—	—
Complexity						
Pretreatment	4.5_{A}	2.6	4.3_{A}	3.2	5.0_{A}	3.0
Posttreatment	5.1_{AB}	3.0	6.3_{B}	4.4	5.0_{A}	3.1
Follow-up	6.1_{B}	3.3	6.4_{B}	3.6	—	—
Generativity						
Pretreatment	4.5_{A}	2.6	7.8_{A}	3.2	8.0_{A}	3.0
Posttreatment	5.1_{AB}	2.9	9.1_{B}	4.3	8.2_{A}	3.1
Follow-up	9.8_{B}	3.4	9.1_{B}	4.0	—	—

Note. Follow-up data were not collected on WLC subjects. For each scale, dissimilar uppercase subscripts (down columns) indicate significant differences within a condition across differing assessment points; dissimilar lowercase subscripts (across rows) indicate significant differences between conditions within the same testing period. PST = problem-solving therapy; RT = reminiscence therapy; WLC = waiting-list control.

the RT and WLC groups, no longer experienced the constellation of symptoms indicative of major depressive disorder (ps < .01; see Table 3).

Social problem solving. Initial results from the 3 × 2 repeated measures MANOVA indicated nonsignificant omnibus F ratios for both the Condition effect, $F(2, 56) = 0.32$, $p = .73$, and the Interaction effect, $F(18, 96) = 1.02$, $p = .45$. The Trials effect, however, was found to be significant, omnibus $F(9, 48) = 29.52$, $p < .001$. Subsequent individual contrasts revealed that only PST participants showed any significant improvement in prob-

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Table 3
Percentage of Subjects in Each Condition Who Met the Diagnostic Criteria for Major Depressive Disorder at Each Assessment

	PST		RT		WLC	
Assessment	%	*n*	%	*n*	%	*n*
Excluding dropouts						
Pretreatment	100	19	100	20	100	20
Posttreatment	11	2	60	12	90	18
Follow-up	11	2	70	6		
Including dropouts[a]						
Pretreatment	100	28	100	27	100	20
Posttreatment	39	11	70	19	90	18
Follow-up	39	11	78	21		

Note. PST = problem-solving therapy; RT = reminiscence therapy; WLC = waiting-list control.
[a] These calculations were based on the assumption that subjects who dropped out of treatment met the criteria for major depressive disorder.

lem solving as indicated by three SPSI scales (Problem Definition and Formulation, Generation of Alternatives, and Decision Making). In other words, RT and WLC subjects did not improve on these scales. In addition, Newman-Keuls tests indicated that none of the conditions was characterized by significant improvements on the remaining two problem-solving scales (problem orientation and solution verification).

Life integration. This initial repeated measures MANOVA indicated nonsignificant omnibus effects regarding the Condition, $F(2, 55) = 0.44$, $p = .65$, and Interaction terms, $F(14, 98) = 1.18$, $p = .30$, respectively. However, the Trials effect was found to be significant, omnibus $F(7, 49) = 13.14$, $p < .001$. Individual contrasts revealed that (a) PST subjects were the only participants to achieve a significant pre- to posttreatment improvement regarding the Integrity scale ($p < .05$), (b) RT subjects were the only individuals to show significant improvements over time on the Complexity and Generativity scales ($ps < .05$), and (c) no differences were evidenced on the Interiority scale.

Additional Analyses

Although the primary intent of this study was to evaluate the relative efficacy of PST versus RT, we were also interested in whether these two approaches worked differentially as a function of pretreatment skill deficits. More specifically, one could hypothesize that preexisting deficits in either problem solving or life integration may be predisposing factors for differential response to the two therapies. To address this issue, we conducted two additional MANOVAs, one focusing on "good" versus "poor" problem solvers, and the second on "good" versus "poor" life integrators, using median splits on the SPSI and LIS measures, respectively. The dependent measures for both analyses included all three measures of depression (BDI, GDS, and HRSD) and involved a 2 × 2 × 2 (Time of Analysis × Condition × Predisposing Skill Deficit) repeated measures approach.

The results of these MANOVAs and subsequent follow-up analyses provided a somewhat mixed picture depending on the measure of depression. In essence, PST was found to be effective in reducing depressive symptoms for "poor problem solvers" (BDI and HRSD), "good problem solvers" (HRSD), "poor life integrators" (HRSD), and "good life integrators" (BDI), whereas RT was found to be an effective intervention for individuals described as "good problem solvers" (BDI and HRSD), "poor problem solvers" (HRSD), and "good life integrators" (HRSD; all $ps < .05$). However, RT was *not* found to be effective for subjects characterized as "poor life integrators." Given the post hoc nature of the analyses, these results should be viewed as quite tentative.

Follow-up Analyses

Because of ethical and clinical concerns, the 20 members of the WLC condition were provided with treatment at the end of the initial 12 weeks. Therefore, follow-up analyses included only those individuals in the PST and RT conditions. Because we were interested in determining whether positive treatment effects evidenced at posttreatment were maintained at the 3-month follow-up assessment, we were particularly interested in possible significant trials effects within the 2 × 2 (Conditions × Assessment Points) MANOVAs. Results across three separate MANOVAs focusing on the three different measurement sets (i.e., depression, problem solving, and life integration) indicated nonsignificant omnibus F ratios (Wilks's lambda) representing the effects caused by time: For depression, $F(5, 33) = 2.01$; for problem solving, $F(9, 29) = 0.50$; for life integration, $F(7, 30) = 1.92$ (all $ps > .10$). In essence, this suggests that the overall treatment effects observed at posttreatment for both the PST and RT conditions were maintained 3 months after the completion of treatment.

Discussion

Before discussing the implications of our findings, we note here several caveats regarding interpretation of the results. First, although the subjects' ratings of perceived therapist competency and perceived treatment efficacy at pretreatment and posttreatment were found to be equivalent across both treatment conditions, absent in our study was an independent means of assuring treatment equivalence. It is possible that the therapists acquired the skills necessary to implement the two protocols competently at different rates or with differing preferences. Although preliminary analyses that included the therapist factor as a random effect yielded no cause for concern (i.e., lack of significant differences), the validity of these analyses is threatened by the small number of therapists involved in this investigation and by the consequent low power available when conducting such analyses (cf. Crits-Cristoph & Mintz, 1991).

Second, similar to this concern, a recent review by Robinson, Berman, and Neimeyer (1990) raises a question regarding the validity of psychotherapy research in which the principal investigators have a strong "allegiance" to the treatment approach under scrutiny. For example, in the present investigation, if our predominant orientation was allied with a problem-solving approach, one might suspect that all that was accomplished by such research was a confirmation of an allegiance bias. Although one of the present authors (A. M. Nezu) is a major proponent of the problem-solving model, he was not involved in the actual supervision of the therapists. Moreover, the two major

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supervisors/trainers for two protocols each espouse the two varying models (i.e., M. G. Perri espouses problem solving, and F. Christopher, reminiscence). As such, supervisor or mentor influence on the attitudes, dispositions, and therapy behaviors of the three therapists were equivalent across the two conditions.

With these caveats in mind, we suggest that the data in this study support the efficacy of psychotherapy in general for the treatment of major depressive disorder in older adults. The results showed significant improvements in depressive symptoms, as measured by self-reports and observer ratings, for participants who completed either form of psychotherapy, compared with those who received no treatment. Moreover, 64% of the individuals who completed treatment showed substantial degrees of positive change such that, at posttreatment, their depression was classified as improved or in remission (based on the SADS). These data are in agreement with findings of other studies (Gallagher & Thompson, 1982; Steuer et al., 1984; Thompson et al., 1987) and suggest that the majority of depressed older adults show substantial improvements when provided with psychotherapy.

The results from our WLC subjects revealed little evidence of spontaneous remission. During the 12-week waiting period, the control subjects showed minimal change in depressive symptoms, whereas the treated patients improved significantly over time on all three measures of depression (HRSD, GDS, and BDI). Furthermore, 90% of the WLC subjects manifested sufficient symptomatology to warrant a diagnosis of major depressive disorder at the conclusion of the 12-week waiting period. These findings highlight the observation that elderly depressed patients are not likely to improve unless they receive some type of treatment (Thompson et al., 1987).

Furthermore, our examination of differential treatment effects between both experimental conditions provides initial support of the superiority of a problem-solving approach as compared to reminiscence-focused intervention. Specifically, PST subjects were found to report significantly less depression as measured by the GDS and the HRSD, compared with individuals receiving the RT protocol. Moreover, significantly fewer participants in PST (11%) remained depressed at posttreatment versus those in RT (60%). As such, both the degree of improvement in depressive symptomatology, as well as the percentage of subjects who actually improved, compare favorably with success rates reported for other psychologically based interventions for depression in the elderly (e.g., Beutler et al., 1987; Thompson et al., 1987).

However, contrary to the findings of Thompson et al. (1987) and Gallagher and Thompson (1982), who found no differences in treatment response to cognitive, behavioral, or psychodynamic approaches, our study did detect significant differences between a skills-oriented, cognitive-behavioral approach (i.e., PST) and a more introspective, insight-oriented model of treatment (i.e., RT). Additional analyses indicated that, in part, the lack of significant improvement in depressive symptomatology for RT subjects may be a function of the absence of a large impact of RT for individuals characterized as "poor life integrators." In other words, the changes in the variables hypothesized to mediate "integrity versus despair" did not occur (cf. Erikson et al., 1986). This failure to engender major improvement on the life integration variables may be attributed to the ineffectiveness of the treatment, to a lack of sensitivity in the measurement of life integration, or to a combination of both.

The effectiveness of PST in alleviating depression, on the other hand, may be attributed in part to improvements in the participants' ability to cope with the major and minor stressors in their lives. Indeed, results from the SPSI showed that, over the course of the study, PST subjects made significant improvements in three of the five component skills of problem solving. These findings are consistent with the results of previous studies (Nezu, 1986; Nezu & Perri, 1989) that demonstrated an association between improvements in problem-solving ability and the amelioration of depression. Such findings provide support for the proposition that ineffective coping with problems in living may contribute to the experience of depression in older adults (cf. Lazarus, 1991; Nezu, 1987; Nezu et al., 1989).

The primary focus of this study was not intended to involve a detailed analysis of psychotherapy process variables. Therefore, our evaluation of the mechanisms of action responsible for treatment efficacy should be viewed as tentative. Beyond further examination of a "predisposing skill deficit" hypothesis, other process-oriented variables should be investigated in the future. For example, Beutler et al. (1991) found that patients' predisposing coping styles (externalizing versus internalizing) and defensiveness (resistant versus low defensiveness) were significant predictors of differential treatment response regarding cognitive, experiential, and self-directed therapy protocols. Future research should be directed toward such fine-grained analyses.

References

Adler, T. (1992, February). For depressed elderly, drugs advised. *APA Monitor,* pp. 16–17.

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4,* 561–571.

Beutler, L. E., Engle, D., Mohr, D., Daldrup, R. J., Bergan, J., Meredith, K., & Merry, W. (1991). Predictors of differential response to cognitive, experiential, and self-directed psychotherapeutic procedures. *Journal of Consulting and Clinical Psychology, 59,* 333–340.

Beutler, L. E., Scogin, F., Kirkish, P., Schretlen, D., Corbishley, A., Hamblin, D., Meredith, K., Potter, R., Bamford, C. R., & Levenson, A. I. (1987). Group cognitive therapy and alprazolam in the treatment of depression in older adults. *Journal of Consulting and Clinical Psychology, 55,* 550–557.

Blazer, D., Hughes, D. C., & George, L. K. (1987). The epidemiology of depression in an elderly community population. *The Gerontologist, 27,* 281–287.

Brand, E., & Clingempeel, W. G. (1992). Group behavior therapy with depressed geriatric inpatients: An assessment of incremental efficacy. *Behavior Therapy, 23,* 475–482.

Butler, R. (1974). Successful aging and the role of life review. *Journal of the American Geriatric Society, 22,* 529–535.

Butler, R. N., Lewis, M. I., & Sunderland, T. (1991). *Aging and mental health: Positive psychosocial and biomedical approaches* (4th ed.). Columbus, OH: Charles E. Merrill.

Crits-Cristoph, P., & Mintz, J. (1991). Implications of therapist effects for the design and analysis of comparative studies of psychotherapies. *Journal of Consulting and Clinical Psychology, 59,* 20–26.

Dunn, V. K., & Sacco, W. P. (1989). Psychometric evaluation of the Geriatric Depression Scale and the Zung Self-Rating Depression Scale using an elderly community sample. *Psychology and Aging, 4,* 125–126.

D'Zurilla, T. J., & Nezu, A. M. (1990). Development and preliminary

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evaluation of the social problem-solving inventory. *Psychological Assessment, 2,* 156–163.

Endicott, J., & Spitzer, R. (1978). A diagnostic interview for affective disorders and schizophrenia. *Archives of General Psychiatry, 35,* 837–844.

Erikson, E. H., Erikson, J. M., & Kinvick, H. Q. (1986). *Vital involvement in old age: The experience of old age in our time.* New York: Norton.

Fry, P. S. (1989). Mediators of perceptions of stress among community-based elders. *Psychological Reports, 65,* 307–314.

Gallagher, D., Breckenridge, J., Steinmetz, J., & Thompson, L. (1983). The Beck Depression Inventory and Research Diagnostic Criteria: Congruence in an older population. *Journal of Consulting and Clinical Psychology, 51,* 945–946.

Gallagher, D. E., & Thompson, L. W. (1982). Treatment of major depressive disorder in older adult outpatients with brief psychotherapies. *Psychotherapy: Theory, Research and Practice, 19,* 482–490.

Gerson, S. C., Plotkin, D. A., & Jarvik, L. F. (1988). Antidepressant drug studies, 1964–1986: Empirical evidence for aging patients. *Journal of Clinical Psychopharmacology, 8,* 311–322.

Goldwasser, A. N., Auerbach, S. M., & Harkins, S. W. (1987). Cognitive, affective, and behavioral effects of reminiscence group therapy on demented elderly. *International Journal of Aging and Human Development, 10,* 555–557.

Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery and Psychiatry, 23,* 56–62.

Hussian, R. A., & Lawrence, P. S. (1981). Social reinforcement of activity and social problem-solving training in the treatment of depressed institutionalized elderly. *Cognitive Therapy and Research, 5,* 57–69.

Lazarus, R. S. (1991). *Emotion and adaptation.* New York: Oxford University Press.

Matteson, M. A. (1984). Group reminiscing for depressed institutionalized elderly. In I. Burnside (Ed.), *Working with the elderly: Group process and techniques* (2nd ed., pp. 287–297). Belmont, CA: Wadsworth.

National Institutes of Health. (1992). Diagnosis and treatment of depression in late life. *Journal of the American Medical Association, 268,* 1018–1024.

Nezu, A. M. (1986). Efficacy of a social problem-solving therapy approach for unipolar depression. *Journal of Consulting and Clinical Psychology, 54,* 196–202.

Nezu, A. M. (1987). A problem-solving formulation of depression: A literature review and proposal of a pluralistic model. *Clinical Psychology Review, 7,* 121–144.

Nezu, A. M., Nezu, C. M., & Perri, M. G. (1989). *Problem-solving therapy for depression: Theory, research, and clinical guidelines.* New York: Wiley.

Nezu, A. M., & Perri, M. G. (1989). Social problem-solving therapy for unipolar depression: An initial dismantling investigation. *Journal of Consulting and Clinical Psychology, 57,* 408–413.

Rattenberg, C., & Stones, M. J. (1989). A controlled evaluation of reminiscence and current topics discussion groups in a nursing home context. *The Gerontologist, 29,* 768–777.

Rich, C. L., Young, D., & Fowler, R. C. (1986). San Diego Suicide Study I: Young versus old subjects. *Archives of General Psychiatry, 43,* 577–582.

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.

Ruegg, R. G., Zisook, S., & Swendlow, N. R. (1988). Depression in the aged. *Psychiatry Clinics of North America, 11,* 83–89.

Ryff, C. D., & Heinke, S. G. (1983). Subjective organization of personality in adulthood and aging. *Journal of Personality and Social Psychology, 44,* 807–816.

Spitzer, R. L., Endicott, J., & Robins, E. (1978). Research diagnostic criteria: Rationale and reliability. *Archives of General Psychiatry, 35,* 773–782.

Steuer, J., Mintz, J., Hammen, C., Hill, M. A., Jarvik, L. F., McCarely, T., Motoike, P., & Rosen, R. (1984). Cognitive-behavioral and psychodynamic group psychotherapy in the treatment of geriatric depression. *Journal of Consulting and Clinical Psychology, 52,* 180–189.

Teri, L., & Lewinsohn, P. (1982). Modification of the pleasant and unpleasant events schedule for use with the elderly. *Journal of Consulting and Clinical Psychology, 50,* 444–445.

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.

Winstead, D. K., Mielke, D. H., & O'Neill, P. T. (1990). Diagnosis and treatment of depression in elderly: A review. *Psychiatric Medicine, 8,* 85–98.

Yesavitch, J., Brink, T., Rose, T., Lum, O., Huang, O., Adey, V., & Leirer, V. (1983). Development and validation of a geriatric screening scale: A preliminary report. *Journal of Psychiatric Research, 17,* 37–49.

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