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Effectiveness of Targeting the Vulnerability Factors of Depression in Cognitive Therapy

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I. H. Gotlib and C. L. Hammen's (1992) psychopathology model of depression was used as a conceptual framework for studying the process of change in an effective course of cognitive therapy (CT) for depression. Archived CT transcripts from 30 depressed outpatients in the Cognitive-Pharmacotherapy Treatment project (S. D. Hollon et al., 1992) were studied. An observational coding system was used to assess whether therapists focused on the cognitive, interpersonal, and developmental vulnerabilities of depression and whether these interventions were associated with symptom reduction. Therapists maintained a primarily cognitive focus, but it was interventions that addressed the interpersonal and developmental domains that were associated with improvement. A developmental focus also predicted a longer time of recovery and better global functioning over the 24-month follow-up period. These findings are consistent with recent theoretical developments in cognitive therapy and with the psychopathology research on depression.

For the most part, the psychotherapies for depression have been developed within the confines of a single theoretical orientation and their focus limited to the aspect of depression most consistent with that orientation. For instance, cognitive therapy places its emphasis on the dysfunctional thinking of depression and interpersonal therapy on dysfunctional social relationships, yet both of these variables have been demonstrated to influence the course of depression (Gotlib & Hammen, 1992). A number of authors emphasize the need to move beyond the constraints of theoretical orientation and to use the knowledge base in psychopathology to develop more broad-based treatments (Goldfried, 1993; Hayes & Newman, 1993; Robins, 1993).

Gotlib and Hammen (1992) present a comprehensive model of depression that can be used to identify the factors that maintain the disorder and put individuals at risk for future episodes. On the basis of an integration of the cognitive, interpersonal, life stress, and developmental literatures, their model focuses on two central vulnerabilities: dysfunctional thinking about the self and others and dysfunctional interactions with others. These cognitive and interpersonal vulnerabilities are thought to arise primarily from early impairments in the parent–child attachment process. Over the course of development, these problematic schemas and interpersonal patterns can shape one's responses to negative life events, contribute to the occurrence of more negative events, and increase the risk of depression and relapse. Gotlib and Hammen contend that any comprehensive treatment for depression must attend to the perceptions of the individual and to his or her interpersonal and developmental contexts, if it is to produce lasting change.

To examine these assertions empirically, we assessed whether therapists focused on these cognitive, interpersonal, and developmental domains in an effective course of Beck's cognitive therapy for depression (CT; Beck, Rush, Shaw, & Emery, 1979) and whether these interventions were associated with symptom reduction. A transtheoretical measure of therapist focus (Goldfried, Newman, & Hayes, 1989) was used to facilitate comparisons with other effective psychotherapies for depression, such as interpersonal therapy. Studies of how the most effective psychotherapies address the vulnerability factors of depression may identify important interventions to include in more integrative and potentially more effective treatments for this debilitating disorder.

The principle focus of CT is to teach patients hypothesis-testing skills with which to change dysfunctional beliefs and the core assumptions that underlie them (Beck et al., 1979). Hypothesis testing has been demonstrated to be associated with improvement in depression over the course of therapy (Whisman, 1993), but its long-term effects have not been ex-

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amined. Moreover, CT has been criticized for overemphasizing the cognitive aspects of depression and not attending adequately to the negative interpersonal realities (Gotlib & Hammen, 1992). Beck et al. (1979) recommend a deliberate focus on the individual's construction of reality to address problems in the interpersonal domain. Behavioral techniques (e.g. assertiveness training, problem solving) are recommended to change actual interpersonal circumstances but are viewed as a "means to an end—namely, cognitive change" (Beck et al., 1979, p. 119). Coyne (1989) suggests that it may be these behavioral components that are responsible for CT's effects. At this point, this remains a theoretical debate.

Another unexplored area that has received increased theoretical attention in the CT literature is a focus on patients' attachment experiences with their parents (Gotlib & Hammen, 1992). According to these theories, a developmental focus can facilitate lasting change because it activates the cognitive–affective network and interpersonal patterns that are central to the individual's depression. Although the patient's attachment patterns are not a direct focus of CT, Beck et al. (1979) recommend a developmental focus to identify the core assumptions that form the foundation of negative belief systems. Change at the level of core assumptions is thought to have a "direct effect on one's ability to avoid future depressions" (Beck et al., 1979, p. 244).

According to cognitive theory, therapists in an effective course of manualized CT should focus primarily on changing negative views of the self and others, and these interventions should be associated with symptom reduction. Because they are viewed as secondary to cognitive change, interventions that promote direct interpersonal change should not be used frequently and should not be central to the change process. An exploration of patients' experiences with their parents should not be a primary focus of CT but is likely to facilitate recovery and lasting change, as such interventions address the roots of the cognitive and interpersonal vulnerabilities.

Method

The present study is based on archival data collected as part of the Cognitive-Pharmacotherapy Treatment project (CPT; Hollon et al., 1992), an outcome study that compared the effectiveness of cognitive therapy with and without pharmacotherapy, and pharmacotherapy with and without maintenance. Only the CT sessions were analyzed.

Patient Sample

The CPT sample consisted of 107 depressed outpatients who met Research Diagnostic Criteria (RDC; Spitzer, Endicott, & Robins, 1979) for major depressive disorder, scored 20 or above on the Beck Depression Inventory (BDI; Beck, Ward, Mendelsohn, Mock, & Erbaugh, 1961), and scored 14 or above on the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960). Exclusion criteria included past or current RDC diagnosis of schizophrenia, bipolar I affective disorder, organic brain syndrome, antisocial personality disorder, panic disorder or generalized anxiety disorder, substance abuse, an IQ less than 80, or a suicide risk necessitating immediate hospitalization.

A total of 64 patients (16 in each group) completed the 12-week active treatment period. The pooled CT sample included 32 (25 female, 7 male) patients, 88% of whom were White and 12% African American. The mean age was 33.8 ± 10.6 (range, 18 to 62 years). In general, this sample was lower middle class and moderately to severely depressed, with 3.5 previous episodes and suicidal ideation at intake (for a complete report, see Hollon et al., 1992). Of the 32 CT patients, 30 had audible session tapes and complete data at posttreatment, 27 had complete data on depressive symptoms over the 24-month follow-up, and 23 had complete data on global functioning.

Therapists, Treatments, and Transcripts

The four therapists were a PhD-level psychologist (one man) and three clinical social workers (two men, one woman), with a range of 8 to 20 years of therapy experience and no previous training in CT. Therapists were trained for 6 to 14 months and received weekly supervision throughout the course of the study. Each therapist treated 4 patients in each of the two CT conditions.

Patients assigned to the two CT groups were seen over a 12-week period for a maximum of twenty 50-min sessions. In the combined group, patients were administered imipramine hydrochloride (up to 200–300 mg of imipramine per day by the third week of treatment) and met weekly with their pharmacotherapist for medication monitoring. At the end of 12 weeks, the patients were tapered off the medication for a 2-week period and did not receive maintenance doses. Both CT groups were at least as effective as the pharmacotherapy groups (Hollon et al., 1992), and Evans et al. (1992) estimated that compared with pharmacotherapy without maintenance, there was a 64% reduction in the risk of relapse when patients had previous cognitive therapy.

There were no significant differences between therapists on adherence to cognitive techniques, session quality, or treatment outcome (DeRubeis, Evans, et al., 1990). In addition, the two CT groups did not differ significantly in the number or duration of sessions, depression at the end of treatment, or time to relapse. As has been done in other studies with the CPT data set (e.g., DeRubeis, Evans, et al., 1990; Jones & Pulos, 1993), the CT groups were combined for statistical analyses.

In an effort to isolate where the "action" was in this course of CT, we identified the point by which most of the symptom reduction had occurred and then sampled sessions that preceded this change point. DeRubeis and Feeley (1990) recommend this strategy because anything that occurs after the change point can reflect the therapist's response to the patient's change, rather than the patient's response to what the therapist delivers. Almost 90% of symptom reduction in the CPT study occurred within the first 6 weeks of therapy, so we randomly selected one session for each patient from the sessions that followed the orientation to CT but occurred by the fourth week. During this phase of therapy, patients received one to two sessions per week.

Measures

Depressive symptomatology at pretreatment and posttreatment was measured by a composite score. This score was calculated by standardizing scores on the BDI and HRSD and then averaging them. The BDI was mailed monthly to patients over the 24-month follow-up period and returned by mail. Patients' general psychological, social, and occupational functioning was assessed by the Global Assessment Scale (GAS; Endicott, Spitzer, Fleiss, & Cohen, 1976) at pretreatment, posttreatment, and over the 24-month follow-up. Hollon et al. (1992) reported excellent interrater agreement between clinicians on the HRSD (r = .96) and on the GAS (r = .84).

The Coding System of Therapist Focus (CSTF; Goldfried et al., 1989) is a transtheoretical classification system that was used to assess the extent to which therapists focused on the cognitive, interpersonal, and developmental domains described in Gotlib and Hammen's (1992) model of depression. Before data analysis, four composite categories were formed from the CSTF categories. Two categories assessed a focus on the cognitive domain. Intrapersonal cognitive change was coded

Table 1
Partial Correlations of Therapist Focus Variables and Outcome at Posttreatment and Follow-Up, Controlling for Initial Severity

Therapist focus variables	Composite depression (n = 30)	Global assessment (n = 30)	Global assessment at 24 months (n = 23)
Intrapersonal cognitive change	.28	−.28	−.02
Interpersonal cognitive change	.12	−.38*	−.14
Interpersonal change	−.07	.42*	−.18
Exploration of experiences with parents	−.40*	.18	.44*

Note. A negative partial correlation on the composite measure of depression is associated with less depression. A positive partial correlation on the Global Assessment Scale is associated with better functioning.
* $p \leq .05$.

when therapists challenged the patient's negative self-evaluation (e.g., "You see yourself as a failure. Let's examine the evidence for that"). Interpersonal cognitive change was coded when therapists challenged the patient's perceptions, expectations, and concerns about others (e.g., "You think he is pulling away from you because he doesn't love you anymore. What are other possible reasons for his withdrawal?"). The category interpersonal change was coded when therapists provided feedback on the patient's social functioning or focused on direct change of problematic interactions (e.g., "You're trying to tell her that you need attention, but you come across as being disinterested. Let's practice how to communicate your needs more directly"). These categories were not scored if they occurred in a developmental context. Exploration of experiences with parents assessed a focus on the developmental context of the cognitive and interpersonal vulnerabilities. This category was coded when therapists challenged patients' dysfunctional thinking or promoted direct interpersonal change in the context of past or ongoing experiences with their parents or primary caregivers (e.g., "You see yourself as unlovable because your mother doesn't express affection to you. Does she express affection to anyone else in the family?").

To use the CSTF, raters code each therapist "turn"—that is, everything stated by the therapist after each patient utterance and before the next. Therapist turns are coded using the patient turns as context. A category is scored only once per therapist turn. The CSTF has revealed similarities and differences in the process of psychodynamic-interpersonal and cognitive-behavioral therapies and pointed to potential mechanisms of change (Goldsamt, Goldfried, Hayes, & Kerr, 1992; Kerr, Goldfried, Hayes, Castonguay, & Goldsamt, 1992).

Five advanced clinical psychology graduate students served as raters in this study. Estimates of agreement were based on independent codings of trios of raters, using all 30 transcripts. Intraclass correlation coefficients—including interrater variance in the error term (Shrout & Fleiss, 1979)—were .90 for intrapersonal cognitive change, .82 for interpersonal cognitive change, .87 for interpersonal change, and .95 for exploration of experiences with parents.

Results

As in previous studies using the CSTF, the frequency for each coding category was calculated by summing the total number of times it was scored by two of the three raters across all of the turns in the transcript. The frequency was divided by the total number of turns in the transcript to yield proportions, which were used in all analyses.

As predicted, therapists focused more frequently on changing cognitions about the self and others (intrapersonal cognitive change: M = 0.08, SD = 0.08; interpersonal cognitive change: M = 0.11, SD = 0.09) than on promoting actual interpersonal change (M = 0.03, SD = 0.04) and exploring patients' experiences with their parents (M = 0.05, SD = 0.13). Consistent with criticisms of CT, the extent of focus on changing patients' dysfunctional views of the self, $t(29) = 2.52$, $p < .05$, and others, $t(29) = 3.93$, $p < .001$, differed significantly from the focus on direct interpersonal change.

Because contemporary methodologists have not reached a consensus on how to best measure change in therapy, we decided to use the hierarchical multiple regression strategy used in other process studies of the CPT data set (e.g. DeRubeis, Evans, et al., 1990; Jones & Pulos, 1993). Table 1 shows partial correlations of each therapist focus variable and the outcome measures at posttreatment and follow-up, after controlling for pretreatment scores. Contrary to prediction, interventions aimed at intrapersonal and interpersonal cognitive change did not predict improvement. A surprising finding was that changing cognitions in the interpersonal realm was associated with worse, rather than better, global functioning at the end of treatment (r = −.38, $p < .05$). In addition, a focus on direct interpersonal change was not expected to be important in the change process, yet it was associated with better global functioning at the end of treatment (r = .42, $p < .05$). As predicted, the exploration of patients' experiences with their parents was associated with change in depression at posttreatment (r = −.40, $p < .05$) and with better global functioning over the 2-year follow-up (r = .44, $p < .05$).

As in the Evans et al. (1992) relapse study, we used Cox's proportional hazards regression model to examine the relationships between the predictors and time to relapse. This method takes into account whether a relapse occurred and the amount of time that has elapsed. Each prediction was analyzed separately. Table 2 shows that the only variable associated with a longer time of recovery was the exploration of patients' experiences with their parents, $\chi^2(1, N = 27) = 4.25$, $p < .05$.

Table 2
Cox Proportional Hazards Analyses of Therapist Focus Variables and Weeks to Relapse

Therapist focus variables (n = 27)	β	SE	t	χ^2 (1, N = 27)[a]
Intrapersonal cognitive change	3.47	3.04	1.13	0.30
Interpersonal cognitive change	2.86	2.77	1.03	0.34
Interpersonal change	−2.79	9.85	−0.28	0.08
Exploration of experiences with parents	−0.42	0.33	−1.29	4.25*

Note. Relapse is defined as two consecutive elevated (≥16) Beck Depression Inventory scores over the follow-up period. A negative beta is associated with a longer period of recovery.
[a] Each variable was examined as a separate predictor.
* $p \leq .05$.

Discussion

Guided by Gotlib and Hammen's (1992) psychopathology model of depression, this study examined cognitive therapists' focus on the cognitive, interpersonal, and developmental vulnerabilities that maintain the disorder and increase the risk of relapse. The findings must be considered preliminary, but they raise some interesting questions about the theories and critiques of CT.

One of the more salient questions is why the primary focus on changing views of the self and others was not associated with improvement. Persons and Miranda (1995) argue that if cognitive interventions do not activate underlying assumptions, they are poor predictors of outcome and do not provide a fair test of the cognitive model. Similarly, Beck et al. (1979) assert that for lasting change to occur, therapists must target the level of core assumptions. The CT manual recommends an exploration of early experiences, especially with parents, as a way to uncover core assumptions. Recent elaborations of cognitive theory suggest that a focus on attachment experiences with parents is likely to activate the cognitive–affective networks and patterns of interaction that underlie the cognitive and interpersonal vulnerabilities of depression. The two cognitive interventions in this study may not have been associated with improvement because they did not include such a developmental focus. An exploration of patients' experiences with their parents, on the other hand, predicted short-term and long-term improvement.

These results converge with Jones and Pulos's (1993) unexpected finding that psychodynamic techniques (which include a developmental focus) were associated with improvement in depression in CT, whereas the cognitive techniques showed little or no association with outcome. Together, these studies provide preliminary support for the inclusion of a developmental focus in the relapse prevention module of the most recent version of CT for depression (Young, Beck, & Weinberger, 1993). If these findings hold up in future studies, they would highlight a point of convergence across psychodynamic, interpersonal, and cognitive theories.

Although cognitive interventions may be more effective when the developmental context is considered, this does not explain why a focus on changing cognitions about interpersonal issues was associated with worse global functioning. Critics of cognitive therapy have charged that it neglects the interpersonal problems associated with depression (e.g., personality disorders, social skills deficits, marital and family discord), and if not addressed, these problems can serve as a source of chronic stress for patients. Consistent with this, therapists did focus more on changing patients' perceptions than on directly changing their interactions with others. This cognitive focus was associated with worse global functioning at the end of treatment, whereas direct interpersonal change was associated with better global functioning. This lends support to Coyne's (1989) assertion that the behavioral components of CT may be more important than suggested by cognitive theory. In addition, these findings may explain why CT improves social functioning, although its focus is on changing perceptions (e.g., Imber et al., 1990).

Elsewhere, we have raised the possibility that patients who are confronted with interpersonal difficulties may not agree with the cognitive focus of therapy and that this disagreement may strain the therapeutic alliance, a strong predictor of outcome (Castonguay, Goldfried, Wiser, Raue, & Hayes, 1996). In qualitative analyses of sessions with low alliance ratings, we found that cognitive therapists often approached real interpersonal problems by focusing on patients' perceptions of these problems. Ruptures in the alliance were addressed by reiterating the cognitive model, which may have been perceived as invalidating, thereby worsening the alliance. It is not clear whether challenging perceptions in the interpersonal domain was associated with worse outcomes in the present study because therapists neglected important problems or because the alliance suffered. Nonetheless, these results highlight the importance of addressing the reality of interpersonal problems.

Correlational research such as this can contribute to an empirical knowledge base, but causal modeling and experimental designs are needed to address the issue of causality. In addition, these findings must be considered preliminary because of the small sample of patients, sessions, and therapists. It is especially important to note that sessions were sampled from the phase of treatment that immediately preceded the change point, and they may not generalize to a full course of cognitive therapy. Larger sample sizes will allow for the use of multivariate statistics that can better capture the complexity of therapy.

Because most of the patients in this sample were moderately to severely depressed and had previous episodes of depression, we assumed that they could benefit from a focus on the major sources of vulnerability associated with the maintenance of depression. However, this approach does not address the issue of specific patient needs (Stiles & Shapiro, 1994). Future studies can better address this issue if they include pretreatment assessments of functioning in each of the domains of vulnerability, as advocated by Hayes and Newman (1993), or use Persons's (1991) case-conceptualization approach.

Our findings highlight possible limitations of the original cognitive therapy for depression (Beck et al., 1979), but they are consistent with recent developments in CT (Robins & Hayes, 1993) and with a more broad-based conceptualization of depression. Because we used a coding system that is not bound to a single theoretical orientation, these same therapist variables can be studied in other effective therapies for depression. Such research may contribute to the empirical knowledge base needed to develop more comprehensive and effective treatments for depression.

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