The Empirical Basis of Dialectical Behavior Therapy: Summary, Critique, and Implications

Karen R. Scheel, University of Oklahoma

The empirical literature offered in support and validation of Linehan's dialectical behavior therapy (DBT) is critically examined in this article. Although results to date are promising, there remain methodological difficulties in the limited research base that supports this eagerly received clinical approach to borderline personality disorder. Implications for clinical decision making are discussed and suggestions offered as to how future investigations can begin to better substantiate DBT as a thoroughly established clinical approach to treating this challenging disorder.

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Linehan has importantly addressed the need for effective and empirically supported psychotherapeutic treatment for borderline personality disorder (BPD). She has developed an integrative treatment approach termed dialectical behavior therapy (DBT), spelled out its principles and techniques in a sophisticated, theoretically driven treatment manual (Linehan, 1993a), and, with her colleagues, embarked on a program of controlled outcome research to evaluate the treatment's success. DBT treatment development and subsequent research have focused on a severe BPD subgroup, those with histories of multiple parasuicidal behaviors. The developers believe that the treatment is likely to be effective for other individuals with BPD as well (e.g., Linehan & Kehrer, 1993). Initial positive results, combined with the generally discouraging prognosis for the disorder and the paucity of previous controlled treatment research (e.g., Linehan, 1993a), have generated considerable excitement and brought DBT to the forefront of thinking and treatment in this area. DBT was, for example, the only treatment for BPD included in the "probably efficacious" category of a recent list of empirically validated treatments, while no treatments for BPD were included in the "well-established" category (Crits-Christoph, Frank, Chambless, Brody, & Karp, 1995).

Reflecting perhaps an eagerness for an empirically supported treatment for this challenging condition, DBT has had just one adequately controlled supportive outcome study to date, and that of limited sample size, but it has already become a popular and highly visible approach. From its introduction to the literature in 1987, DBT has been discussed by the treatment team in over 25 publications, including the treatment manual and workbook (Heard & Linehan, 1993, 1994; Koerner & Linehan, 1992, 1997; Linehan, 1987a, 1987b, 1987c, 1989, 1990, 1992, 1993a, 1993b, 1997b, 1997c; Linehan, Armstrong, Suarez, Allmon, & Heard, 1991; Linehan & Heard, 1992; Linehan, Heard, & Armstrong, 1993; Linehan & Kehrer, 1993; Linehan, Miller, & Addis, 1989; Linehan, Tutek, Heard, & Armstrong, 1994; MacLeod, Williams, & Linehan, 1992; Pollack, Linehan, Wasson, Buysse, Swami, & Soloff, 1990; Shearin & Linehan, 1989, 1992, 1994; Wagner & Linehan, 1997; Wasson & Linehan, 1993). DBT presentations and training workshops have been conducted (e.g., Linehan, 1996), and a video series explicating the treatment has been made available. The treatment approach has been discussed with interest by many other authors as well (e.g., Allen, 1997; Crits-Christoph, 1998; Farrell & Shaw, 1994; Katz & Levendusky, 1990; Miller, 1995; Swenson, 1989; Waltz, 1994),

Address correspondence to Karen R. Scheel, 820 Van Vleet Oval, Room 321, Counseling Psychology Program, University of Oklahoma, Norman, OK 73019-2041. Electronic mail may be sent to kscheel@ou.edu.

and several have proposed and in some cases implemented DBT adaptations for various settings and populations (e.g., Barley et al., 1993; Hampton, 1997; Kern, Kuehnel, Teuber, & Hayden, 1997; Marschke, 1997; Miller, Eisner, & Allport, 1994; Simpson et al., 1998; Springer, Lohr, Buchtel, & Silk, 1996). In Connecticut, the State Department of Mental Health and Addictions Services instituted a state-wide DBT training program (Hawkins & Sinha, 1998).

That DBT has generated such interest and may represent something of a much-needed breakthrough in the treatment of BPD demands that its research base receive close scrutiny in order to facilitate informed empirically based treatment planning and point to the most productive avenues for future research. Although some commentaries concerning DBT exist (e.g., Benjamin, 1997; Hoffman, 1993; Perris, 1994), there does not appear to be a comprehensive critique of the growing body of DBT research independent of the treatment development and research team's own discussions of limitations. Further, the major empirical findings are published in psychiatric journals, less likely to be consumed by psychologists, and limitations, important procedural details, and additional findings are often distributed across several separate research reports and other writings by the DBT team.

Access and interpretation difficulties in consuming this limited but dispersed research base might be fruitfully remedied by a detailed summary, analysis, and discussion of findings to date. This article is intended to serve this function. A brief overview of DBT is provided, followed by a description of the empirical efforts that have examined the treatment. While some specific limitations are noted in conjunction with individual studies, the concluding section provides an integrative discussion of findings and prominent methodological and conceptual issues that might be addressed in subsequent investigations. A discussion of the implications of the extant research base for current treatment decision making is included as well.

OVERVIEW OF DBT

Linehan (1993a) has articulated a biosocial theory that underlies her conceptualization of BPD, its association with suicidal and self-injurious behavior, and her treatment strategies. The central difficulties of an individual with BPD are seen as deriving from a primary physiological difficulty in emotional regulation combined with a history of an invalidating social environment. In brief, the theory posits that these individuals' early social environments impeded their development of adaptive skills to modulate their inherently easily triggered, intense, tenacious, and often exceedingly painful emotions. As one result, suicidal and self-injurious behaviors are used by many as coping mechanisms to escape overwhelming affective states, temporarily or permanently, or to otherwise regulate affect. That invalidating social environments also typically require extreme emotional displays before providing a helpful response further increases the likelihood that self-harm and threats of self-harm will occur. Although appreciating that these behaviors can have a manipulative effect, Linehan stresses that a pejorative interpretation of them as manipulative in intent is neither accurate nor helpful. Linehan's focus on parasuicidal behavior, or self-injurious behavior with or without suicidal intent, predates her focus on BPD in the development of DBT, and parasuicidal behaviors continue to be the priority target of intervention. The longer term goals of DBT, however, go well beyond bringing these behaviors under control.

The treatment itself is an eclectic incorporation of concepts and techniques from client-centered, psychodynamic, gestalt, strategic, and systems orientations, as well as Eastern and Zen psychologies, into what is primarily a cognitive-behavioral therapy (the following draws heavily on Linehan, 1993a; Linehan & Kehrer, 1993; see these and other sources above for more complete discussion of this complex treatment). DBT's uniqueness is seen as deriving in part from its dialectical perspective of both the experiences of individuals with BPD and of effective therapeutic intervention. In this transactional perspective on intrapersonal, interpersonal, and person-environmental functioning, every experience contains simultaneously valid polarities. The tension between them offers the possibility of change. A balance of strategies of acceptance and change is used to achieve a synthetic balance in client functioning. Recognition and validation of the client's experience in the context of a collaborative, supportive therapeutic relationship provide the "client-centered" core of acceptance strategies. The therapeutic relationship in DBT is given a more prominent role than is typical for cognitive-behavioral therapies. With the therapist established as an important figure to the client, specific behavioral skills and thought patterns can be developed. Cognitive-behavioral procedures of skills training, behavioral analysis, contingency management, cognitive modi-

fication, and exposure are utilized and represent the core tools of change. Specific dialectical strategies incorporating aspects of both acceptance and change are also employed.

DBT is an open-ended manualized program utilizing four treatment modes and progressing flexibly through four stages of therapy, including an orientation phase. The treatment modes include 2–2.5-hour weekly group skills training sessions for at least the first year of therapy; weekly (sometimes, for difficult periods, biweekly) therapy with an individual, primary therapist; telephone consultations between clients and individual therapists as needed; and weekly consultation/supervision meetings for therapists. The separate group skills training component was developed largely to devote time to the skills acquisition process that can often be sidetracked by crises and other issues in individual therapy. In this mode, a structured, psychoeducational approach is taken to teaching a range of interpersonal, cognitive, and emotion-regulation skills. In the individual therapy mode, therapists are charged with using the acceptance, change, and dialectical strategies mentioned above to enable skillful responses. A hierarchy of treatment targets is followed within sessions, with the highest priority target behavior currently in evidence receiving first attention. In order, these are suicidal behaviors, therapy-interfering behaviors, quality of life-interfering behaviors, and increase of behavioral skills.

The between-session telephone consultation mode is used liberally for skills coaching and generalization, immediate crisis intervention, and repair of disruptions in the therapeutic relationship. This mode was designed, in part, to foster appropriate help-seeking skills and prevent development of a reinforcing connection between suicidality and extra attention from the therapist. When clients are feeling suicidal, they are instructed to call for problem-solving assistance before engaging in self-injurious behavior. After a self-injurious act, phone contact is prohibited for 24 hours unless the situation is life threatening. In the final mode of treatment, DBT principles are applied to the therapist and his or her experience with the client in individual or group consultation/supervision sessions. These sessions are required to address the stress of working with borderline clients, to help the therapist maintain the least pejorative explanation of client behaviors, and to otherwise assist in maintaining the therapy in the DBT framework.

The therapy begins with an orientation stage, in which expectations about therapy are addressed, a collaborative relationship is forged, and commitment to treatment goals is established. Stage I follows, with attention turned to the hierarchy of target behaviors described above until reasonable stability in daily functioning is established. Stage I is expected to take one year or more for severely dysfunctional or suicidal clients. Stage II, termed "posttraumatic stress reduction," moves beyond current functioning to an exposure phase addressing and processing previous trauma. DBT concludes with Stage III, in which greater self-respect and independent problem solving are fostered. As Linehan (1997b) has recently discussed, some individuals may wish to go beyond Stage III functioning and, through long-term insight-oriented therapy or other life experiences, develop their capacity for optimum experiencing.

STUDIES EXAMINING DBT

To date, one broad controlled outcome and follow-up study of DBT has been conducted (Linehan et al., 1991; Linehan et al., 1993; Linehan et al., 1994), as well as a loosely controlled study of an inpatient adaptation of DBT (Barley et al., 1993), a small controlled study of another inpatient DBT adaptation (Springer et al., 1996), an unpublished dismantling study (Linehan, Heard, & Armstrong, as cited in Linehan, 1993a), and a small process study (Shearin & Linehan, 1992). The findings and procedures of each are described below.

Studies of Standard DBT

In the major outcome study (Linehan et al., 1991), subjects who had been randomly assigned to DBT or a control condition were assessed on a variety of outcome measures over a one-year trial of treatment. All subjects were clinically referred women between 18 and 45 years of age who met diagnostic criteria for BPD, who did not also meet criteria for other specified disorders, and who had engaged in past and recent parasuicidal behavior. Parasuicidal behavior was defined as "any intentional, acute self-injurious behavior with or without suicidal intent" (Linehan et al., 1991, p. 1060). Prior to randomization, subjects were matched on number of past parasuicides, psychiatric hospitalizations, age, and prognosis. It appears that between the time of random assignment and the initiation of treatment, 30% of the potential subjects, approximately equally distributed between the DBT and control groups, quit the study or were excluded due to failure or inability to meet study conditions (additional procedural detail, which was limited in the compact

research report, might help clarify how this was handled). The possibility is raised that biased treatment groups resulted from systematic differences between the DBT and control group clients' reasons for not further cooperating. Such differences would have to have been subtle, however, as no significant pretreatment differences were found between the final groups on past parasuicides and psychiatric hospitalization, depression, hopelessness, reasons for living, scores on the Diagnostic Interview for Borderlines (Gunderson, Kolb, & Austin, 1981), and major demographic variables.

Two DBT subjects quit the study after completing fewer than five sessions and were dropped from major outcome analyses, other than those examining treatment retention. Twenty-two subjects remained in the final DBT group. Twenty of these had stable therapy for the year. The 22 subjects in the control condition, termed "treatment as usual in the community" (TAU), received a choice of referrals for therapy. They did not necessarily receive or continue therapy, but were all retained in major analyses. It appears that about 27% of TAU subjects received no individual psychotherapy. The amount of therapy received by the remaining 73% was not reported, but only about half of these ($n = 9$) received stable therapy for the year. While TAU subjects reported significantly fewer hours of individual and group therapy, they reported significantly more hours of day treatment. Although a naturalistic mix of individuals receiving, declining, or discontinuing therapy in the community is an acceptable control condition in the early stages of treatment research, retaining the DBT early treatment dropouts in analyses (if that were possible) would have resulted in more balanced comparison groups. The two DBT subjects who dropped out did represent 8% of the DBT sample, and as early discontinuers might systematically differ from treatment continuers (e.g., being less committed to making changes), it would have been desirable to have either consistently included or excluded them across both groups. Both this observation and the pretreatment attrition rate suggest the possibility that the comparison groups differed in slight but systematic and potentially relevant ways.

Subjects in the DBT condition received treatment as described above, with individual therapy conducted by five doctoral level professionals, three of whom were also part of the research team. Four of the therapists were psychologists, the fifth a psychiatrist. Group therapy was conducted by co-therapy teams, which also overlapped with the research team (see Linehan et al., 1994). Group therapists included clinical psychologists, master's level therapists, and experienced graduate students. No information was given about the TAU therapists or therapies in the original article; however, a subsequent article (Linehan et al., 1994) provided this information for the second cohort of 13 TAU subjects. Nine received individual therapy, of varying orientations, for an average of about 35 hours each for the year. Therapy was provided by 15 therapists, including five psychiatrists, eight master's level practitioners, and two therapists with no or unknown mental health degrees. In reply to a question raised by Hoffman (1993), Linehan and Heard (1993) reported that DBT subjects received therapy at no charge while TAU subjects were required to pay for therapy and were practically able to seek treatment only at settings accepting low-fee clients.

Results showed that DBT subjects were significantly more likely than TAU subjects to begin therapy, to maintain therapy with the same therapist for the year, and, in comparison to TAU subjects also starting the year with a new therapist, to continue in therapy. DBT subjects were less likely, but not significantly so, to have had a psychiatric hospitalization during the year. For those subjects who were hospitalized, however, DBT subjects had significantly fewer inpatient days. This latter finding was maintained in comparisons between DBT subjects and the nine TAU subjects who had received stable individual therapy. The discrepancy in the overall average number of inpatient days per group was marked.

Using the Parasuicide History Interview (Linehan, Wagner, & Cox 1989), subjects receiving DBT had significantly and markedly less frequent parasuicidal acts, and less medically risky parasuicidal episodes (which can be made up of a series of "acts"), than did control subjects. The groups did not differ in the proportion of parasuicidal acts that were actual suicide attempts. One subject, in the DBT condition, did commit suicide in the period of the study. While it is not clear how the lethality of that act was (or should be) quantified in the parasuicide outcome analyses, it does appear that the DBT condition was associated with a lesser incidence of self-harm, if not an "average" lethality/medical risk by other standards.

Comparing the 20 DBT subjects and nine TAU subjects who received stable individual therapy for the year, DBT subjects again had significantly fewer parasuicidal acts, but in this case did not significantly differ from control subjects in the medical risk of the behaviors. Subse-

quent analyses (Linehan & Heard, 1993) were conducted to address questions raised about the impact on outcome of the apparent disparity in treatment hours between the intensive DBT and typical treatment (Hoffman, 1993). Linehan and Heard reported that neither individual therapy hours, outpatient hours, nor the two together significantly predicted the number of parasuicidal episodes, and DBT subjects had significantly fewer parasuicidal episodes than did TAU subjects when individual therapy hours and telephone contacts were controlled. The hypothesis that the DBT approach to telephone contact would reduce the contingency between suicidal behavior and telephone contact with the therapist was also supported, with the TAU group, but not the DBT group, showing a significant positive correlation between parasuicidal episodes and telephone contacts.

The relative superiority of DBT was not supported in analyses of levels of suicidal ideation, depression, hopelessness, or survival and coping based reasons for living. For these outcome variables, significant main effects for time were found, but significant main or interaction effects for treatment condition were not. Thus, DBT and TAU subjects changed significantly and equivalently on these variables. The directions of the changes were not reported in the original article; however, subsequent information indicated that the subjects had improved, but that their scores in these domains remained clinically significant (Linehan et al., 1994). DBT subjects also did not differ from TAU subjects in the number who received psychotropic medication over the year, although reducing such medication usage is a goal of DBT (e.g., Linehan et al., 1994).

A subsequent research report (Linehan et al., 1994) provided additional outcome data for the second of the two cohorts of subjects (13 in the DBT condition and 13 in the TAU condition). In contrast to the results reported for both cohorts together, psychotropic medication usage among second cohort subjects appeared lower for DBT subjects than for TAU subjects. Five DBT subjects reported some psychotropic medication use, compared to nine TAU subjects, and the DBT subjects used on average fewer types of these medications. Rates of taking antidepressants, neuroleptics, and anxiolytics over the treatment year were significantly lower for DBT subjects.

At pretreatment and 4-month intervals throughout the treatment year, subjects in the second cohort only were interviewed by interviewers blind to treatment condition about various aspects of their social-emotional functioning and about the amount and types of treatment they had received (Linehan et al., 1994). End-point superiority for DBT was found in global functioning and social adjustment, as rated by the interviewers, and trait anger, as rated by the subjects themselves. Although the DBT subjects remained in the impaired range on these variables, the between-group effect sizes were strong. No significant differences were found for overall life satisfaction or the subjects' ratings of their social adjustment across a range of life roles.

In obtaining the above results, two parallel sets of analyses were conducted (Linehan et al., 1994). The first compared the DBT "intent to treat" group (including, in this case, the two early DBT dropouts) ($n = 13$) with the TAU "intent to treat" group ($n = 13$); the second compared only those DBT subjects who completed therapy (10 of the 13, including the suicide victim, whose final assessment scores were used) with all TAU subjects who returned for "posttreatment" assessment ($n = 12$), regardless of whether therapy was received. The same pattern of results emerged in both cases. This indicates that offering DBT seems to result in a more positive social-emotional outcome than does community referral, even when taking into account those who decline or do not continue DBT. Comparisons of the 10 DBT subjects who received stable therapy and the unreported number of TAU subjects who received stable therapy (as above, nine received at least some individual therapy) were not reported.

While stability of treatment in the TAU condition was not addressed directly, some evidence was presented that argues against the positive effects of DBT being attributable to treatment hours in themselves. Linehan et al. (1994) state that the DBT and TAU groups received equivalent amounts of psychotherapy (whether that includes all types, including inpatient, day treatment, group, or only individual therapy was not specified). They performed regression analyses with individual psychotherapy hours and pretreatment scores entered first and treatment condition entered second for each of the social-emotional dependent variables for which DBT was superior. The equation results were not provided; however, Linehan et al. stated that "DBT was still significantly superior to treatment as usual on each dependent variable when individual psychotherapy hours were controlled" (p. 1774). While helpful information, a series of regression analyses parallel to those reported for the parasuicide frequency variable might have been preferable for consistency in data analysis across outcome variables. Examining

total outpatient hours, in particular, would have been desirable given that group therapy is an integral part of the DBT program and a larger component in terms of hours per week than is individual therapy.

Linehan (1993a, pp. 23–24) described additional results for this study that have apparently not been published in outcome reports. These include more positive outcome for DBT subjects than TAU subjects using a categorical index of psychiatric hospitalization and parasuicide, and higher self-ratings of interpersonal problem solving and effectiveness. DBT subjects did not differ from TAU subjects in self-ratings of success in accepting and tolerating themselves and reality. Detail on assessment procedures and data analysis was not provided.

A final research report from this study addressed follow-up outcome (Linehan et al., 1993). The 39 subjects who remained in the study at the end of the year and who could subsequently be contacted were given follow-up assessments at 6 and 12 months posttreatment for parasuicidal behaviors (all subjects) and inpatient hospitalization and social-emotional functioning (second cohort only). Due to reluctance by many subjects to return for the full follow-up assessments, many of the comparisons are based on reduced subsets of the subject groups.

Through part of the follow-up year, DBT subjects seemed to maintain their gains relative to control subjects in their frequency and severity of parasuicide, although the specific variables reported were somewhat different than those of the original outcome report. DBT subjects showed significantly fewer overall parasuicidal episodes (acts were previously used) and significantly fewer medically treated episodes (medical risk scores were previously used) at the 6-month posttreatment follow-up; by the 12-month follow-up, they did not significantly differ from the control subjects. For both groups and both follow-up points, especially the 12-month point, the average number of parasuicidal episodes was low (medians of one or zero). DBT subjects did not continue to have significantly fewer inpatient days than control subjects at the 6-month follow-up, but again did at the 12-month follow-up, where the average of both groups was low.

Of the social-emotional measures superior for DBT at the close of the treatment year (cf. Linehan et al., 1994; the summary included in the Linehan et al., 1993, follow-up report includes additional, probably preliminary, significant findings), global functioning and anger, but not interviewer-rated social adjustment, continued to be more positive for DBT subjects at 6 months posttreatment. Of these, global functioning, but not anger, maintained superiority at one year posttreatment. Interviewer-rated social adjustment also regained superiority at this point. Other variables showing significance at one or more follow-up points were self-reported social adjustment (at 6 months) and employment performance (at 6 and 12 months). As noted by Linehan et al. (1993), limited statistical power related to the small sample size probably accounted at least in part for the uneven results across time points. Measures of work performance and anxious rumination did not differentiate between groups at either follow-up point.

The naturalistic nature of the follow-up study makes clear interpretation of these quite positive findings more difficult. Specifically, the findings are not necessarily representative of posttreatment outcome, as some TAU subjects may not have received any ongoing treatment during the course of the study and some subjects from both conditions continued in some form of psychotherapy past the original treatment year. Analyses controlling for these variables would have been helpful. The researchers did compare outcome for DBT subjects who had continued in DBT with those who did not. Little evidence was found for the superiority of continued DBT; however, the small sample sizes greatly limited these analyses.

Outcome analyses were conducted by Linehan and colleagues in an unpublished study (Linehan, Heard, & Armstrong, as cited in Linehan, 1993a, p. 25) that primarily addressed whether adding DBT group skills training to non-DBT individual psychotherapy would enhance treatment outcome. Nineteen individuals receiving ongoing psychotherapy for BPD in the community were matched and then randomly assigned to year-long DBT group skills training or a no-skills-training control condition. Although both the skills group participants and the individual community therapists were noted to believe the skills training was helpful (in Koerner & Linehan, 1992), and retention in the group was fairly good (73%), there was no evidence of beneficial effect on any of the outcome variables. While the hypothesis that DBT group skills training would enhance individual therapy as usual was not supported, the study did generate suggestive additional support for the full DBT package over stable treatment as usual. Post hoc comparisons were made between the subjects in this study receiving stable individual therapy in the community (with and without the DBT skills training) and the subjects from the original outcome study who had received stable, full DBT. Outcome variables

described as doing better "in all target areas." Outcome for the individual therapy as usual subjects was comparable to that of the TAU subjects of the original study.

The remaining study of standard DBT is a small, complex process study that examined the effectiveness of aspects of four core emphases of DBT: the dialectical approach, the nonpejorative conceptualization of client behaviors toward the therapist (as opposed to a conceptualization of them as hostile), and the behavioral techniques of modeling and contingency timing (Shearin & Linehan, 1992). Addressing the fundamental dialectic of acceptance and change, it was hypothesized that suicidal behavior, defined here to include parasuicidal urges and suicidal ideation, would decrease in the week following patient ratings of the therapist as simultaneously being accepting (represented by giving autonomy) and endorsing change (represented by being controlling and nurturing), but that acceptance or change by itself would not be associated with decreased suicidal behavior. In the "nonpejorative hypothesis," decreased suicidal behavior was predicted for the week following increases in therapists' ratings of patients' warm feelings toward them. The modeling hypothesis predicted that therapists would rate patients as higher on self-care in weeks when the therapist, as rated by the patient, modeled nurturing and protecting behavior. Finally, it was predicted that increases in therapists' warmth would follow weeks with reduced patient suicidal behavior, representing a positive contingency for reducing the behavior.

Four patient-therapist dyads served as subjects and engaged in standard DBT for a 7-month period. Therapists were inexperienced nursing students and psychology graduate students supervised by Linehan; patients were women between 18 and 45 who met criteria for BPD and parasuicidal behavior, as described for the original outcome study. Longitudinal measures across the weeks of therapy were utilized in the analyses. None of the hypotheses received support from all four dyads when the dyads were examined independently. Although the individual dyad results did not always conform to expectations in strength or, in one case, direction, limitations in statistical power probably explained at least in part the lack of consistently significant findings. In overall analyses, significant results in the expected directions were found for each hypothesis. Shearin and Linehan (1992) concluded that DBT additions to behavior therapy appear to be important in the treatment of BPD clients. Ultimately, these suggestive process findings will need to be linked directly to outcome to confirm this conclusion.

Studies of Inpatient DBT Adaptations

Inpatient and day treatment adaptations of DBT have been positively discussed, often with anecdotal evidence, by numerous authors (Katz & Levendusky, 1990; Kern et al., 1997; Miller et al., 1994; Simpson et al., 1998). Empirical support in this area, however, is limited and mixed. In the first of the two outcome studies found for inpatient DBT, Barley et al. (1993) adapted DBT to an inpatient personality disorders psychiatric unit serving primarily severely parasuicidal borderline patients. During the period under study, 130 patients, 79% of them women, were discharged from the unit following a typical length of stay of about 100 days. As with outpatient DBT, individual therapy, conducted here by psychiatrists, and group skills training, conducted by a clinical psychologist, took place, as well as other activities as fit the setting. These included a DBT homework group led by nurses, DBT "fundamentals" groups to prepare incoming patients for the ongoing groups, and the incorporation of the DBT approach into special groups and activities, the unit milieu approach and privilege system, and staff meetings.

To assess the efficacy of the approach, average parasuicide rates were compared for the 19 months prior to the introduction of DBT on the unit, the 10 months when it was being introduced, and the subsequent 14 months when DBT was fully in operation. Results showed that the parasuicide rate on the unit was significantly lower under the full DBT program than during the prior periods. During this same time, the average rates of parasuicide for a general adult psychiatric unit that followed its traditional approach did not differ.

While limited, these data do support the efficacy of DBT in reducing parasuicidal behavior, as well as extending the finding to an inpatient setting. Qualitative observations by Barley et al. (1993) were also positive. They reported that the transition to DBT from what had been a psychodynamically oriented unit was not difficult and that DBT was more easily accepted and understood by personnel at all levels and by patients. In particular, it was noted that nurses appreciated having a clearly defined treatment role and that patients felt more supported and less attacked under DBT than under the previous treatment.

Miller et al. (1994), motivated by a desire to maximize the benefits of short-term hospitalization for BPD

patients, helped to develop and implement a nurse-facilitated "creative coping" group. The creative coping group was modeled after DBT group skills training and included psychoeducational modules designed to reduce parasuicidal and other maladaptive behaviors through increasing emotional control and regulation, interpersonal effectiveness, and distress tolerance. The group was scheduled for 45 minutes each week day; after the 10th session, the cycle of modules was repeated. New patients entered the group upon admission to the unit and left it upon discharge. Within the unit milieu, efforts were made to reinforce and facilitate generalization of the coping skills learned in the group. Miller et al., like Barley et al. (1993), reported that the new approach led to increased feelings of empowerment among the nursing staff and positive feedback from patients.

After the creative coping group had been in operation for 2 years, Springer et al. (1996) conducted a controlled study to evaluate its impact. A paired randomization procedure was used to assign willing new patients to a "wellness and lifestyles" (W&L) control condition, in which topics such as hobbies and fitness were discussed individually or in small groups with a nurse, or to the creative coping (CC) group, as outlined above. The CC group followed the treatment manual developed at the site. The small group sessions were led by nurses experienced with inpatient group treatment. Thirty-one adult patients (16 in CC, 15 in W&L), 68% of them women, took part in the study. All participants met criteria for a personality disorder; 13 met criteria for BPD. Cluster C (anxious) diagnoses, typically in combination with cluster A (odd) or cluster B (dramatic) diagnoses, were described as most prominent among the sample. Initial comparisons indicated that the groups were comparable on demographic variables, diagnoses, measures of social functioning, parasuicidal history, and treatment history, including psychotropic medication use at admission. The CC participants, however, had significantly higher scores on a measure of depression. The groups did not differ in length of hospitalization or number of sessions attended. The number of sessions attended was low; on average, patients attended just six sessions before discharge.

Results indicated that participants in both conditions significantly improved on most outcome measures. As expected based on previous findings, the CC group showed comparable improvement to the W&L group on measures of depression, hopelessness, and suicidal ideation. In these and the other analyses examining change scores, depression scores at admission were used as covariates given the pretreatment group difference on this variable. Contrary to expectations, the groups did not significantly differ in increases in knowledge of or attitudes toward the coping skills taught in CC, in reductions in anger, or in increases in internal locus of control; in all cases, mean differences were in the direction of enhanced outcome for the control group. This pattern of findings was replicated in comparisons between only those CC and W&L participants with BPD diagnoses. No significant differences between groups were found on seven items of an eight-item discharge questionnaire addressing the perceived enjoyableness, helpfulness, and relevance of the group experience. Ratings of the helpfulness of the lessons of the group to handling difficult life situations were, however, significantly more positive for the CC group.

Patient charts were reviewed for notations of "acting out," or threatened or actual harm to self or others and attempts to undermine treatment. A significantly higher percentage of the CC group (63%) than the control group (20%) engaged in acting out behaviors. Springer et al. (1996) expressed concern over what may have been "contagion" of parasuicide and an escalation of acting out among members of the CC group. Among the CC group, 13% without a history of self-mutilation engaged in this behavior, 25% showed increased acting out during the course of the study, and 19% threatened suicide or self-harm near discharge; none of these behaviors occurred among W&L subjects. Springer et al. speculated that the attention given to parasuicide in the CC group may have contributed to the increase in these behaviors. While advising caution in interpreting results due to the small sample, they suggested that a group with this focus might be contraindicated in a short-term setting.

In sum, the findings of the study not only failed to support this inpatient adaptation of DBT but also suggested that it might be associated with some negative outcomes. The disappointing results of this small *n* study may be attributable to any number of factors. Among these are the pretreatment group differences (and the impossibility of fully handling this state of affairs through statistical means), a possibly unexpectedly therapeutic "placebo" condition, the possible ineffectiveness of DBT strategies, a possibly inadequate operationalization of DBT strategies, a lack of integrated individual DBT, the brevity of treatment, and an inclusion of subjects without parasui-

cidal histories and with multiple diagnoses. The results do little to clarify the efficacy or lack of efficacy of DBT as it has been laid out by the treatment developers. They do, however, lead to one cautionary conclusion. When DBT is adapted to fit particular clinical settings and staff and client characteristics, the result cannot be assumed to be enhanced treatment, even when, as described by Springer et al. (1996), staff have been keenly supportive of the program.

DISCUSSION OF FINDINGS

A large number of encouraging findings and some not so encouraging ones have resulted from these few investigations of DBT. A summary is provided below. The conservative phrase DBT *is associated with*, rather than DBT *results in,* is utilized. A theme throughout this discussion is that at this point it is not known that DBT itself specifically causes anything. However, it can be said that *something* about being a DBT subject has usually been associated with positive outcomes. Limitations to interpretation and competing explanations for findings are examined in the subsequent sections, as are suggestions for research to address the issues raised.

What Has Been Found?

Summarizing published empirical results across studies, standard outpatient DBT has been associated with lesser parasuicidal behavior, psychiatric hospitalization, anger, and psychotropic medication usage, and with increased client retention, overall level of functioning, overall social adjustment, and employment performance. Again summarizing published empirical results, DBT has not been differentially associated with improved depression, hopelessness, survival and coping beliefs, suicidal ideation, overall life satisfaction, work performance, or anxious rumination. There are no clear posttreatment findings; however, it does appear that gains following standard DBT may be either maintained at least 6 months past an initial/single year of DBT or will re-emerge in the following 6 months.

DBT adapted to a relatively long-term psychiatric inpatient setting and including individual, group, and milieu components has been associated with reduced parasuicide; other variables have not been examined. A group skills and, to a limited extent, milieu-based DBT adaptation to a short-term inpatient setting has been associated with increased acting out behavior, including parasuicide; the treatment was not differentially associated with reduced depression, hopelessness, suicidal ideation, or anger or with increased knowledge of coping skills or internal locus of control.

Regarding the mechanisms of change, important selected features of individual DBT were supported in the process study. However, given that DBT is described as primarily a skills-training approach (e.g., Koerner & Linehan, 1992), it is disappointing that a year of outpatient DBT group skills training without individual DBT therapy did not yield any discernible benefits. Also, as noted, DBT group skills training alone did not appear to be of benefit to short-term psychiatric inpatients. While Linehan's (1993a) conclusion from the dismantling study that integration with DBT individual therapy is crucial for success is reasonable, and is supported by others in the field (Perris, 1994), it is also possible that these findings indicate that the central skills training component of DBT is not, in fact, a primary "active ingredient." Individual DBT contributions or extraneous features may in themselves account for positive findings.

What Has Been Compared?

Looking first at the inpatient studies, it is apparent that the comparison groups have been problematic. The study showing reduced parasuicide among patients receiving DBT was essentially an uncontrolled pre-post study of overall rates on the unit. The failure to find positive effects for DBT in the small sample study of the short-term, partial DBT adaptation may have resulted from a possibly more severely dysfunctional treatment group, despite the randomized design. Thus, inpatient DBT adaptations are greatly in need of further controlled research before conclusions can be drawn. Helpful research suggestions have been provided by Springer and Silk (1996).

Outcome results for recipients of standard DBT are in comparison to those of a matched, randomly assigned group of individuals given referrals for community therapy. As noted above, however, attrition, self-selection factors related to continuance in DBT, and self-selection factors in willingness to return for follow-up assessments may have resulted in subtly biased samples and correspondingly unclear comparison groups and results. While the naturalistic control condition was ethically preferable to a wait-list control condition, and more practical than providing a second treatment, it unavoidably introduced a number of additional limitations to interpretation. Therapy received in the "treatment as usual" condition was a mix of individual therapy of varying orientations, psy-

chiatric hospitalization, and day treatment. As Linehan (1993a) notes, there is little actual data showing that other specific treatments are not effective, and DBT's effectiveness in comparison to any single therapeutic approach is unknown.

A related issue is the amount of therapy received by clients, particularly because the point is infrequently made in secondary descriptions of DBT's empirical base that "treatment as usual in the community" did not necessarily mean that psychotherapy was received or continued. The point is obviously quite important to interpretation, given that, in general, troubled individuals who receive psychotherapy improve more than those who do not (Lambert & Bergin, 1994), and individuals who receive more psychotherapy, up to a point, improve more than those who receive less (Orlinsky, Grawe, & Parks, 1994). Results of regression equations described by Linehan and Heard (1993) and Linehan et al. (1994) suggest that the number of treatment hours in DBT does not in itself fully account for the positive results found at the end of the clinical trial year. Unfortunately, such statistical controls cannot replace experimental ones. A further source of interpretive difficulty is what may have been very disparate treatment histories represented by the same "hours" variable for each group (e.g., intermittent day treatment vs. stable individual and group DBT). Neither the clinical trial year nor the follow-up year treatment hours of the DBT subjects in contrast to the TAU subjects were addressed by any methods in the follow-up study.

Because of the disparity in types of treatment, the more critical issue may not be hours in themselves, but the consistency and stability of treatment. Findings are positive but more limited when DBT is compared to stable non-DBT therapy rather than to the blanket "treatment as usual." Only three comparisons of initial outcome for clients receiving DBT versus those receiving stable non-DBT therapies were specifically reported. These show lesser psychiatric hospitalization for DBT clients and less frequent parasuicidal behavior, but not less medically risky parasuicidal behavior. Differences in follow-up outcome between stable DBT and stable non-DBT subjects have not been reported. In sum, while the available evidence is suggestive, it has not yet been established that standard outpatient DBT is more effective across the range of outcome variables than any comparably consistent form of treatment.

In another important way, the comparison is not as simple as "DBT versus treatment as usual." It is also "highly trained and supervised therapists versus therapists as usual." Koerner and Linehan (1997) described the intensive, ongoing, multicomponent training and supervision program for DBT research therapists; it would be hard to beat this level of training and supervision in the field. Kroll (1993) observed that close supervision is one feature common to both DBT and a psychodynamic treatment of BPD that has also generated supportive results. Based on this and other observations, he argued that supervision might be especially important to successful work with clients with BPD. It may be that the quantity and quality of the DBT training and supervision, even apart from their DBT-specific aspects, contributed to outcomes.

In addition to level of training and supervision, level of therapist motivation may have contributed to outcome. The researchers in these studies were often also the therapists, and being part of a team establishing a new approach may have resulted, as first suggested by Hoffman (1993), in a particularly motivated group of therapists in an area where discouragement, even "therapeutic nihilism" and related "haphazard and ineffective treatment" (Clarke, Hafner, & Holme, 1995), is frequently observed. Linehan and Heard (1993) do make the counterargument that if being part of a research study explains outcome, positive results should also have been seen for the subjects receiving only the group skills component of DBT. It is the DBT individual therapists, however, who are charged with handling crises both in and out of session, and high motivation here might be especially relevant. Further counter evidence was presented in findings that DBT and TAU clients did not differ in their ratings of their therapists' helpfulness, and DBT and TAU therapists did not differ in their ratings of their interest in or caring for their clients (Linehan et al., 1994). While a worthwhile and encouraging effort, assessing therapist motivation would seem to be an elusive endeavor, with such ratings perhaps particularly subject to social desirability effects. Sample sizes were also extremely small (five DBT therapists, and 15 or fewer TAU therapists, seen by nine TAU clients) and means were not reported. Controlling for therapist factors directly through the provision of well-trained, supervised, and enthusiastic therapists in a comparison treatment may be necessary.

What Do the Findings Represent?

Despite the above observations, a broadly promising early record has been generated for DBT. The treatment's

effectiveness on primary outcome measures remains at this point, however, open to further conceptual and methodological questions. Some of these are discussed below.

Client Retention. Superior retention of clients in DBT compared to TAU was one of the authors' major conclusions in the primary outcome study (Linehan et al., 1991). DBT's explicitly warm, supportive, nonpejorative approach—which Barley et al. (1993) qualitatively observed to be helpful—and the emphasis DBT places on dealing with therapy-interfering behaviors raise the possibility that the finding is indeed attributable to DBT rather than to extraneous factors. Nonetheless, the conclusion is compromised by the fact that DBT clients received therapy at no charge while TAU clients were required to pay for therapy. Linehan and Heard (1993) argued that the dropout patterns in the TAU condition in their study and the findings of other research do not support the cost of therapy as a significant factor related to the early termination of BPD clients. It may be worth noting, however, that in the follow-up study (Linehan et al., 1993) only 35% of DBT subjects and their therapists agreed to the subjects' continuance as private clients after the research year, compared to the 55% of TAU subjects who continued with their therapists.

The continuity of treatment offered by free therapy services, related feelings of goodwill and of being special and cared for, and associated benefits for the therapeutic relationship might be quite powerful (cf. Hoffman, 1993), especially for this population. It would, however, be extremely difficult to determine if such extraneous effects existed and, if so, whether they carried over into positive impact on not just client retention but all of the outcome variables. Additionally, DBT clients were aware that they were participating in a new treatment and, other than in the inpatient studies, at a suicide prevention university research clinic described as having credibility and even mystique for clients (Koerner & Linehan, 1992). Positive expectations associated with these features may have further enhanced client retention and other outcomes. Likewise, negative expectations, disappointment, anger, and acting out may have occurred for the control subjects, who were again left with the low-fee community treatment options they may have been trying to avoid through their research participation. Such reactions might have adversely impacted their outcomes. Given these features, no firm conclusions can be drawn about the effectiveness of DBT in retaining clients, and about the effectiveness of DBT overall, until future research controlling for these major confounds is conducted.

Psychiatric Hospitalization. DBT has been found to be associated with fewer days of psychiatric hospitalization than treatment as usual. Lesser hospitalization in itself can be a valuable outcome of considerable significance, but would be misleading if interpreted by consumers of the research as a pure indicator of generally higher functioning for DBT clients. In DBT, excessive psychiatric hospitalization is targeted as a therapy-interfering and quality of life-interfering behavior (Koerner & Linehan, 1992; Linehan & Kehrer, 1993). In a view shared by others (e.g., Allen, 1997; Kroll, 1993), hospitalization is seen as reinforcing rather than reducing the suicidal behavior of some individuals with BPD, as well as impeding their development and use of skills to deal effectively with their own problems and emotions. Given these considerations, the treatment protocol for responding to parasuicidal acts follows a strategy of actively avoiding hospitalization unless the life of the client is judged to be in imminent danger (Linehan, 1993a, pp. 490–492). The parasuicide protocol suggests that DBT therapists coach clients in using interpersonal skills with hospital staff to avoid involuntary psychiatric commitment and even, with careful thought, agree to take clinical responsibility for a client whom hospital staff are otherwise reluctant to release. The goal of minimizing hospitalization in DBT is also exemplified in two case study reports which mention that the severely parasuicidal individuals were accepted as DBT outpatients, whereas other therapists were not willing to see them on an outpatient basis (Koerner & Linehan, 1992; Linehan & Kehrer, 1993).

It would be expected that DBT therapists would persist longer in addressing crises and parasuicidal behaviors by nonhospital methods and be less supportive of hospital admissions or extended hospitalization than many other therapists dealing with the same client behaviors. It might also be expected that hospital physicians would more readily discharge psychiatric patients receiving specialized, stable, and relatively intensive outpatient psychotherapy by a therapist supportive of hospital discharge than patients exhibiting the same behaviors but receiving unstable or no outpatient services or services from a therapist who does not support discharge. In sum, the finding of lesser hospitalization for DBT subjects is best inter-

preted in isolation not primarily as an outcome measure of client functioning, but as an indication that the treatment philosophies and protocol regarding hospitalization were followed. When interpreted in conjunction with the positive client outcome findings, it may also provide initial empirical support for the general viability of this DBT strategy.

Parasuicide and Suicide. DBT's effect on parasuicidal behavior has been an important focus of the research to date. DBT may help to decrease the medical risk of parasuicidal behaviors more than does unstable treatment in the community. As discussed above, this conclusion may vary depending on how medical risk is defined, however, and it does not hold when DBT subjects are compared to those who received stable community treatment. In that case, the conclusion might be that DBT is effective, but not differentially effective, in reducing the riskiness of parasuicidal behavior. Replication and clarification are needed.

The only DBT finding to date with support from two studies (Barley et al., 1993; Linehan et al., 1991) is an association between DBT and a substantially reduced frequency of parasuicide. It is encouraging, although at this point unreplicated, that the finding held when DBT outpatients were compared to those receiving stable non-DBT treatment. A tentative conclusion that DBT may reduce clients' parasuicidal behavior is somewhat bolstered by the observations that reducing parasuicide is a priority goal in DBT with a clear theoretical rationale for the methods used. Nonetheless, the existence of the numerous confounds in the study prevents a firm conclusion at this time. That DBT appeared to be associated with increased parasuicidal behavior in the short-term inpatient study is disconcerting, but also open to numerous explanations. In particular, it may have been that presenting psychoeducational aspects of DBT without careful attention to contingencies (as in staff attention) surrounding parasuicide and without integrated individual DBT was not an adequate implementation of the treatment even when adapted to this different setting. This finding, while based on a small sample and a controlled but imperfect study, should lend caution to attempts to implement partial or significantly revised versions of the treatment in practice settings.

Reduced parasuicidal behavior should be taken for what it is. Failure to find differential improvement for DBT subjects on measures of survival- and coping-based reasons for living, suicidal ideation, hopelessness, and depression suggests that DBT subjects' decrease in parasuicide may have been mediated more by behavioral management than by production of "deeper" and perhaps more self-sustaining cognitive and affective changes. This is one explanation for why the lesser parasuicidal behavior of DBT subjects in contrast to control subjects was not maintained by the 12-month follow-up. On the other hand, the nonsignificant difference between DBT subjects' and control subjects' parasuicidal behavior at the 12-month follow-up seemed more attributable to lesser parasuicidal behavior by the control subjects than to increased parasuicidal behavior by DBT subjects. While this indicates that DBT's apparent parasuicide-reducing effects may be more lasting than is immediately obvious, questions remain about the mediators of improvements for both DBT and TAU clients. In particular, the relative durability of the possibly differently mediated effects from the point at which TAU clients "catch up" is unknown. Elaboration regarding the level of intervention and change in DBT and its relationship to theory is beyond the scope of this article; however, thought-provoking discussions from various perspectives are available (Allen, 1997; Benjamin, 1997; Linehan, 1997b).

Two suicides among DBT clients have been reported (Linehan et al., 1991; Linehan & Kehrer, 1993). In this high-risk population, some incidence of suicide, sadly, is not unexpected despite the best of care. A difficult but critical question is whether the challenging DBT approach is as effective as other approaches in preventing actual suicide. Theoretically, the analyses published to date suggest that it should be, in that reducing parasuicidal behavior without concurrently increasing medical risk or proportionate suicide attempts should result in fewer suicide deaths, all else being equal. Ultimately, however, parasuicidal behavior and actual suicide are related but distinct outcome variables. To illustrate, studies reported by Kroll (1993, p. 27) indicate that self-mutilative behaviors, especially in the absence of a history of suicide attempts, are associated with a very low risk for completed suicide. Additionally, "all else" is not necessarily equal in the methods and risk-gain analyses of different treatment approaches. Controlled research in this area is extremely sparse; at this point, no therapeutic approach, including hospitalization, has been proven to reduce suicide rates (Linehan, 1997a). Only a large-scale longitudinal research

effort comparing DBT to other treatments and including the incidence of completed suicide among the outcome variables can answer this important question. In short, while DBT has been associated with lesser parasuicidal behavior, this does not necessarily mean that DBT is associated with lesser suicide.

Social-Emotional Functioning. While generally superior to TAU subjects, DBT subjects remained in the impaired range on almost all social-emotional variables (e.g., Linehan, 1993a). The conclusion that one year of DBT is helpful but insufficient (Linehan et al., 1993; Shearin & Linehan, 1994) is reasonable given the nature of the disorder and meta-analytic findings on the relatively slow rate of improvement in psychotherapeutic treatment of severe or characterological problems (Howard, Kopta, Krause, & Orlinsky, 1986; Kopta, Howard, Lowry, & Beutler, 1992). As the first stage of therapy (following orientation) alone takes about one year, results to date do not provide a full test of DBT's potential effectiveness as it moves into the posttraumatic stress reduction and self-respect stages. In a more cautionary vein, this also represents an important limitation in the empirical base of the treatment approach. Specifically, no data yet exist to support the latter two of DBT's four stages. The only pertinent data available are the small sample comparisons between DBT subjects continuing in DBT past the original treatment year and those not continuing, and these comparisons failed to demonstrate enhanced outcome (Linehan et al., 1993).

Are Findings Reliable and Generalizable?

With the exception of reduced parasuicide, all positive published outcome findings are from a single study, and as Linehan (1993a) has stated, "one study is a very slim basis for deciding that a treatment is effective" (p. 24). Further, sample size within that study was small. Providing a year-long clinical trial of therapy and another year of follow-up for even a modest number of BPD clients is a commendable research effort. Nonetheless, the fact remains that all positive published findings except reduced parasuicide rest on no more than 24 DBT subjects, including dropouts. Other than client retention and first-year psychiatric hospitalization, all remaining positive findings are based on 13 or fewer DBT subjects, and all process and most follow-up conclusions are based on seven or fewer DBT subjects. That significant positive results were fairly consistently found for DBT despite the low statistical power associated with small samples may speak to the robustness of DBT's effects. However, the numerous confounds in the DBT research base may have played a major role in obtaining the positive outcomes. Additionally, the large number of variables and analyses examined, and the correspondingly increased experimentwise Type I error rate, may have played a part. Replication is clearly needed to ensure that initial results are reliable.

The range and examination of client characteristics in studies to date have been limited. Subjects have largely been severely dysfunctional parasuicidal women with BPD, and selection criteria have placed restrictions on multiple diagnoses. No studies have examined subgroups of subjects by gender or ethnicity. More difficult to address is the great heterogeneity of symptom patterns within BPD and the common overlap of BPD with other Axis I and II disorders (e.g., McGlashan, 1986). Examination of subgroups of BPD subjects by comorbid diagnosis or severity has not been attempted. A study in progress examining the outcome of DBT with female clients who meet criteria for BPD and drug addiction has been mentioned (Heard & Linehan, 1994); however, a research report was not found in the literature to date.

Examination of the role of the presence and severity of suicidality in DBT outcomes may be especially pressing. In an excellent review of the treatment literature for suicidal behaviors, Linehan (1997a) concluded that psychosocial interventions may be most effective with high-risk clients. Studies of lower risk BPD clients are needed, both to clarify the generalizability of findings and to ensure that the nonparasuicide outcomes reported were not gains secondary to reducing parasuicidal behavior. In short, further research is needed before it can be assumed that DBT is effective for the range of clients with BPD and that it is not primarily a treatment for parasuicide in itself. Although Linehan and colleagues have mentioned that DBT is being adapted to non-BPD populations (e.g., Koerner & Linehan, 1997), these explorations would seem to best await further clarification of the role of DBT in the treatment of the original population of interest.

Finally, Linehan's involvement (variously as trainer, individual therapist, group therapist, supervisor, dissertation advisor, and consultant) in all the research to date except the group-skills-only inpatient study not only introduces the possibility of inadvertent experimenter bias but also limits generalization because of the possibility that aspects of Linehan's personal style and expertise, as opposed to DBT in itself, directly or indirectly affected client outcome. As acknowledged by the research team

(e.g., Linehan et al., 1994; Shearin & Linehan, 1994), further outside replication is needed to establish the generalizability of results. In a similar vein, all individual DBT therapists in the outcome studies to date have been doctoral level professionals who, it appears, have received training from Linehan. Demonstration that DBT can be effectively implemented by therapists from a broad range of training backgrounds would be helpful given that DBT is a quite complex blend of diverse philosophies and techniques. A recent study addressing this issue indicated that clinicians of varied disciplines and educational levels acquired reasonable intellectual mastery over DBT concepts after participating in a DBT training program (Hawkins & Sinha, 1998). The authors noted, however, that the relationship between conceptual knowledge and actual clinical practice requires direct assessment. Several bipolar dimensions seen as characterizing effective DBT therapists have been described (Linehan & Kehrer, 1993) and might be incorporated into further explorations.

Where Do We Go from Here?

While the research generated for DBT represents the most thorough empirical exploration to date of any one psychotherapeutic treatment for BPD (see Crits-Christoph, 1998), the existence of a number of important unanswered questions also suggests that there is a great deal of work to be done before DBT might be considered a breakthrough in the treatment of this disorder. In summary, replication with a larger subject pool is first needed to confirm that existing results are not attributable to Type I errors or self-selection factors. Second, research is needed to establish DBT's effective, differentially effective, and necessary features, and to rule out such factors as treatment stability, payment issues, client expectations, experimenter bias, and therapist motivation, supervision, and training as significant factors contributing to outcome apart from DBT per se. Third, process and outcome data for DBT's latter two stages of therapy are necessary. Fourth, research exploring DBT's applicability to a broader range of clients, therapists, and settings will ultimately be necessary. Finally, research exploring DBT's relationship to actual suicide would be extremely valuable.

No single study can address all of these issues. The most fruitful next step apart from a larger scale independent replication might be a comparison of DBT to other specific treatments in order to directly explore the differential effectiveness of DBT and, ideally, control for such factors as client expectations, therapist characteristics, and stability of treatment. Useful comparisons might be made with other cognitive-behavioral treatment programs for BPD (e.g., Beck, Freeman, & Associates, 1990; Davidson & Tyrer, 1996; Perris, 1994; Pretzer, 1990; Turner, 1992; Young & Lindemann, 1992), some of which have generated preliminary positive outcome findings. DBT might also be compared with what some consider the leading alternative approach to treatment of BPD, namely, psychodynamic treatment (e.g., Kernberg, as cited in Beck, Freeman, & Associates, 1990). Although less rigorously conducted, a study of one psychodynamic treatment has generated outcomes similar to those found for DBT (Stevenson & Meares, 1992). Lastly, DBT might be compared with promising group treatments for BPD (e.g., Munroe-Blum & Marziali, 1995; Wilberg et al., 1998). Assuming that comparisons between approaches such as these and DBT do support the effectiveness of DBT, further dismantling research to pinpoint the complex treatment's effective features might then be conducted.

Koerner and Linehan (1992) have outlined proposals for additional process and dismantling research to establish the effective components of DBT and facilitate adaptation to alternative settings, and Barley et al. (1993) mention a similar intent to explore more efficient inpatient DBT. To their suggestions might be added a dismantling approach in which DBT influenced supervision/consultation for therapists is added to "treatment as usual" therapy. The strains therapists face in their relationships with BPD clients are frequently acknowledged (e.g., Clarke et al., 1995) and may challenge the development or maintenance of the supportive therapeutic relationship known to be of importance to general treatment outcome (Bergin & Garfield, 1994). The DBT process finding of increases in warm feelings in the therapeutic relationship being related to short-term decreases in parasuicidal behavior further supports the importance of the therapeutic relationship. Examining community treatment in conjunction with a DBT-inspired supervision/consultation component for therapists might be a helpful strategy to sort out whether the primary DBT contribution is actually not the support provided for therapists. The emphasis DBT supervision places on maintaining nonpejorative conceptualizations of clients might particularly contribute to warmer, more supportive, and ultimately more effective relationships.

IMPLICATIONS FOR PRACTICE

For the practicing clinician, today's treatment decisions cannot await tomorrow's research conclusions. As with

any approach to BPD, the jury is still out on DBT, and "to DBT or not to DBT" is a complex question. Because DBT's differential effectiveness has not been established, clinicians must weigh the empirical support and limitations presented for DBT, as well as treatment philosophy and fit questions that go beyond the research base, against their empirical and experiential knowledge of the support and limitations of other approaches. The weighing of these factors will vary, depending on particular clientele, practice settings, and training backgrounds.

To remain as grounded as possible in the research base, among the more prominent considerations are the characteristics of the potential DBT clientele. DBT is most clearly a treatment for reducing parasuicide by women with BPD and without specific other comorbid conditions. Utilizing DBT with clients who do not fit this clinical picture should be considered experimental. The improved social-emotional functioning of DBT subjects does suggest that DBT might be useful with nonparasuicidal BPD clients; however, these unreplicated small *n* findings are open to numerous alternative explanations, including that they may have been gains secondary to reducing parasuicidal behavior. The broader treatment goals of DBT's third and fourth stages, which go beyond stabilizing client functioning, remain without empirical support. Lastly, tailoring approaches for "nonstandard" DBT clients or other purposes would not have a firm empirical grounding, as the mechanisms of change are unclear.

Another important consideration is the intensity of treatment possible within particular settings. Inpatient settings might transition most easily to the time-intensive DBT and generally have treatment goals centering on stabilizing clients' functioning. While inpatient adaptations have generated enthusiasm in the literature, the empirical support is quite limited and mixed. As Springer et al. (1996) and Springer and Silk (1996) have discussed, implementing an inpatient DBT program is costly and may do more harm than good on a short-term unit. They also note that brief inpatient stays are the national norm.

Numerous authors have expressed concern over the impact of managed care and associated brief hospital stays on the treatment of individuals with BPD (e.g., Hampton, 1997; Marschke, 1997). There is evidence that postdischarge follow-up care is beneficial (Clarke et al., 1995; Wilberg et al., 1998). A model in which relatively comprehensive inpatient DBT, such as that of the Barley et al. (1993) study, is provided on the inpatient unit with continued full DBT provided on an outpatient aftercare basis might be one solution. This suggestion is similar to a DBT day treatment and aftercare program discussed, with positive anecdotal evidence, by Simpson et al. (1998); however, only outpatient group skills sessions are provided in this no-charge aftercare program. While this is understandable from a fiscal perspective, it does not seem ideal in light of the failure in two studies to find benefits for group skills DBT without integrated individual therapy (Linehan, Heard, & Armstrong, as cited in Linehan, 1993a; Springer et al., 1996). In general, day hospital programs may have the advantages of inpatient hospitalization in the treatment of BPD with fewer of the disadvantages (e.g., Miller, 1995). If carefully implemented and financially feasible, full DBT day treatment-aftercare programs might be particularly promising. These speculations, however, await research support. In the meantime, hospital personnel interested in adopting DBT would be well advised to seek consultation and training from the DBT research team as the treatment is planned and to engage in program evaluation research to assess its effectiveness after it is implemented.

Conducting empirically grounded outpatient DBT would require agency support. The standard treatment relies on four concurrent treatment modes; different configurations of treatment modes should be considered experimental. As noted, offering group DBT without coordinated individual DBT does not appear to be helpful, and outcome following individual DBT without group DBT is unknown. Attempting the challenging outpatient approach without the therapist-client telephone consultation would not appear advisable. High-risk clients maintained in outpatient therapy must have ready access to professional support during crises, and the DBT program depends on this mode for skills generalization and relationship repair as well. Additionally, noncrisis telephone access to the therapist both theoretically and empirically seems to reduce the contingency between therapist contact and parasuicidal behavior, and as a result might be one key to the reduction of this behavior.

Conducting DBT without the consultation/supervision for therapists mode would also not appear advisable. As noted, DBT is challenging in its goals of reducing hospitalization and psychotropic medication usage, as well as its eclectic, dialectic approach. Regular consultation concerning therapy process and case management decisions

might be crucial to successfully navigating through crises. Further, as above, the benefits of therapist supervision/consultation to the therapeutic relationship might be a critical key to DBT's apparent success. If any partial incorporation of DBT concepts is made, adopting the empathic client conceptualization of DBT and providing therapist support would seem to be among those aspects that most safely and profitably could occur outside the standard DBT model.

A last real-world consideration before instituting DBT is allocation of resources. Specialized training and considerable staff time are required if the program is to be implemented in a fashion in keeping with the research base. It may well be that an intensive treatment program is critical to success with BPD and ultimately more cost-effective than "revolving door" inpatient or outpatient services, or the 5–7 years of ongoing therapy described as typical for psychodynamic approaches to BPD (e.g., Masterson, 1982). A decision to adopt DBT, however, is difficult in the face of the limitations of the research base and competing demands for resources. For those who serve significant numbers of parasuicidal clients with BPD, dedicating the necessary resources for DBT might currently be justified by the tentative support found for the treatment to date, especially in contrast to the relative lack of empirical support for other approaches. As Davidson and Tyrer (1996) have noted, however, DBT's practical suitability to limited-resource settings such as community mental health centers may be questionable given the many therapist hours per week devoted to each client through group therapy, individual therapy, telephone consultations, and the consultation/supervision team. Those in clinical settings characterized by scarce resources and/or a low frequency of parasuicidal clients with BPD might consider delaying a decision regarding providing DBT to such time as further data more thoroughly validate the treatment, extend its generalizability to a broader clientele, and possibly produce a streamlined treatment model based on necessary and effective features.

CONCLUDING REMARKS

Linehan and colleagues have contributed substantially to the treatment research base for BPD with their compassionate and intricate treatment model and their program of research. Although enthusiasm for DBT may have begun to outpace its limited empirical base, the findings to date are encouraging and are an important stimulus for therapists' reconsideration of their current treatment practices for clients with BPD. Treatment research in this area, like treatment itself, is unusually challenging. Does that mean treatment of BPD should be held to a more flexible research standard? Ultimately, no. At the same time, DBT should not be held to a research standard higher than other treatments for the same condition, and at this time it meets and probably exceeds those criteria. As it stands, the empirical base neither demands nor denies the adoption of DBT; careful consideration of multiple factors is needed in that decision.

It is hoped that this close and conservative scrutiny of the empirical support for DBT will facilitate research efforts that clarify the role of this intriguing therapy in the treatment of BPD. Whether or not future research supports DBT's promising start, continuation of a careful, empirical approach to the treatment of borderline personality disorder can only enhance this troubling and little understood area of clinical practice.

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