Dialectical Behavior Therapy: An Examination of its Evolution and Global Need

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Abstract
Dialectical behavior therapy (DBT) was born out of necessity to help suicidal individuals suffering from severe emotion dysregulation. DBT evolved into a comprehensive, modular, and hierarchical treatment consisting of numerous treatment modes (i.e., individual psychotherapy, group skills training, out-of-session coaching, and a clinician consultation team). DBT is an intensely studied treatment for suicidal behavior and borderline personality disorder. Additionally, DBT continues to change and grow as new skills are developed and the treatment is applied transdiagnostically. While the treatment continues to grow and adapt to meet the global need that far outweighs its current reach.

Keywords: Dialectical behavior therapy, suicide, borderline personality disorder, evidence-based treatments

Dialectical Behavior Therapy: An Examination of its Evolution and Global Need
Dialectical behavior therapy (DBT) was developed through repeated attempts to apply the principles of behavioral science and standard cognitive-behavioral therapy to highly suicidal individuals. The initial impetus for DBT came from an interest in treating people who otherwise had not been helped by the treatments that were currently available. DBT was originally applied to treating borderline personality disorder (BPD) in order to target a specific clinical diagnosis. Subsequently, it has been expanded and evaluated as a treatment for a wide variety of diagnoses and dysfunctional behaviors across multiple domains and disorders. The efficacy and effectiveness of DBT has led to an exponential increase in research conducted across the globe. A PsycInfo search shows an average of 8 published and peer reviewed DBT publications per year from 1993 until 2000, 41 publications per year from 2001 to 2010, and 78 per year since 2011. To date, 31 randomized controlled trials (RCTs) – the gold standard for health intervention research – produced by nearly 20 independent research groups in nine countries have demonstrated the effectiveness of DBT (personal communication, Behavioral Tech, LLC, 2015). Furthermore, the Cochrane Collaboration, an independent, non-profit organization formed to organize medical research information for healthcare professionals, patients, and policymakers, has examined DBT for BPD. The Cochrane Review concluded that DBT is the most intensely studied psychological therapy for treating BPD and is effective in reducing suicide attempts, self-harm, and anger while improving general functioning. Similarly, the Society of Clinical Psychology, a division of the American Psychological Association, has identified DBT as having the strongest research support for treating BPD. The rapid proliferation of research and strong empirical base mirrors the clinical enthusiasm about this treatment with over 30,000 practitioners receiving at least an introductory level of training in DBT in the past two decades (personal communication, Behavioral Tech, LLC, 2015). These findings are paramount considering that the most recent and highest quality epidemiological evidence indicates that the lifetime prevalence of BPD in the United States is between 3-6%.

Underpinnings and Dialectics
In early intervention efforts, Linehan observed that individuals with BPD responded with high arousal and a sense of losing control when treatment emphasized solving problems and changing behaviors. Additionally, therapists’ attempts to promote behavioral changes were experienced as invalidating by clients that, in turn, increased arousal and impaired cognitive processing. Invalidation led to a lack of client-therapist collaboration and impaired collaboration severely limited the effectiveness of any intervention. A similar process of increased arousal and lack of collaboration occurred when treatment emphasized acceptance over change. While clients may enjoy the warmth of client-centered, acceptance-based, approaches over time they were likely to experience a sense of lacking control. Thoughts that therapist did not comprehend the weight of problems and did not understand how to treat them resulted in hopelessness. The solution to the dilemma of emphasizing either change or
acceptance was to apply an approach that balances attempts to help clients change themselves and their lives with accepting the client and their current state. This approach is based in dialectics1,8 which involves the process whereby opposites coexist. Not only do they coexist, but opposites shape and influence each other, and synthesis can result from this process. In DBT, the hallmark dialectical process is that of the interaction between change vs. acceptance, and balancing dilemmas in life. This often means tolerating the coexistence of opposites, which frequently creates significant suffering and distress.

DBT is a compensatory model of treatment. It is based in core assumptions that clients may not be the cause of their problems, but ultimately are responsible for solving them. Moreover, given its roots in behavior therapy DBT takes the stance that most of the problematic behaviors in which patients engage are attempts at solving problems. Given that problematic behaviors are often the targets of treatment and, simultaneously, attempts at solving problems on the part of the client, DBT takes the stance that clients are doing the best they can. In terms of its dialectical worldview, another DBT assumption is that clients need to do better, and it is the job of the therapist to teach the skills necessary for this to occur. In terms of readiness for change, the therapist must work with clients to manage the contingencies in their lives to increase the probability of skillful behavior occurring in the service of clients attaining their ultimate goals.

Given its initial application to persons with BPD at high risk of suicide, DBT espouses a biosocial model of BPD that assumes that the criterion behaviors of the disorder are based in difficulties in regulating emotions. As such, the primary points of assessment and intervention focus on emotion regulation. The core strategies of the therapy are informed by these assumptions and include problem-solving strategies and acceptance strategies. The method of delivery is informed by dialectics and a set of specific dialectical strategies is employed. All strategies branch out from this perspective and are outlined in Table 1.

**Functions of Dialectical Behavior Therapy**

DBT is a comprehensive treatment that strives to accomplish specific functions that are critical to providing effective treatment, particularly to persons with complex problems. The functions and corresponding modes of standard outpatient therapy are listed in Table 2. Generally, implementation of DBT requires ensuring that all functions listed in Table 2 are met in a programmatic manner, and that service providers engage in the treatment strategies listed in Table 1.

DBT has been adapted to several different settings, and has been applied to other populations in addition to persons with BPD. Key to adaptation of DBT is consideration of the modes for meeting the functions of the therapy. In the original outpatient model clients meet weekly in individual psychotherapy and a skills training group1, 9. The team of therapists also meets weekly in a therapist focused consultation team that is conceptualized as therapy for the therapist. Consultation between sessions is accomplished primarily through phone coaching. The targets for phone calls are to decrease suicide crisis behaviors, increase generalization of behavioral skills, and to decrease a sense of conflict, alienation, ordistance with the therapist.

**Evolution of Dialectical Behavior Therapy**

Early unsuccessful results in treating suicidal individuals led to rethinking of the factors responsible for effective treatment. As a result, DBT was the first evidence-based mental health intervention to systematically incorporate mindfulness as a core treatment strategy. DBT combines rigorous focus on change, fundamental to behavioral interventions, with an equally strong focus on acceptance, fundamental to mindfulness and other contemplative practice. The movement away from empirically based behavioral interventions that focused solely on change to ones incorporating Zen and Contemplative-based acceptance set DBT apart from the behavioral interventions of the time. DBT can be viewed as the precursor to the proliferation of mindfulness in mental health today.

Numerous empirically examined therapies have employed mindfulness including mindfulness-based cognitive therapy10 and acceptance and commitment therapy11. Most importantly, prior to DBT, the empirical examination of treating BPD or multi-problem, suicidal individuals was scant. The same can no longer be said for the extant literature.

DBT was the first evidence-based treatment that provided guidelines on treating individuals with multi systemic clinical problems and diagnoses. DBT was designed to be a comprehensive treatment, including a set of principles, capable of addressing a large range of clinical problems and disorders. To do so, DBT synthesizes principle-based guidelines with specific protocols allowing providers to flexibly address changing clinical presentations. This is done by following broad principles in the DBT manual as well as adhering to specific protocols such as the structured skills training program and steps for managing suicidal behaviors. Thus, a modular-based set of strategies was born wherein component parts can be separated into modules that target distinct functions independent of each other. Concurrently, the principles of DBT provide a flexible guideline for clinicians in applying the treatment as opposed to stricter protocol-driven treatments.

Additionally, to guide individualizing of treatment priorities for clients with varying levels of severity, DBT incorporates a concept of levels of disorder (based on imminent risk, severity disability, pervasiveness, and complexity) that in turn provides a hierarchy of treatment targets for any particular client. This conceptualization captures distinctive levels of clinical complexity and prioritizes target behaviors that need to be addressed and the specific strategies associated with each target behavior. For example, at the highest level of disorder treatment targets are sequentially address based on life threatening-, therapy interfering-, and quality of life interfering-behaviors. DBT developed a comprehensive set of skills generalizable to the full range of potential clinical presentations. Skills training was originally design as a necessary component of the total treatment. Surprisingly, DBT skills alone have been shown to be an effective stand alone intervention for a variety of disorders. Of the 31 DBT RCTs, 14 have examined the efficacy of skills-only DBT with diverse clinical problems including binge eating12-14, depression15,8, and ADHD16. The first skills-only RCT17 compared DBT to standard group therapy for individuals diagnosed with BPD. Results showed significant benefit in the DBT group on treatment retention (65% vs. 37%) and reducing depression, anxiety, general psychiatric symptoms.
anger, feelings of emptiness, and emotional instability.
A recent component analysis examined standard DBT, skills-only DBT, and individual-only DBT18. Major measures of suicidal behavior – frequency and severity of attempts, ideation, use of crisis services – similarly improved across all three groups. However, components that included skills training were superior in reducing non suicidal self-injury and anxiety. Additionally, the authors attributed much of the across components to the DBT suicide risk assessment, which enforces consistent monitoring of suicidality.

The application of DBT has steadily grown from a nascent intervention for suicidal behavior to a widely accepted treatment with applications in numerous clinical and nonclinical domains. DBT was the first evidence-based intervention for BPD, and continues to make forays in new directions (Figure 1). Pilot trials have examined DBT for intellectual disabilities19 developmental disabilities20, domestic abuse21,family therapy22, and school intervention programs23.

### Brief Review of Key Findings
DBT is consistently being tested for efficacy as represented by over 30 RCTs. Meta-analysis has demonstrated the superiority of DBT over treatment-as-usual with moderate effect sizes in the treatment of individuals diagnosed with BPD24. Moreover, DBT has been compared to other active borderline-specific treatments. In comparison to client-centered therapy25, DBT showed significantly greater reductions in suicide/self-harm behavior and reductions in hospitalizations at follow-up. Additionally, one year after treatment the DBT group had

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### Table 1: Description of strategies used in DBT

<table>
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<tr>
<th>Strategy</th>
<th>Description</th>
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<tr>
<td>Structural</td>
<td>Organization of sessions, attending to the treatment hierarchy, reviewing progress, checking on other modes of therapy.</td>
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<tr>
<td>Problem assessment</td>
<td>Defining problems with specificity, conducting chain analyses, developing and testing hypotheses.</td>
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<tr>
<td>Problem solving</td>
<td>Providing didactic information, generating &amp; evaluating solutions, teaching skills and coaching on use of skills, generalizing skills to the real world environment</td>
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<tr>
<td>Contingency management</td>
<td>Use of reinforcement, extinction, aversive contingencies, and principles of shaping.</td>
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<tr>
<td>Exposure based procedures</td>
<td>Both formal and informal.</td>
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<tr>
<td>Cognitive</td>
<td>Contingency clarification, observation and description of cognitions, cognitive modification.</td>
</tr>
<tr>
<td>Validation</td>
<td>Appearing interested, accurately reflecting, correctly articulating things that have not been fully expressed, explaining behavior in terms of learning history or biological factors, acknowledging the validity of responses in terms of current events, interacting in a manner that is radically genuine, communicating believing in the patient.</td>
</tr>
<tr>
<td>Reciprocal communication</td>
<td>Being responsive, expressing warm engagement, being non judgmental, using self-disclosure, maintaining areas on able power equilibrium.</td>
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<tr>
<td>Irreverent</td>
<td>Engaging in a matter-of-fact manner, directly confronting dysfunctional behavior, using unexpected, irreverent or humorous responses.</td>
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<tr>
<td>Dialectical</td>
<td>Using a balanced style, balancing acceptance-oriented strategies with change-oriented strategies, magnifying tension, using metaphor, modeling dialectical thinking and behaviors, moving with speed and flow.</td>
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<tr>
<td>Case management</td>
<td>Following a model of consultation to the patient when long-term outcome is more important than short-term outcome, and intervening in the patient’s environment when short-term outcome is more important than long-term outcome.</td>
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### Table 2: The functions and modes of DBT

<table>
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<tr>
<th>Function</th>
<th>Mode</th>
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<tr>
<td>To improve motivational factors</td>
<td>Individual psychotherapy</td>
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<tr>
<td>Enhance capabilities</td>
<td>Skills training</td>
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<tr>
<td>Assure generalization to natural environment</td>
<td>Between</td>
</tr>
<tr>
<td>Enhance therapist capabilities and motivation to treat effectively</td>
<td>Therapist consultation team</td>
</tr>
<tr>
<td>Structure the environment</td>
<td>Consultation to the patient</td>
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significantly lower levels of anger, impulsivity, and depression, while greater improvement of global mental health functioning. In a monumental finding, DBT decreased suicide attempts by 50% when compared to treatment by non-behavioral experts. DBT is also superior in reducing hospitalizations for suicide ideation, medical risk for suicide attempts and self-injurious acts, treatment dropout (25% vs. 59%), psychiatric emergency room visits and psychiatric hospitalizations. These findings indicate that DBT is uniquely effective in reducing suicide attempts and is not solely attributed to general therapeutic factors associated with receiving expert psychotherapy.

DBT is also effective in treating disorders comorbid with BPD leading to remission rates of about 88% for substance dependence disorders, 68% for major depressive disorder, and 64% for eating disorders. In the first RCT of DBT for adolescents, DBT was superior to enhanced usual care in reducing self-harm, severity of suicidal ideation, and depressive symptoms, with large effect sizes. In an examination of DBT skills-only as a stand-alone, transdiagnostic treatment for emotion dysregulation, Neacsiu and colleagues treated anxious and/or depressed, non-BPD adults with high emotion dysregulation. In comparison to an activities-based support group, the DBT group showed significantly greater reductions in emotional dysregulation and quicker treatment response. Additionally, DBT showed faster reductions of anxiety.

Cost-Effectiveness of DBT
In addition to examining clinical efficacy through tightly controlled research manipulations, DBT is also effective in the ‘real world’ where the vast majority of clients are treated. Similarly, accumulating evidence indicates that DBT reduces the cost of treatment. For example, after initiating DBT the costs of treatment decreased by 56% in a community-based program. In particular, reductions were evident by decreased face-to-face emergency services contact (80%), hospital days (77%), partial hospitalizations (76%), and crises bed days (56%). The decrease in-hospital costs (~US$26,000 per client) far outweighed the outpatient services cost increase (~US$6,500 per client). An Australian study found that DBT reduced costs about 33% compared to treatment-as-usual over 6 months. Strikingly, those receiving treatment-as-usual incurred six times more costs due to inpatient bed days. Similar results were reproduced in Sweden and Wales.

The cost savings from DBT continue to rise following treatment as well. Meyers and colleagues found that veterans who received DBT treatment had significantly decreased the use of outpatient mental health services in the following year by 48%. Perhaps more importantly, the study demonstrated that utilization of high-cost inpatient services decreased by 50% and length of stay by 69%. The authors concluded that each individual in DBT treatment utilized almost US$6,000 less in total services in the year following DBT treatment as compared to the year prior to DBT. In their sample of 41 clients, the total cost decrease was nearly a quarter of a million dollars.

Alternatively, in attempting to examine benefit instead of cost a juvenile offender institution estimated that a US$38.05 financial benefit was achieved for every dollar spent on their DBT program. Similarly, a study in the United Kingdom found that for every 36GBP spent on DBT a 1% reduction in self-harm was achieved. When examining the overall societal cost (based on resource consumption and productivity loss), a German study calculated a nearly 50% reduction in societal cost-of-illness when comparing the treatment year and the year following treatment. In summary, cost effectiveness studies indicate that DBT treatment reduces costs – when compared to the prior treatment year or treatment-as-usual – and long-term service utilization decreases in high service-utilizing individuals.

Estimation of Global Need for DBT
DBT was originally designed to treat high-risk for suicide individuals and has expanded to treatment of severe emotion dysregulation. Due to the varied applications of DBT, it has been difficult to ascertain the global need for DBT. In a narrow view, DBT is designed to treat individuals with suicidal behaviors. The World Health Organization (WHO) estimates that over 800,000 people die by suicide annually. Suicide is the 3rd leading cause of death in the world for those aged 15-44 years. However, these figures may underestimate death by suicide in some parts of the world. To extrapolate from the figures in the United States – where there is 1 death by suicide for every 25 attempts – and apply them globally indicates that 20 million people attempt suicide annually. This estimation

Figure 1. Expansion of DBT.
DBT is still barely met. While DBT has come a long way, the need for a fruitful avenue to achieve this goal. Disseminating current reach of DBT falls far short of the global need. Novel approaches to treat high levels of emotion dysregulation. The proxy representation of severe emotion dysregulation is the clinical diagnosis of BPD. The incidence of BPD has often been studied in numerous countries worldwide. Past estimates of prevalence have varied greatly from 0.4% in the United States41 to 5.4% in Sweden42. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition43 identifies the prevalence as 1-2%. However, many studies are limited by small, unrepresentative samples, low response rates, or use of screening measures instead of diagnostic measures6.

In response to the lack of comprehensive and detailed information on BPD prevalence in the United States, a recent epidemiological study addressed the gap in knowledge. Face-to-face interviews were conducted with nearly 35,000 people using a diagnostic interview measure. The lifetime prevalence of BPD in the U.S. population was estimated to be between2.7-5.9% dependent on the operational definition of social or occupational dysfunction6,7. Grant and colleagues estimated a 5.9% prevalence rate, equally distributed among men (5.6%) and women (6.2%), when individuals endorsed at least five of the nine symptoms of BPD and at least a single symptom was associated with social or occupational dysfunction6. In Trull and colleagues’ reanalysis of the data, endorsement of significant distress was required to be associated with each BPD symptom, which reduced the prevalence to 2.7% and found a statistically significantly difference in women (3.02%) compared to men (2.44%)7. Incorporating the quantitative literature on BPD prevalence to estimate the prevalence of individuals suffering from severe emotion dysregulation must be done carefully. Our conservative estimate, incorporating the aforementioned data, is that about 3% of the global population experience high levels of distress as a consequence of emotional dysregulation. The current global estimate of adults aged 15-65 is about 4.5 billion people44. Thus, the estimated global need for DBT – to help individuals experiencing high levels of distress from difficulties in emotional regulation – is 135 million people. It is estimated that only approximately 2 million people in need of DBT have been exposed to it (personal communication, BehavioralTech).

**Future Directions**

The evolution and dissemination of DBT has been remarkable, but much more is needed and many research questions still remain. In particular, the mechanisms by which DBT achieves a therapeutic effect are still unknown. Additionally, further examination is needed to determine precisely the roles of skills in distinct problem areas. Potentially of utmost importance is to provide DBT to those that need it. As described earlier, the current reach of DBT falls far short of the global need. Novel dissemination methods such as computerization of DBT may provide a fruitful avenue to achieve this goal. Disseminating DBT via international collaboration is an additional avenue. A promising sign is the number ofRCTs completed outside of the United States. While DBT has come a long way, the need for DBT is still barely met.


