AN EVALUATION OF REFERRAL PATTERNS AND THERAPY OUTCOMES AT A UNIVERSITY COUNSELING CENTER: ANALYSIS OF A DIALECTICAL BEHAVIOR THERAPY SKILLS TRAINING GROUP

by

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ABSTRACT

An Evaluation of Referral Patterns and Therapy Outcomes at a University Counseling Center: Analysis of Dialectical Behavior Therapy Skills Training Group

by

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This study was designed to answer two research questions. First, factors associated with placement decisions to three treatment modalities in a university counseling center were examined: the skills training group for dialectical behavior therapy plus individual therapy (DBT), the interpersonal process group plus individual therapy (IP), and individual therapy only (IND). Individual therapy in all three conditions did not follow a specific theoretical orientation. Of 203 participants (55 males, 148 females), 83 were in DBT, 53 were in IP, and 67 were in IND. Client information included demographic variables (e.g., age, gender) and clinical variables (i.e., diagnosis, and scores from Global Assessment of Functioning, the Outcome Questionnaire-45; OQ-
45, and the College Adjustment Scale; CAS). As predicted, the results indicated that clinical characteristics played a significant role in referral decision making, with clients in the DBT condition reporting higher clinical severity. Second, the effectiveness of the skills training group (DBT) was examined, testing the hypothesis that people in DBT start out with more clinical problems but make greater progress than those in IP and IND. Treatment outcome was measured by the OQ-45 and the CAS, each collected at multiple time points. Data from 101 people were available for the OQ-45, and 77 people for the CAS. The results did not provide support for the hypothesis. Although significant change was observed over the course of treatment, no clear patterns of superior outcomes for any of the three treatment conditions emerged.

(159 pages)
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CHAPTER I
PROBLEM STATEMENT

A surprising portion of students come to college with psychological problems. In fact, prevalence studies on college campuses show that approximately 12-18% of students have diagnosable psychiatric disorders (e.g., Mowbray et al., 2006). In addition, the nature of the college environment demands personal growth and change, and students face multiple stressors, including major developmental tasks of individuation and identity development, as well as social, academic, and financial pressures (e.g., Kadison & Digeronimo, 2004; Mowbray et al.; Pascarella & Terenzini, 2005). Given these challenges, it is not surprising that as many as 8.5% of enrolled students seek services at university counseling centers (Gallagher, 2007).

Due to the sheer number of clients and to the perceived severity of presenting problems, many counseling center directors report feeling concerned that their available resources do not match the growing service demand (Gallagher, 2007). To meet these increasing demands, counseling centers typically offer a variety of treatment modalities for both individual and group therapy. One of the challenges, then, seems to be allocating their limited resources and referring clients to appropriate treatment options. Surprisingly; however, research on referral decision making is very limited. While referrals would ideally be made based on theoretical criteria, it is actually pragmatic factors, such as group availability, that play a major role in intake counselors’ decision-making process (Quintana, Kilmartin, Yesenosky, & Macias, 1991). Of course, referrals can only be made to treatment that is available; therefore, the major influence of
pragmatic factors is unfortunate yet reasonable, given the limitation of counseling center resources. It then becomes important to find out whether the theoretically important clinical factors do play a role in referral decisions.

Among the multitude of treatment modalities available today, one that may be of particular interest at counseling centers is dialectical behavioral therapy (DBT). DBT is a cognitive behavioral technique that emphasizes coping skills training in conjunction with psychotherapy (Linehan, 1993a, 1993b). This skills training component is particularly useful when one realizes that key characteristics of psychological disorders are often maladaptive attempts to cope with distress (Summerfeld & Endler, 1996). Eating disorders, substance abuse disorders, anxiety disorders, and borderline personality disorder are all examples of diagnoses in which ineffective or maladaptive coping efforts are either integrated into diagnostic criteria or are common associated features (APA, 2000). For example, in eating disordered persons, binge eating may be seen as a way to avoid painful feelings, while restricting food intake may be an effort to regain personal control. Some people use drugs and alcohol to numb their psychological pain. Compulsive behaviors could be viewed as an effort to reduce anxiety. People who self-harm often report a sense of relief from cutting. In the eyes of concerned family members and some therapists, all those behaviors are viewed as problems to be treated and eliminated. Unfortunately, these problem behaviors may be the only strategies that those individuals possess for managing negative affect and environmental stress. Relinquishing these coping methods, therefore, may leave them without any alternative methods to deal with their life problems. Therefore, it appears important and necessary to help them learn
new effective coping skills before asking them to discontinue the use of habitual, but ineffective strategies (Linehan, 1993a).

Furthermore, the skills taught in DBT are particularly complimentary to the unique developmental tasks of college students. Specifically, in the student development literature, Chickering’s seven vector model indicates managing emotions and developing mature interpersonal relationships as two of the general developmental directions (i.e., vectors; Chickering & Reisser, 1993). Chickering and Reisser noted that assisting students in their growth on the seven vectors is an essential task for college institutions. With its emphasis on emotion regulation, distress tolerance, and interpersonal effectiveness skills, DBT skills training may be a very valuable tool with this population.

Specifically, DBT consists of a weekly skills training group, individual therapy, and phone consultation to provide coaching and support for new coping behaviors. DBT was specifically developed as treatment for chronically suicidal individuals with borderline personality disorder (BPD). Since DBT was developed in the early 1990s, clinicians have used the method to treat other disorders, such as substance abuse and eating disorders. Most research on the effectiveness of DBT has used samples of clients diagnosed with relatively severe and persistent mental disorders, such as borderline personality disorder, substance abuse, eating disorders, and other personality disorders (e.g., Bradley & Follingstad, 2003; Koons et al., 2001; Linehan et al., 2002; Telch, Agras, & Linehan, 2001). Consequently, the usefulness of DBT has not been examined systematically with higher-functioning people who struggle with more prevalent, but sometimes less serious disorders, such as depression and anxiety. One group that fits this missing gap is university counseling center clients. As college students, they are generally higher
functioning than clinical populations studied in other DBT efficacy studies. Clients at university counseling centers also present with a multitude of diagnoses with varying severities, from adjustment disorder to major depressive disorder to BPD. Studying the effectiveness with this population, therefore, fills the gap in the existing literature nicely.

The first goal of the current study, therefore, is to examine referral decision making at a university counseling center; more specifically, to determine whether there are clinical differences among people who are referred to DBT skills training group, as opposed to other treatment modalities available in college counseling center settings. The second goal is to examine the effectiveness of DBT skills training group with a relatively higher functioning population, namely college students. To attain these goals, an archival data set from those who have sought services at the Utah State University Counseling Center was used. Three treatment modalities were compared: the treatment group receiving both DBT skills training group and individual therapy (DBT), the first comparison group receiving process-oriented group therapy and individual therapy (IP), and the second group receiving individual therapy only (IND). First, analyses assessed factors that influence clients’ assignment into these three conditions. Data gathered from the intake assessment were compared across the three treatment conditions. Such data include the baseline levels of symptomatology, global adjustment of functioning (GAF) score, and types of presenting problems. Second, effectiveness was assessed over a period of one semester, based on improvement on the severity of psychological symptoms, as measured by College Adjustment Scale (CAS; Anton & Reed, 1991) and Outcome Questionnaire 45.11 (OQ-45; Lambert et al., 1996).
CHAPTER II

REVIEW OF THE LITERATURE

Purpose and Organization of the Literature Review

The purpose of this literature review is to build the case for a need to examine the significance of clinical factors in referral decision making and the effectiveness of DBT skills training group on therapy outcomes for people with a range of disorders from depression and anxiety to eating disorders. In order to aid further discussion on this topic, mental health and developmental issues of college students will be summarized first. In the second section, the overview of DBT will be presented. Subsequently, the skills training portion of DBT will be highlighted and explained in detail because of its direct relevance to this study. It will be helpful for readers to know what is exactly being taught in the skills training group so that the benefit of applying the group to various psychological disorders can be more easily understood. In the following section, application of DBT to the treatment of several different disorders, including borderline personality disorder (BPD), will be explained in more depth. Then, in the fifth section, a summary of DBT outcome studies will be presented. This section will show the gap in the literature and present the need for the current study. Finally, the rationale for the current study will be summarized in the last section of this review.
Adjustment Issues Among College Students

Adjustment to College

Becoming a college student means facing a multitude of changes and adjustment issues, such as learning new roles, routines, relationships, and status (e.g., Chickering & Schlossberg, 1995). Some of the changes in their roles would come from their changing environment and expectations. College also brings students together from all over the country and the world, and from a wide range of backgrounds. Students intermingle with people of various ethnicities, lifestyles, religions, socio-economic-backgrounds, and sexual orientations, to name a few. This exposure to increased diversity challenges can foster their own identity development, but also challenges their comfortable beliefs and generates anxiety and confusion (Kadison & DiGeronimo, 2004). Additionally, their daily routines go through significant changes when they move to college. Their school schedule changes, and new routines, such as grocery shopping or going to the dining hall, enter their lives. The responsibility to follow their routines also falls onto their shoulders because parents no longer serve as a backup alarm-clock or disciplinarian for missing classes. Needless to say, becoming independently responsible for themselves is a challenging task for many students (Chickering & Schlossberg). Further, being in a new environment and forming new friendships can often be difficult, especially without their former support system, and it is not uncommon for many students to experience feelings of social isolation (Chickering & Schlossberg). In fact, approximately one third of students drop out of universities, many leaving during their first year due to emotional reasons (Bradburn & Carroll, 2002; Rickinson & Rutherford, 1995). It is not just
academic problems that push students out of universities (Rummel, Acton, Costello & Pielow, 1999). It seems to be problems with social and emotional adjustment that compromise students’ retention (Gerdes & Mallinckrodt, 1994; Parker, Summerfeldt, Hogan, & Majeski, 2004; Rummel et al., 1999).

Developmental Challenges

Referring to Arthur Chickering’s theory also clarifies the challenges that college students face. His theory describes college students’ development along seven vectors (Chickering originally developed his theory with seven vectors in 1969, and revised it later with Reisser; Chickering & Reisser, 1993). The first vector is about achieving competence, which refers to students’ sense of increasing competence in their intellectual abilities, physical skills, and interpersonal abilities. The second vector, managing emotions, refers to the developmental shift of emotion regulation from external to internal control. According to Chickering, emotions related to aggression and sex are the particularly salient emotions with which college students must cope, and the important task is to develop an ability to form intimacy and commitment through appropriate management of emotions and behaviors. Developing autonomy toward interdependence, the third vector, reflects the process of individuation from parents and of recognizing interdependence with others. This balancing act of independence and interdependence is seen as a key factor in adult relationships. Vector four emphasizes developing mature interpersonal relationships. As students interact with diverse peers, they become more open and respectful of individual differences. Such increased appreciation of diversity allows them to form intimate relationships. The fifth vector, establishing identity, is
affected by the growth of the previous four vectors (achieving competence, managing emotions, developing autonomy, developing mature interpersonal relationships), and it influences the development of the remaining two vectors. As the name suggests, the task in this vector is to develop a sense of self while being exposed to new ideas and diversity in college. Developing purpose is the sixth vector, and it is about identifying goals and aspirations in life. Realizing the purpose in life naturally requires some understanding of self; therefore, the growth in this vector is facilitated by the development of the fourth vector, establishing identity. The last vector is titled developing integrity. Integrity is defined as internalized rules and beliefs for guiding behaviors. The vector refers to the shift from having an external and rigid set of rules to the internal and relativistic rules, which would be difficult to attain without developing a solid sense of self (i.e., vector four). Movement along these seven vectors is facilitated by students’ encounters with various adjustment and environmental challenges in college.

Psychopathology

Transition stress creates a major challenge of its own, but the presence of psychopathology can create additional complication for many college students. Many psychological disorders typically have their first onset during or right before the college age (Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005). Overall, 8.5% of enrolled students received services at university counseling centers during a given year, and approximately half of them are reported to have severe psychological problems, according to a national survey of counseling center directors (Gallagher, 2007). Given the tendency for students to underutilize such services, the actual prevalence of
psychopathology is likely much higher (for underutilization, see Rimmer, Halikas, & Schuckit, 1982; Yorgason, Linville, & Zitman, 2008). In fact, Rimmer and his colleagues found that 39% of students suffer from some psychiatric impairment during the four years they are in college, and only 31% of those students actually sought any psychological services.

More specifically, 4.9-14.9% of students reported experiencing depression while attending college (American College Health Association, 2008; Eisenberg, Gollust, Golberstein, & Hefner, 2007; Soet & Sevig, 2006). Simply asked whether they experienced “depression” at some point in college, a much larger number, 53-81% of students responded “yes” to the question, noting academic performance, loneliness, financial concerns, and relational problems as the main cause for their depressed mood (Furr, Westefeld, McConnell, & Jenkins, 2001; Westefeld & Furr, 1987). Further, according to recent data from the National Center for Injury Prevention and Control (2007), suicide is the third leading cause of death for people between ages of 18-24. Suicidal ideation was also found to have a wide range of prevalence: 2.5-32% of students reported experiencing suicidal ideation during college (American College Health Association, 2008; Brener, Hassan, & Barrios, 1999; Eisenberg et al., 2007; Furr et al.; Westefeld & Furr). Of the counseling center directors surveyed, 26.1% also reported that there was a suicide on their campus during the past school year, the number averaging 1.4 deaths per campus (Gallagher, 2007).

In addition, Eisenberg and colleagues (2007) found that approximately 4% of college students present with some type of anxiety disorders. Similarly, approximately 6-
7% of an ethnically diverse group of students presented with anxiety symptoms (Rosenthal & Schreiner, 2000; Soet & Sevig, 2006).

Also prevalent among college students are self-harm behaviors, defined as self-injuries without any suicidal intent (e.g., Aizenman & Jensen, 2007). More specifically, 7.2% of the students reported engaging in some type of self-harm behavior within the last four weeks (Gollust, Eisenberg, & Golberstein, 2008), 10% within the last 12 months and 17.5% over a year ago (Brown, Williams, & Collins, 2007). In one study, as many as 41% reported having a history of self-harm behavior, of which 29% reported current behavior (Aizenman & Jensen). Researchers and clinicians have suggested that such behaviors serve a function of emotion regulation, as well as a way to focus one’s attention, to regain a sense of control, or to manage dissociation (e.g., Aizenman & Jensen; Chapman, Gratz, & Brown, 2006; Wester & Trepal, 2005).

Counseling Centers’ Challenges

Counseling centers play an important role in student retention in college (Turner & Berry, 2000). Meeting the growing need for their services, therefore, is a serious concern shared by almost two thirds of the counseling centers in the nation (Gallagher, 2007). Among the proposed solutions to this problem is to increase group therapy options, which would allow multiple students to be served at one time, because a solution such as adding more staff is not realistic for many centers (Bishop, 2006; Murphy & Martin, 2004). This option of group counseling, however, appeared to be underutilized; on average, a therapist used only 3% of his/her direct contact hours (less than one hour per week) for group therapy (Smith et al., 2007). If each therapist allocated an additional
one hour to group therapy, an additional 20% of clients would be served in the counseling center where Smith and his colleagues conducted their study. Increasing group therapy options, therefore, seems to be a viable solution that needs to be considered seriously by many counseling centers.

In addition, considering the perception of growing severity in client presentations, effective and accurate referral to match clients and type of services was recommended (Erdur-Bakur, Aberson, Barrow, & Draper, 2006). Quintana and his colleagues published the only study evaluating the specific decision-making process for matching clients with different treatment options (Quintana, 1991). In their study at a counseling center, treatment options consisted of brief crisis counseling (up to three sessions), short-term individual therapy (10-session limit), long-term individual therapy (external referral), process-oriented group therapy, and theme-specific structured group therapy. The referral factors they considered were client presenting problem, client personal characteristics (e.g., level of insight), client preference for treatment option, severity of client psychopathology, and pragmatic issues (e.g., schedules). Ranking these factors in order of importance, counselors gave the highest importance to clients’ presenting problem, then to pragmatic issues, clients’ severity, clients’ preference, and clients’ personal characteristics, respectively. Interestingly, despite the importance of presenting problems in referral decision making, Quintana and colleagues found that types of presenting problems rarely differed across different treatment modalities, except for short-term therapy receiving more referrals for depression, anxiety, and sexual problems. What, then, contributed to actual and final referral decisions? For a decision between group versus individual therapy, it was a concern of pragmatic issues, such as a long waitlist,
finances, or availability of external referral source (the latter two matters in referral for long-term therapy). Also significant was client personal characteristics, with more socially skilled clients being referred to group therapy and more severely ill clients being referred to individual therapy. Referrals for long-term therapy depended on the availability of external resources and clients’ ability to pay for these outside services. Choice between process versus structured group therapy was also based on pragmatics. Thus, it appeared that referral decision making was “largely a process of elimination,” with pragmatic considerations narrowing down possible treatment options, and not based on clinical considerations (Quintana et al., 1991, p. 95).

Clearly, more studies are needed to further investigate the issue of referral patterns. In particular, it would be interesting to examine if clinical issues, such as presenting problems and severity of disturbance, truly have little impact on referral decision making. It would especially be important when considering referrals to treatment options with a specific rationale. In other words, it would be important to know whether the clinical reasoning was actually being followed at the time of referral. If a certain group therapy is designed to address specific clinical issues, the client make-up of this group ought to be different from that of other group or individual therapies.

Given the transitional and psychological challenges faced by college students, it seems beneficial for the struggling ones to receive help in enhancing their coping strategies. A seemingly good fit for this reason is the skills training group for DBT, which teaches mindfulness, emotion regulation, interpersonal skills, and distress tolerance. The group therapy format of this treatment also fits with the current resource allocation concerns of counseling centers.
Overview of Dialectical Behavior Therapy (DBT)

Introduction

DBT is “an integrative cognitive-behavioral treatment,” developed by Linehan (1993a, p. 4) initially to treat women with BPD and a history of self-injurious behaviors. It was developed as a response to Linehan’s frustration and dissatisfaction with traditional CBT approaches in treating chronically suicidal BPD women. As a result of her research on the applicability of CBT with this population, she developed DBT by adding new strategies and modifying the treatment structure. Two of the most significant characteristic differences from traditional CBT are the focus in DBT on acceptance, and a balance between acceptance and change (i.e., dialectics). While DBT therapists accept their clients and their maladaptive behaviors as they are, the therapists also push the clients toward change. For example, a client who self-harms is believed to be doing the best she can and her self-harming behavior helps, if temporarily, to reduce her emotional pain (i.e., acceptance). The DBT therapist acknowledges this, and simultaneously encourages the client to learn a new coping behavior and change her old ways (i.e., change).

Dialectical World View

The dialectical world view consists of three core concepts, according to Linehan. First is the principle of interrelatedness and wholeness. Holistic and systemic views are emphasized in DBT, and the self is viewed in relation to its environment and relationships with others. Second, DBT stresses the principle of polarity, claiming that “all propositions contain within them their own oppositions” (Linehan, 1993a, p. 32).
This principle has a significant impact on the DBT approach. If everything contains its polar opposite, it has to mean that dysfunctional behaviors are also functional and that distortions also contain accuracy. Therefore, Linehan focuses on validating patients' behaviors based on their current functions instead of focusing solely on their learning history. This principle of polarity further indicates that each individual, regardless of current ability, has "inherent wisdom... with respect to her own life... and [has] in herself all of the potential that is necessary for change" (p. 33). The third and last concept is the principle of continuous change. The driving force for change in DBT is the tension between two polarized forces, thesis and antithesis. The resulting change, synthesis, consists of thesis and antithesis by its nature. Thus, the process of change is continuous. Within the process of personal growth, a dialectic tension exists between self-preservation and self-transformation, and creates a crisis when a change takes place. While the crisis is conceptualized as transformative and necessary, clients experience a great deal of subjective distress and resistance to change.

**Dialectical Strategies**

Dialectical strategies consist of validation and problem solving. Two types of validation were outlined in Linehan’s original work (1993a). First, therapists work to validate clients’ symptoms by finding value and appreciation for affective, cognitive, and behavioral responses to related events. When clients receive validation from the therapists, they no longer need to self-validate via dysfunctional behaviors or dysregulated emotions. Second, therapists work to validate clients’ strength and inherent ability to change. Thus, therapists “both believes and believes in” clients, and work to
change clients’ lack of self-acceptance and confidence (p. 99). More specifically, validation takes place in three different areas: emotional, behavioral, and cognitive. Emotional validation includes strategies to help clients experience and express their emotions. Behavioral validation strategies are aimed at helping clients observe and describe their behaviors, identifying their irrational beliefs about their behaviors, and disputing those beliefs. Therapists also validate clients’ behaviors by understanding them. In cognitive validation, therapists elicit clients’ understanding of their own thoughts, beliefs, and assumptions. Therapists help clients differentiate facts from interpretation of events, but it is also an important task for therapists to discover and validate some truth in clients’ thoughts and assumptions. Additionally, therapists validate clients through “cheerleading.” This means that therapists validate clients’ inherent ability for recovery. Cheerleading strategies suggested by Linehan include (a) assuming the best, (b) providing encouragement, (c) focusing on the patient’s capabilities, (d) contradicting/modulating external criticism, (e) providing praise and reassurance, (f) being realistic, but dealing directly with fears of insincerity, and (g) staying near (i.e., being available to clients).

Problem solving consists of behavioral analysis and solution analysis. Detailed chain analysis is conducted on the target behavioral problems. In many cases, the analysis reveals skills deficits, problematic reinforcing contingencies, and inhibitions due to irrational beliefs or debilitating emotions. Following the analysis, therapists and clients then engage in a solution analysis and agree on treatment strategies with alternative behavioral solutions. Treatment strategies often include skills training, contingency management, exposure, and cognitive restructuring.
Structure of Treatment in DBT

DBT provides a hierarchy of treatment targets. Prior to the start of the treatment, pretreatment targets are addressed: clients are oriented to DBT and agree to treatment. Once the treatment begins, four objectives are addressed during the first stage. During this stage of treatment, the primary goal is to increase clients’ ability to function in their life and in therapy. Thus, the first objective is to decrease suicidal behaviors, and the second objective is to decrease therapy-interfering behaviors, such as resistance in a variety of forms (e.g., being late to sessions, coming to sessions under the influence of substances, noncompliance with homework). The third treatment target is to decrease behaviors that reduce quality of life (e.g., substance use, promiscuity). The fourth target is to increase behavioral skills in the areas of core mindfulness, interpersonal effectiveness, emotion regulation, distress tolerance, and self-management. When clients achieve all these treatment targets, the treatment moves into the second stage. In the second stage, the focus is to decrease posttraumatic stress, which is often present in individuals with BPD. During the last stage of treatment, the goals are to increase self-respect and also to achieve whatever idiosyncratic goals individuals may set.

Modes of Treatment

DBT, as prescribed by Linehan (1993a), consists of four treatment modalities. The first component is individual therapy. Individual therapists help clients replace their maladaptive behaviors with adaptive skills, and help them integrate new skills into their daily lives. They are the primary therapists for the clients, and they are the ones to work on “core” issues (e.g., trauma) as well.
The second mode of treatment is *group skills training*. In standard DBT, all clients must attend skills training during the first year of their treatment. The skills training group is a didactic group, designed to teach clients skills in emotion regulation, interpersonal effectiveness, distress tolerance, and core mindfulness (i.e., developing a sense of self). The group is conducted in an open group format and held weekly for 2 to 2-1/2 hours or twice per week for 1-hour sessions. Details on the content of the skills training will be provided in a later section because of its direct application to this study.

The third mode of DBT is telephone consultation with individual therapists between sessions. During a phone consultation, the therapist coaches the client to identify and use adaptive skills successfully in her environment. According to Linehan (1993a), this mode allows the therapist to address the individual’s difficulty with asking for help in an effective manner (e.g., being unassertive or too demanding), helps clients generalize the skills learned from the group into their daily lives, and also provides opportunities to repair any rupture or potential damage in therapeutic relationships in a timely manner.

The fourth mode of intervention is *case consultation for therapists*. Recognizing the difficulties and stress associated with working with BPD clients, Linehan (1993a) included this mode of therapist support. Of course, this added support helps prevent therapist burnout. However, it also functions to maintain effectiveness of treatment by providing a context for supervision or consultation.

Although the standard DBT as prescribed by Linehan consists of the four modes described above, increasingly more therapists are utilizing selective components of DBT. Gaining popularity in this movement, and most relevant to the current study, is the use of
the skills training material. By way of modifying, some therapists/researchers added the skills training portion to other treatment modalities, others used only a certain module of the skills training (e.g., emotion regulation), and others provided the skills training group in a shorter time-period (e.g., 20-weeks instead of 1-year; Bradley & Follingstad, 2003; Linehan, Heard, & Armstrong, 1993; Safer, Telch, & Agras, 2001a, 2001b; Springer, Lohr, Buchtel, & Silk, 1996; Telch, Agras, & Linehan, 2001).

DBT Skills Training Group

Value of Skills Training

Recall the dialectic strategies of validation and the dialectic world view of polarity. In DBT, an individual’s symptomatic behaviors are not criticized as dysfunctions, but acknowledged as their best efforts at coping behaviors that serve certain functions in the moment. Hence, one of the core assumptions about BPD in DBT is that the individuals are “doing the best they can at any given point in time,” even when they are being symptomatic (Linehan, 1993a, p. 106). This implies that individuals with BPD are using maladaptive methods to cope and problem-solve because that is all they have in their repertoires. Therefore, teaching alternative coping and problem-solving skills is an essential treatment component in DBT. Additionally, the development of adequate coping and affect regulation skills is important and necessary before individuals can work on their trauma issues, which tend to elicit intense emotional distress. That is also why trauma work is addressed in the second stage of treatment in DBT, only after individuals are provided with the skills training.
Core Mindfulness Skills

Core mindfulness skills are the very first skills taught in DBT skills training group. They are considered to be central skills in DBT, and are emphasized continuously through the entire course of the group. During this initial module, clients learn three primary states of mind: *reasonable mind, emotion mind, and wise mind*. Reasonable mind is a state of mind where logic and rationale govern the behaviors. Emotion mind is a state in which behavior and thoughts are controlled by emotions. Neither reasonable mind nor emotion mind is considered to be superior in DBT. The focus, instead, is on the integration of these two states of mind, which appears in wise mind.

Mindfulness skills are taught as ways to achieve wise mind. The skills are divided into two areas: *what skills* and *how skills*. *What skills* include observing, describing, and participating. The first *what skill*, observing, is about just noticing what clients experience, physically, cognitively, or emotionally. While observing, they are to simply notice thoughts, feelings, or sensations without making any attempts to avoid them or prolong them. The second skill, describing, involves putting their observations into words. For example, if clients are describing their thoughts, they use labels and categorize their thoughts by saying to themselves, “I’m having thoughts about school,” “I’m having thoughts about my friends,” “I’m having thoughts about food,” and so on. The third skill, participating, is to “[enter] wholly into an activity, [and become] one with the activity” (Linehan, 1993b, p. 67). Participating is similar to being spontaneous and intuitive when activities become natural skills and parts of the self. For example, a skilled golfer is participating when he/she swings his/her club without being conscious about specific positioning of his/her shoulder, arms, and so forth. Participating is the ultimate
goal of mindfulness skills, and the first two what skills, observing and describing, are
designed to help one obtain participating skill.

How skills of core mindfulness consist of three components: nonjudgmentally,
one-mindfully, and effectively. These are the three skills one needs to use simultaneously
while clients use one of what skills. Nonjudgmentally simply means that they are to
observe, describe, or participate without judging what they experiences. One-mindfully
teaches that they have to do only one thing at a time and focus all their attention toward
one activity. Linehan denies the idea of multitasking, and believes that trying to do
multiple tasks at once is generally ineffective. She states, however, that one can work
with multiple tasks one-mindfully by focusing on one task at a time but switching tasks
in quick succession. Effectively is about being skillful and practical, and doing what
works instead of what is right or fair. This is about “[letting] go of vengeance, useless
anger, and righteousness that hurts... and doesn’t work” (1993b, p. 113).

Interpersonal Effectiveness

Linehan (1993a, 1993b) stated that skills taught in this module are similar to
those taught in assertiveness or interpersonal problem-solving classes. In this module,
clients are first taught when and for what purposes they need to use the interpersonal
effectiveness skills. Three goals of using interpersonal effectiveness are
emphasized: objective effectiveness, relationship effectiveness, and self-respect
effectiveness. In objective effectiveness, the focus is to get what one wants in a given
situation (e.g., expressing one’s choice of restaurant for dinner, refusing unreasonable
requests). Relationship effectiveness is emphasized when creating and maintaining a
relationship is important. Self-respect effectiveness is used to increase self-respect and to maintain one’s integrity. Clients are taught to recognize their wants in each of the three areas, and also to prioritize them so that their goal for any given interpersonal situation is clear. Later in this module, clients learn specific skills they can use to enhance effectiveness in the three areas. Additionally, irrational beliefs that tend to prevent people from being assertive are addressed and challenged. As in all skills training modules, practice is highly stressed to improve interpersonal effectiveness. Clients practice the new skills during group sessions and also outside of groups as homework assignments.

*Emotion Regulation*

Goals of the emotion regulation module are to help clients recognize their emotions, reduce “emotional vulnerability,” and reduce “emotional suffering” (Linehan, 1993b, p. 86). To increase the ability to recognize and identify emotions, affective education is conducted. Emotion regulation is taught from a functional perspective, which views emotions as a comprehensive system including prompting events, cognitive interpretation, physiological change, expression of the internal experience, and action tendency. Clients also learn various types of emotions and their functions, such as what emotions communicate, how they motivate actions, and how they validate one’s experiences. Irrational beliefs about emotions are also challenged to allow clients more emotional honesty.

The second part of this module is focused on reducing emotional vulnerability. This consists of two objectives: reducing vulnerability to negative emotions and increasing positive emotions. Clients are educated on factors that tend to increase
vulnerability to negative emotions, such as physical illness, malnutrition, lack of sleep, substance use, lack of physical activity, and low self-efficacy. At the same time, they are encouraged to increase positive emotions in their life by increasing positive and pleasant events, recognizing positive experiences when they occur, and avoiding extensive focus on negative thoughts.

The concepts of acceptance and change are balanced in the last goal of emotion regulation, reducing emotional suffering. First, core mindfulness skills are revisited to increase mindfulness of emotions and to facilitate acceptance of even painful emotions. Once emotions are acknowledged and accepted, a way to change emotion by doing opposite actions is taught. For example, to reduce fear, clients are taught to go against its action tendency to avoid, and instead, to approach what they fear. Similarly, the action tendency for shame is to hide, so doing the opposite action is to approach and repair the situation or justify one’s actions. Homework assignments in this module include observing and describing emotions from a functional perspective, keeping an emotion diary, and taking actions to reduce emotional vulnerability.

Distress Tolerance

Distress tolerance skills are about crisis survival and radical acceptance of pain. The first section, crisis survival, focuses on teaching three skill areas of distracting, self-soothing, and improving the moment. Examples of skills for distracting are engaging in different activities, doing something nice for others, counting to 10, listening to loud music, and engaging in sex. The next skill, self-soothing, involves providing calming treatment to each of the five senses of vision, hearing, smell, taste, and touch. The aim of
self-soothing is to be gentle and kind to the self and to bring comfort. Having a favorite meal, taking a bubble bath, and listening to soothing music are examples of self-soothing. Improving the moment involves “replacing immediate negative events with more positive ones” (Linehan, 1993b, p. 99). Both cognitive and behavioral strategies are used for this purpose. Seven strategies for improving the moment are using positive imagery, finding meaning, praying, using relaxation techniques, focusing on doing one thing in the moment, taking a brief vacation (e.g., getting under the bed covers for 10 minutes, unplugging the phone, going away for a couple of days), and stating encouragements to the self. Furthermore, because clients typically have been using maladaptive distress tolerance skills, such as substance use, binge eating, or cutting, they are taught to consider the pros and cons of using the new, more adaptive coping strategies over their old behaviors.

Acceptance of life as it is comprises the second part of the distress tolerance module. Several techniques to focus on breathing are covered in this section to facilitate acceptance of the self and the reality. Half-smiling technique is another skill taught to increase acceptance. It is explained that half-smiling indicates acceptance and tolerance with the body because the serene, relaxed facial expression leads to the calm and accepting emotional state. In DBT, suffering is viewed as a result of “pain plus nonacceptance of the pain” (Linehan, 1993b, p. 102). Hence, suffering is reduced by accepting the pain. Distinctions between willingness and willfulness are also pointed out to help clients turn their mind to accepting reality.
Applicability of DBT

**DBT with Borderline Personality Disorder**

The four skills areas taught in the skills training group are emphasized in DBT because of their direct applicability to most of the symptoms associated with BPD (Linehan, 1993b). Linehan views BPD as a disorder of dysregulation of self, relationships, emotions, behaviors, and cognition, and core mindfulness skills, interpersonal effectiveness skills, emotion regulation skills, and distress tolerance skills are targeted to reduce dysregulation in each of the first four domains. Core mindfulness skills reduce the dysregulation of self by addressing “chronic feelings of emptiness” and identity disturbance, exemplifying dysregulation of the sense of self, often reported by individuals with BPD (APA, 2000, p. 710). Second, in the area of interpersonal dysregulation, their “frantic efforts to avoid real or imagined abandonment” create relational disturbance (APA, p.710). Another criterion from DSM-IV, “a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation,” also falls in this category of interpersonal dysregulation (APA, p. 710). Additionally, emotion dysregulation is observed in their highly reactive and unstable emotionality. Individuals with BPD also often exhibit problems managing anger, such that learning effective ways to regulate anger can be valuable for many. Fifth, suicidal and self-harming behaviors and self-damaging impulsivity that are characteristic of individuals with BPD are examples of behavioral dysregulation. Finally, cognitive dysregulation is often seen in forms of
depersonalization, dissociation, and paranoid ideation. This cognitive dysregulation is addressed throughout the four skills training modules as well as in individual sessions.

**DBT with Other Disorders**

Because the skills taught in the DBT skills training modules are relatively broad and general life skills, it is also possible to link the skills training to specific symptom clusters associated with many other diagnostic labels. In other words, psychological problems experienced with many disorders are addressed in all or some of the skills training modules.

For example, one of the main themes from the core mindfulness module is the ability to live in the here and now. More specifically, *what* and *how skills* in the module teach clients to stay focused in the present and keep their minds from wandering to negative elements of the past or future. This skill can serve as grounding techniques for people with PTSD, who suffer from intrusive thoughts or flash backs, or for those who dissociate. Generalized anxiety disorder (GAD) has a key feature of excessive worry, which is essentially a preoccupation with apprehensions about the future (APA, 2000). Hence, people with GAD need to learn to focus on the present instead of worrying about the future in order to reduce their anxiety. Another focus in the core mindfulness module is to learn to use the *wise mind*, the integration of rational reasoning and emotional experiences. Thus, for instance, a depressed person who feels discouraged and feels like a complete failure can learn to access the reasoning mind and find a balanced wise mind statement about him- or herself. For an anxious person, it may also be useful to self-
evaluate if anxious thoughts are coming purely from emotional mind and re-evaluate what wise mind would say instead.

*Interpersonal Effectiveness Skills* can be meaningful components of treatment because difficulties in interpersonal relationships are key features of many psychopathologies, and serve both as a contributing factor (e.g., social anxiety) and effect (e.g., a narcissistic person’s losing friends; APA, 2000). On a broad level, the criterion of “clinically significant distress or impairment in social... functioning” is shared by many psychological disorders including major depressive disorder (APA, p. 356), alcohol withdrawal (APA, p. 216), and PTSD (APA, p. 468), among others. Difficulty with assertiveness is also a factor affecting interpersonal relations and is common in many individuals with various disorders. Although there is no diagnostic label for this problem, this inability to communicate one’s needs effectively is often presented as a major concern or conceptualized as a core issue. For example, disengagement from family is often observed in eating disorders (Polivy & Herman, 1993). Clinicians may also recall many clients who have said “my issues are not important” and hesitated to take time in group therapy. Complaints of being a “doormat” may sound familiar as well. A lack of meaningful and supportive interpersonal relationships also contributes to the development of or the exacerbation of psychological problems (e.g., Mash & Johnston, 1996).

*Emotion regulation skills* may be the module with the highest utility. Learning to regulate emotions is a valuable task for people with various disorders because “emotion disturbances” are prevalent in many psychological disorders (Kring & Werner, 2004, p. 359). For instance, anhedonia and depressed mood are defining characteristics of
depressive disorders. In the emotion regulation module of the DBT skills training, these clients can learn ways to increase positive emotions, using a handout on adult positive activities, and to decrease negative emotions by learning to reduce their emotional vulnerability (e.g., taking care of their health, eliminating the influence of substances, etc.).

Among anxiety disorders, fears and excessive worries are featured. Irritability is also common in anxiety disorders. Again, using emotion regulation skills, the clients can work on reducing the excessive fear and worries or managing the frustration. They can also use the core mindfulness skills to shift their focus on the present and away from their future worries. Specific to posttraumatic stress disorder (PTSD), emotional numbing as well as intense distress and physiological reactivity to triggering stimuli are often exhibited. For these clients, the emotion regulation skills can help them to increase their emotional awareness and also to regulate their intense distress after the immediate crisis has been managed through the distress tolerance skills. Further, among individuals with eating disorders, their symptomatic behaviors (e.g., binging, purging, restricting) are often used as ways to regulate their emotions. Therefore, it makes sense to replace their symptomatic behaviors with more adaptive regulatory behaviors from the emotion regulation or distress tolerance skills.

Various coping skills taught in the distress tolerance module can benefit many clients as well because people with various psychopathologies tend to use dysfunctional coping strategies (Penley, Tomaka, & Wiebe, 2002). From a functional point of view, pathological symptoms are viewed as coping efforts that went awry. If, in fact, symptoms are individuals’ efforts to cope, then it seems important to provide clients with alternative
coping strategies before asking them to relinquish their old methods. For example, clients with bulimia may try to regulate a negative emotion by engaging in binging. Skills from the emotion regulation module can help them recognize and deal with the emotions when they are at an appropriate time and place to focus on the feeling, while distress tolerance skills can "buy time" for them to use emotion regulation skills later by helping them survive the moment. Further, there are some obvious benefits to teaching clients distress tolerance skills, such as relaxation skills for anxiety symptoms.

Efficacy of DBT

Overall, the empirical support for DBT thus far is positive. Many efficacy studies, especially earlier ones, were conducted by Linehan and her colleagues as they developed and refined the DBT approach (Linehan, Armstrong, Suarez, Allmon, & Heard, 1991; Linehan et al., 1993; Linehan et al., 1999; Linehan, Tutek, Heard, & Armstrong, 1994; Telch, Agras, & Linehan, 2000; Telch et al., 2001). As DBT gained popularity, other researchers also began to conduct efficacy studies (e.g., Bradley & Follingstad, 2003; Koons et al., 2001; Verheul et al., 2003). As mentioned earlier, DBT was originally developed as a treatment for people with BPD, and especially for those who engage in self-injurious behaviors (Linehan, 1993a). As such, many researchers focused on studying DBT's efficacy in treating BPD. Nevertheless, a relatively small number of researchers have also evaluated the use of DBT with other psychological disorders, such as eating disorders (e.g., Lynch, Morse, Mendelson, & Robins, 2003; Palmer et al., 2003; Safer et al., 2001b). In the following sections, the effectiveness of using DBT with various disorders and in various settings is described separately. Making meaningful
comparisons of the efficacy across disorders or settings is impossible, however. Variations in the use of DBT (i.e., adherence to standard DBT) make each treatment somewhat unique and difficult to compare with others. Further, there are methodological problems in some studies that render conclusions drawn in the studies questionable as well. Nevertheless, findings from the past studies shed light on the applicability and utility of DBT in general, and they are helpful in understanding the need for the current study. Hence, in the following sections, the effectiveness of DBT will be described separately for treating BPD in outpatient settings, BPD in inpatient settings, BPD and other problems in forensic settings, substance dependency and BPD, eating disorders, PTSD, and other disorders such as depression. As mentioned above, the largest portion of studies examined the treatment of BPD in outpatient settings because it fits with the original purpose of DBT.

*Treatment of BPD in Outpatient Settings*

First, DBT has been shown to have positive outcomes in treating parasuicidal BPD in outpatient settings (Koons et al., 2001; Linehan et al., 1991, 1993, 1994; Prendergast & McCausland, 2007; Verheul et al., 2003; see Table 1). Of the three studies conducted by Linehan and colleagues (1991, 1993, 1994), the study published in 1991 was the initial efficacy study conducted during the treatment period, and the other two studies were a follow-up (1993) and new analyses of the original data set (1994). In the original study, Linehan and colleagues (1991) compared the effectiveness of standard DBT (as opposed to the skills training only or a shortened version of DBT) and treatment as usual (TAU) in treating adult women with parasuicidal BPD. At the end of treatment
### Table 1

**Summary of Results of Studies Evaluating DBT in Outpatient Settings**

<table>
<thead>
<tr>
<th>Authors (years)</th>
<th>Subjects/setting</th>
<th>Design/comments</th>
<th>Adherence to standard DBT</th>
<th>Outcomes</th>
</tr>
</thead>
</table>
| Koons et al. (2001) | Veteran women who met BPD criteria. Some had a history of parasuicidal behaviors. | - Randomized controlled design \((n = 20)\).  
- Compared DBT \((n = 10)\) to TAU \((n = 10)\).  
- Length of treatment = 6 months.  
- Outcomes measured at baseline, 3 months, and 6 months. | All components of standard DBT  
- Treatment period shortened to 6-mos.  
- Skills training group shortened to 90-minutes per week. | - Ss in DBT condition showed significant decreases in suicidal ideation, hopelessness, anger experience, anger expression, and dissociation.  
- Ss in both conditions showed significant decreases in depression and the number of BPD criteria.  
- No pre-post differences for parasuicidal behaviors and anxiety in either group.  
- Significant group x time interactions for suicidal ideation, hopelessness, and anger-expression  
- No significant group x time interaction for parasuicidal behavior, depression, anger-experience, dissociation, or the number of BPD criteria. |

| Linehan et al. (1991) | Chronically parasuicidal BPD women. | - Randomized controlled design  
- Conducted in two cohorts.  
- Total of 47 Ss; 41 remained at the end of treatment.  
- Compared DBT \((n = 20)\) to TAU \((n = 21)\).  
- Length of treatment = 12 months.  
- Outcomes measured at baseline, and 4, 8, and 12 months. | All components of standard DBT | - In DBT condition, the number of parasuicidal acts decreased significantly more than in TAU.  
- Ss in DBT were more likely to stay in therapy than Ss in TAU.  
- Ss in DBT had a significantly fewer psychiatric inpatient hospitalization than Ss in TAU.  
- No significant differences in measures of depression, hopelessness, reasons for living, and suicidal ideation. |

*(table continues)*
<table>
<thead>
<tr>
<th>Authors</th>
<th>Subjects/setting</th>
<th>Design/comments</th>
<th>Adherence to standard DBT</th>
<th>Outcomes</th>
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</table>
- 39 Ss remained for the follow up: DBT ($n = 199$); TAU ($n = 20$).  
- Assessments conducted 6 and 12 months following the end of treatment. | All components of standard DBT were included and followed as prescribed. (Same as 1991 study.) | - Ss who received DBT maintained significantly lower parasuicidal behaviors and fewer psychiatric inpatient days than Ss who received TAU.  
- Ss who received DBT reported significantly better employment performance, less anger, and higher global and social adjustment  
- No significant group difference in parasuicidal behaviors, work performance, and rumination. |
- Compared DBT ($n = 13$) to TAU ($n = 13$).  
- Length of treatment = 12 months.  
- Outcomes measured at baseline and after 12 months. | All components of standard DBT were included and followed as prescribed. (Same as 1991 study.) | - One s in DBT committed suicide, and 3 dropped out. One S in TAU could not be located for posttreatment assessment ($n = 9$ in DBT, $n = 12$ in TAU).  
- Ss in DBT group scored significantly better on anger, social adjustment, and scores on global assessment scale.  
- No group difference in global life satisfaction. |
| Pendergast & McCutland (2007) | BPD women in Australia | - No control/comparison group.  
- Pre-post design.  
- $n = 11$  
- Length of treatment = 6 months. | All components of standard DBT were included and followed as prescribed | - Significant reduction in depression.  
- No change with internal experience of anger, but increase in an effort to control expressions of anger.  
- Decrease in psychiatric hospitalization.  
- Change in coping strategies.  
- Frequency of self-harm did not change, but intent and medical severity decreased.  
- Increase functioning (i.e., GAF). |

(table continues)
<table>
<thead>
<tr>
<th>Authors (years)</th>
<th>Subjects/setting</th>
<th>Design/comments</th>
<th>Adherence to standard DBT</th>
<th>Outcomes</th>
</tr>
</thead>
</table>
| Stanley et al. (2007) | BPD men and women | - No control/comparison group. 
- Pre-post design. 
- n = 20. 
- Treatment duration = 6 months. | All components of DBT were included and followed as prescribed. | - Decrease in self-harm urges and episodes. 
- Decrease in suicidal ideation. 
- Decrease in subjective distress. 
- Mixed results with depression at 3 months (none assessed at 6 months). |
| Verheul et al. (2003) | BPD women in the Netherlands. | - Randomized control design. 
- Not required to have a history of parasuicidal behavior. 
- Compared DBT (n = 31) to TAU (n = 33). 
- Length of treatment = 12 months. 
- Outcomes measured at baseline, 7, 18, 29, 40, and 48 weeks from beginning of treatment. | All components of standard DBT were included and followed as prescribed. | - Ss in DBT showed significant decreases in parasuicidal behaviors. 
- Ss in TAU showed significant increases in parasuicidal behaviors. 
- Ss in DBT condition had significantly better retention rate in therapy than Ss in TAU. 
- Ss in DBT showed significant decreases in self-damaging impulsive behaviors. 
- No group difference in suicidal behaviors. |
period, Linehan and colleagues found that patients who received DBT engaged in less frequent parasuicidal behaviors and had fewer psychiatric inpatient days relative to those in TAU. Treatment retention during the 1-year period was also significantly higher for people in DBT than those in TAU (Linehan et al., 1991). Furthermore, parasuicidal behavior and anger were significantly lower for the DBT group than for the TAU group at 6-month follow-up. Clients who received DBT also exhibited significantly higher social adjustment and fewer days of inpatient hospitalization 1 year after the end of the treatment (Linehan et al., 1993).

In the original studies by Linehan and colleagues, TAU was a “naturalistic condition” (Linehan et al., 1994, p. 1771): participants in TAU received referrals to alternative therapy and were allowed to participate in any type of therapy available in the community (Linehan et al., 1993; Linehan et al., 1994). Linehan and colleagues did not describe TAU condition in detail in the 1991 study; however, collapsing across the three studies, it appears that 16 out of 22 participants in TAU chose to participate in alternative therapies at the time of referrals and this number was reduced to 12 by the end of treatment period (Linehan et al., 1991, 1993, 1994). The number of TAU participants who participated in group therapy was also unclear, and the only information provided was that 3 out of 12 from one cohort (the data were gathered from 2 different cohorts) were in “some group therapy” (Linehan et al., 1993, p. 1993). Thus, one of the concerns was the fact that only 72% of subjects in TAU were in some form of individual therapy when the treatment period started. This variability in TAU makes it difficult to interpret the differences between the treatment and control groups. Interestingly, Linehan interpreted the reduced participation rates in TAU as a positive result for DBT, stating
that unlike those in TAU, everyone who was referred to DBT chose to participate in therapy from the start. Nevertheless, it was unclear how referrals were made or how informed about alternative treatments subjects were at that time, and the significant difference in the number of clients who started therapy reported by Linehan in 1991 ($z = 2.75, p = .003$) appeared to decrease the internal validity of the study. Additionally, the percentage of subjects in TAU who participated in group therapy seemed much smaller in comparison to those in DBT. These differences may have reduced the meaningfulness of comparisons between TAU condition and DBT condition.

Koons and colleagues (2001), independently of the research done by Linehan and colleagues, found similar results with female veterans diagnosed with parasuicidal BPD. As with the study by Linehan and colleagues, their study was also a randomized controlled study, comparing standard but shortened DBT (i.e., 6 months) and TAU. TAU consisted of weekly individual therapy and optional supportive and psychoeducational groups. Four out of 10 subjects regularly participated in this optional support group for TAU. The DBT group, in comparison to the TAU group, showed a significant decrease in suicidal ideation and hopelessness over time. An additional, marginally significant trend indicating reduced parasuicidal behaviors in the DBT group was also observed.

Comparing pre and post measures separately for DBT and TAU, DBT showed significant effectiveness in reducing suicidal ideation, hopelessness, depression, expression of anger, dissociation, and BPD symptoms, whereas no statistically significant reduction was observed for parasuicidal behaviors (significant only at .10 level), anxiety, and internal experience of anger. On the contrary, only depression and BPD symptoms showed statistically significant reduction in the TAU group.
Verheul and colleagues (2003) also conducted a randomized study independent of Linehan. They found overwhelming support for DBT, showing significant reductions in parasuicidal and impulsive behaviors and better retention rate for DBT over TAU. However, TAU in their case was “clinical management,” consisting of fewer than two sessions per month (p. 136), resulting in much more clinical time for subjects in the DBT condition. This makes comparisons between groups less meaningful and does not answer the question whether DBT is better than other forms of treatment that involve equivalent direct clinical contact. The results, however, still support the conclusion that subjects in DBT showed significant reduction in symptomatic behaviors, and that DBT was effective in treating such behaviors, even though the results cannot show that DBT was better than TAU.

Treatment of BPD in Inpatient Settings

Efficacy of DBT with parasuicidal BPD has also been evaluated in inpatient settings by Bohus and colleagues (2000, 2004), Linehan and colleagues, and Low, Jones, Duggan, MacLeod, and Power (2001; see Table 2). Treatment in Bohus’s study consisted of three to four months of inpatient treatment followed by long-term outpatient treatment. Unfortunately, there was no adequate comparison group in their study; in the 2000 study, they only made pre-posttreatment comparisons and they used a naturally occurring waiting list as a comparison group in 2004. Consistent with findings mentioned earlier, a significant reduction between pre- and posttreatment was observed for depression, dissociation, and parasuicidal behaviors, as well as anxiety and global level of stress. The study by Low and colleagues was a case study of three patients who received one year of
Table 2

**Summary of Results of Studies Evaluating DBT in Inpatient Setting**

<table>
<thead>
<tr>
<th>Authors (years)</th>
<th>Subjects/setting</th>
<th>Design</th>
<th>Adherence to standard DBT</th>
<th>Outcomes</th>
</tr>
</thead>
</table>
| Bohus et al. (2004) | - BPD women in inpatient setting.  
- History of parasuicidal behavior or suicide attempt. | - Compared DBT ($n = 40$) to naturalistic Wait-List ($n = 20$).  
- Outcomes measured at baseline and 4 months after the initial assessment (4 weeks following discharge for DBT group). | - 4 months of DBT with the standard components plus additional group therapy and psycho-education group. | - 9 from DBT dropped out; 1 from WL was unavailable at follow-up assessment.  
- Ss in DBT showed greater improvement in self-harm, depression, anxiety, social adjustment, interpersonal functioning, and general psychopathology than Ss in WL.  
- 42% in DBT “clinically recovered” from general psychopathology. |
| Bohus et al. (2000) | - BPD women in inpatient setting.  
- History of parasuicidal behavior. | - Pre-post design, without a control group: $N = 24$.  
- Length of treatment: 3 months of inpatient, followed by outpatient therapy.  
- Outcomes measured at admission and 1 month after discharge. | - 3 months of DBT individual therapy and skills training group. | - Significant improvement in depression, dissociation, anxiety, and global stress.  
- Significant decrease in parasuicidal behaviors. |
- History of self-harm | - Case studies ($n = 3$).  
- Length of treatment = 12 months.  
- Outcomes assessed at baseline, at 4-month intervals during treatment, and at 6-month follow-up after treatment. | - One 1-hour individual therapy per week.  
- One 1-hour skills training session per week, when appropriate; skills training was offered in group format, but generally individually.  
- Telephone consultation | - Results varied across cases.  
- Two clients reduced the frequency of self-harm, but one continued to engage in the behavior. |
DBT. Progress for each case varied and was inconclusive. For one participant, the treatment was somewhat effective and she was able to reduce the number of self-harm behaviors and suicidal ideation but mostly maintained or only showed slight reduction in other symptoms such as depression and anxiety. Another client cycled between a period of minimal symptoms and a highly symptomatic period. The last client showed improvement in most of the areas, but had not maintained her improvement at the 6-month follow-up.

*Treatment of BPD and Other Issues in Forensic Settings*

DBT has also been used for incarcerated women with BPD (Eccleston & Sorbello, 2002; Nee & Ferman, 2005), incarcerated female adolescents (Trupin, Stewart, Beach, & Boesky, 2002), and incarcerated men with BPD (Evershed et al., 2003; see Table 3). Results included decreases in depression and anxiety (Eccleston & Sorbello), decreases in the seriousness of violent behaviors and anger (Evershed et al.), decrease in behavioral problems (Nee & Ferman; Trupin et al.), and improvement in self-esteem (Nee & Ferman). Comparison to other treatment was only made in one study by Evershed and colleagues, and other studies either did not have any comparison group (Eccleston & Sorbello), used a wait-list group (Nee & Ferman), or compared effectiveness with different types of subjects (Trupin et al.). Therefore, the effectiveness of DBT in comparison to other treatment was undeterminable, but DBT overall had some positive effects on people with BPD in forensic settings according to these studies.
### Table 3

**Summary of Research Findings in DBT: BPD in Forensic Settings**

<table>
<thead>
<tr>
<th>Authors (years)</th>
<th>Subjects/setting</th>
<th>Design</th>
<th>Adherence to standard DBT</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eccleston &amp; Sorbello (2002)</td>
<td>Female offenders with BPD characteristics in Australia prison system</td>
<td>- Pre-post design without control group.</td>
<td>- Twice per week skills training: module titles simplified, as well as content and handouts.</td>
<td>• Mean depression scores decreased in three units.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- High attrition rate due to prison setting (e.g., transfer, release).</td>
<td>- Order of module delivery changed.</td>
<td>• Mean anxiety scores decreased in three units and increased in two units.</td>
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<td></td>
<td></td>
<td>- N = 29 from 5 units.</td>
<td>- Added warm-up and closure exercises, competitions, and quizzes to the group.</td>
<td>• Mean stress scores decreased in all five groups.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Results reported separately for each unit, using mean scores and</td>
<td>- Individual therapy provided as needed.</td>
<td>• Mean of total scores decreased in four groups and slightly increased in one group.</td>
</tr>
<tr>
<td></td>
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<td>without inferential statistical analyses.</td>
<td>- No phone consultation or case consultation.</td>
<td>• Qualitative reports: (a) most Ss demonstrated high motivation and commitment to the group,</td>
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<td></td>
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<td>- Qualitative outcomes from therapy notes reported as well.</td>
<td></td>
<td>(b) motivated Ss demonstrated the newly learned skills, (c) group cohesiveness improved</td>
</tr>
<tr>
<td>Evershed et al. (2003)</td>
<td>Male offenders with BPD in a high security hospital.</td>
<td>- Pre-post design with a control group: Non-random assignment.</td>
<td>- One skills group and one individual therapy per week.</td>
<td>• (d) Ss commented on the program’s usefulness on a regular basis, and (e) correctional</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Compared DBT (n = 8) to TAU (n = 9).</td>
<td>- Added issues of violence in the first stage of therapy, which also addresses issues of</td>
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<td></td>
<td></td>
<td>- Length of treatment in DBT = 18 months.</td>
<td>parasuicidal and therapy-interfering behaviors.</td>
<td>correctional officers observed reductions in self-harm behaviors.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Outcomes measured at baseline, post-treatment, and at 6 months</td>
<td>- Telephone consultation replaced with ward-based coaching staff.</td>
<td>• Ss in DBT group engaged in less serious violent behaviors during and after the treatment.</td>
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<td></td>
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<td>following treatment end.</td>
<td>- Skills training materials modified to fit population.</td>
<td>• No significance time x group interaction on frequency of violence.</td>
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<td></td>
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<td></td>
<td>• Ss in DBT group improved or maintained on measures of anger and hostility.</td>
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<tr>
<td></td>
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<td></td>
<td>• Ss in TAU deteriorated on measures on anger and hostility.</td>
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</tbody>
</table>

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<table>
<thead>
<tr>
<th>Authors (years)</th>
<th>Subjects/setting</th>
<th>Design</th>
<th>Adherence to standard DBT</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nee &amp; Farman (2005)</td>
<td>Female offenders with BPD in prisons in England. All had a history of self-harm.</td>
<td>Pilot study with pre-post design. Compared DBT ($n = 30$), standard and shortened versions, to a wait-list control group ($n = 8$). 16 in DBT completed treatment (data available from 14 DBT and 5 control Ss). Length of treatment = 1 year for standard format, and 16 or 12 weeks for shortened formats. Outcomes measured at baseline, midway (for the standard format), end of treatment, and 6 months post-treatment.</td>
<td>The standard 1-year DBT and 16- or 12-week long shortened DBT. No other description of their DBT programs was provided.</td>
<td>• Ss in one-year programs showed decrease in BPD symptoms, emotional inhibition and rumination, and impulsivity, as well as improvement in locus of control. Changes in other measures (e.g., self-esteem) were reported without statistical significance. • Ss in shortened programs showed improvements in self-esteem, impulsivity, dissociation, and coping. No significant improvement was seen in BPD symptoms and locus of control. • Changes in self-harming behaviors were reported to be very few in both standard and shortened programs and were reported without testing for statistical significance. • Results from the comparisons between groups were not reported.</td>
</tr>
</tbody>
</table>

(Table continues)
<table>
<thead>
<tr>
<th>Authors (years)</th>
<th>Subjects/setting</th>
<th>Design</th>
<th>Adherence to standard DBT</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trupin, Stewart, Beach, &amp; Boesky (2002)</td>
<td>Female adolescent offenders in a juvenile rehabilitation facility. No BPD.</td>
<td>Quasi-experimental study using naturally occurring groups. Compared DBT in general population ($n = 23$), DBT in mental health unit ($n = 22$), and a matched comparison group from both units ($n = 45$). Length of treatment was 20 weeks. Intervals of outcome measures unclear.</td>
<td>One or two 60-90 minutes skills training group per week. One skills training module, self-management skills, added to the standard four modules. Implementation of DBT in mental health and general population units was not equivalent; staff in mental health units were better trained in DBT. No mention of individual therapy.</td>
<td>Ss in DBT-mental health decreased number of behavior problems over a 10-month period. No significant change in DBT-general population; low occurrence of behavior problems throughout the period. Punitive actions by staff increased in DBT-general population unit, but remained stable in DBT-mental health unit. No punitive action was used in the comparison unit. Significant decrease in punitive actions from pre-DBT to post-DBT in mental health unit. Risks assessment scores on placement and security level decreased in all three conditions, but no time x group interaction was found. Ss in DBT-mental health unit increased participation in other rehabilitative programs. No pre-post data for general population was available for analysis.</td>
</tr>
</tbody>
</table>
Treatment of Substance Dependency and BPD

Substance use problems often coexist with BPD, and efficacy of DBT in treating substance dependence/abuse associated with BPD was examined by Linehan and colleagues (Linehan et al. 1999, 2002; van den Bosch, Verheul, Schippers, & van den Brink, 2002; see Table 4). Findings from these studies were somewhat mixed. For example, treatment retention was better for the alternative treatment group (i.e., comprehensive validation therapy with a 12-step program) than for the DBT group in one study (Linehan et al., 2002) but opposite in another (van den Bosch et al., 2002). Differences between the DBT condition and the comparison group were also not statistically significant in many areas, while both groups showed efficacy in reduction of substance use and levels of psychopathology when DBT was modified for substance use problems (i.e., adding increased focus for improving the therapeutic relationship and insistence on total abstinence; Linehan et al.). On the other hand, with the standard DBT with no modifications, patients’ substance use did not change over time in either the DBT group or TAU (van den Bosch et al.). When DBT was compared to more general TAU by Linehan in 1999, more significant differences were observed between the DBT condition and the TAU condition, such as greater improvement for the DBT condition on global and social adjustment, and drug use.

Treatment of Eating Disorders

Aside from studies that have utilized samples of individuals diagnosed with BPD, studies on the efficacy of DBT are limited. There have been several studies, including case studies, on the use of DBT with clients diagnosed with eating disorders (Palmer et
### Table 4

**Summary of Results of Studies Evaluating DBT: BPD with Substance Use Problems**

<table>
<thead>
<tr>
<th>Authors (years)</th>
<th>Subjects/setting</th>
<th>Design</th>
<th>Adherence to standard DBT</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linehan et al. (2002)</td>
<td>BPD women with opiate dependence in outpatient setting.</td>
<td>Random assignment. - Compared DBT ($n = 11$) to Comprehensive Validation Therapy with 12-step ($n = 12$). - Length of treatment = 1 year. - Outcomes measured at 4-month intervals during treatment and 4 months posttreatment.</td>
<td>Standard DBT with some modifications for substance use problems.</td>
<td>3 Ss (27%) dropped out of DBT, whereas none dropped out from CVT+12S. - Ss in both groups showed declining pattern of opiate use until 8 months into treatment, then CVT+12S group increased the use, while DBT group maintained the gain. - Use of other drugs did not change over time for both groups. - Ss in both groups showed similar improvement in psychopathology outcomes.</td>
</tr>
<tr>
<td>Linehan et al. (1999)</td>
<td>BPD women with substance use disorder in outpatient setting.</td>
<td>Random assignment. - Compared DBT ($n = 12$) to TAU ($n = 16$). - Length of treatment = 1 year. - Outcomes assessed at baseline, at 4-month intervals during treatment, and at 4-month follow-up after treatment.</td>
<td>Standard DBT with replacement medications and some added components.</td>
<td>Ss in DBT showed significantly more days of abstinence throughout treatment than Ss in TAU. - Drop-out rate was higher for TAU than DBT (36% vs. 73%). - No differences were found on psychopathology outcomes during treatment. At posttreatment, DBT group was higher on social and global adjustment.</td>
</tr>
<tr>
<td>van den Bosch et al. (2002)</td>
<td>BPD women with and without substance use (SU) problems in outpatient setting.</td>
<td>&quot;Randomized control trial,&quot; but no details of randomization were reported. - Compared DBT ($n = 27$) to TAU ($n = 31$). - Outcomes measured at baseline, 12-months, and 18-month follow-up.</td>
<td>Standard DBT.</td>
<td>DBT had a lower attrition rate of 37% than that of 77% in Tau. - Ss in DBT showed greater reductions of self-injurious behaviors and impulsive behaviors. (Statistical significance was not reported.) - No effect was found on the use of SU problems in either conditions.</td>
</tr>
</tbody>
</table>
al., 2003; Safer et al., 2001a, 2001b; Schinagle, 2002; Telch, 1997; Telch et al., 2001; see Table 5). None of these studies, however, utilized an adequate control group, with some studies using a wait-list group or having no comparison group at all.

One of the more rigorous studies was conducted by Safer and colleagues (2001b), using a randomly assigned wait-list control group. They conceptualized binge/purge behaviors as problems of emotion regulation, and modified DBT into 20 individual sessions that focused on teaching the materials in the skills training group. Compared to the wait-list group, subjects in the DBT condition showed significantly greater reduction in binge/purge behaviors after the treatment. However, no significant improvement was found on measures of emotion regulation, depression, emotional eating, or self-esteem. In another study, Telch and colleagues (2001) utilized a randomly assigned wait-list group for comparison with women with binge eating and modified the standard DBT into 20 sessions of weekly 2-hour skills training group. Similar to the study by Safer and colleagues, they found significant differences between the DBT group and the wait-list group, such that subjects who participated in DBT demonstrated significantly reduced frequency of binges, body image concerns, and severity of binge eating problems.

All other studies, including case studies, generally reported positive outcomes. In most studies, subjects who participated in a form of DBT demonstrated a decline in disordered eating behaviors (Safer et al., 2001a, 2001b; Telch, 1997; Telch et al., 2001). Reductions in parasuicidal behaviors and/or days of hospitalization were found in others (Palmer et al., 2003; Schinagle, 2002). Effects on positive weight changes were mixed (Safer et al., 2001b; Schinagle; Telch et al.). Overall, it appeared that DBT was effective
### Table 5

**Summary of Research Findings in DBT: Eating Disorders**

<table>
<thead>
<tr>
<th>Authors (years)</th>
<th>Subjects/ setting</th>
<th>Designs</th>
<th>Adherence to standard DBT</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palmer et al. (2003)</td>
<td>Women with BPD and eating disorders. &lt;br&gt;- All had a history of self-harm. &lt;br&gt;- 5 out of 7 were in inpatient treatment. &lt;br&gt;- Mostly diagnosed with bulimia nervosa.</td>
<td>Case studies with pre-post assessments ( (n = 7) ). &lt;br&gt;- No control group. &lt;br&gt;- Length of treatment varied from 6-18 months. &lt;br&gt;- Outcomes measured periodically from 12-18 months prior to treatment, during treatment, and to 18 months after treatment ending.</td>
<td>- One weekly individual therapy, one weekly skills training group, and telephone consultations. &lt;br&gt;- All modules from the skills training were taught in addition to materials specific to eating disorders.</td>
<td>- No statistical analyses. &lt;br&gt;- 6 of 7 subjects reduced the number of days spent in hospital. &lt;br&gt;- 6 of 7 subjects reduced the number of self-harm incidents.</td>
</tr>
<tr>
<td>Safer et al. (2001a)</td>
<td>Women with binge-purge behaviors. &lt;br&gt;- 80% met the criteria for bulimia nervosa. &lt;br&gt;- No anorexia nervosa.</td>
<td>Randomized control design. &lt;br&gt;- Compared DBT ( (n = 14) ) to wait-list control ( (n = 15) ). &lt;br&gt;- Length of treatment = 26 weeks. &lt;br&gt;- Outcomes measured at pre- and posttreatment.</td>
<td>-20 sessions of weekly individual therapy, with specific focus on teaching emotion regulation skills.</td>
<td>- Significantly more Ss in DBT condition showed marked reduction in binge-purge behaviors, relative to wait-list condition. &lt;br&gt;- No significant improvement in emotion regulation, depression, emotional eating, or self-esteem.</td>
</tr>
<tr>
<td>Safer et al. (2001b)</td>
<td>Woman with bulimia nervosa.</td>
<td>Case study ( (n = 1) ). &lt;br&gt;- Length of treatment = 20 weeks. &lt;br&gt;- Outcomes assessed at baseline, at end of treatment, and at 3- and 6 months following the treatment. &lt;br&gt;- Some data collected weekly.</td>
<td>- 20 sessions of weekly 50-minute individual therapy, with specific focus on teaching emotion regulation skills. &lt;br&gt;- Contents from all 4 modules were covered.</td>
<td>- No statistical analyses. &lt;br&gt;- Occurrence of binge-purge behaviors dropped rapidly, and S maintained improvement after 5 weeks of treatment. &lt;br&gt;- S gained 4 pound during treatment; maintained at follow-up.</td>
</tr>
</tbody>
</table>

*(table continues)*
<table>
<thead>
<tr>
<th>Authors (years)</th>
<th>Subjects/ setting</th>
<th>Designs</th>
<th>Adherence to standard DBT</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schinagle (2002)</td>
<td>A woman with BPD, major depressive disorder, PTSD and anorexia nervosa (binge/purge type)</td>
<td>Case study ($n = 1$). Length of treatment was unclear.</td>
<td>Weekly 50-minute DBT individual therapy on outpatient basis. Day program including DBT skills training group. Resident of a therapeutic group home utilizing DBT. Phone consultation.</td>
<td>No quantitative data. Treatment described as effective; fewer days of hospitalization, higher ratings of happy feelings, improved physical health and self-awareness, reduction in self-harm behaviors, and weight gain/maintenance.</td>
</tr>
<tr>
<td>Telch (1997)</td>
<td>A woman with a history of binge eating.</td>
<td>Case study ($n = 1$). Length of treatment was 10 months.</td>
<td>23 50-minutes individual sessions over a 10-month period. Strategies and principles of DBT were applied as they fit for the treatment of binge eating. 15 sessions used to teach all modules from the skills training.</td>
<td>No statistical analyses. Number of binge eating fluctuated at first, but declined after the 10th session; reached total abstinence during the last 4 months of treatment. S's weight fluctuated during the treatment but showed overall increase. S's depression symptomatology decreased but remained high.</td>
</tr>
<tr>
<td>Telch et al. (2001)</td>
<td>Women with binge eating.</td>
<td>Randomized control study. Compared DBT ($n = 18$) to the wait-list control ($n = 16$). Length of treatment = 20 weeks. Outcomes assessed at baseline, end of treatment, and 3- and 6-month follow-ups.</td>
<td>Weekly 2-hour skills training group. All four modules were covered.</td>
<td>Ss in DBT showed significantly higher reduction in the number of binges, body image concerns, and severity of binge eating problems than Ss in the wait-list condition. No significant time x group interaction in weight change.</td>
</tr>
</tbody>
</table>
in reducing symptomatic behaviors of eating disorders, but was questionable in addressing other, more indirect symptoms such as emotion dysregulation.

Treatment of Trauma

In addition to these studies relating to eating disorders, one study was found that examined the efficacy of DBT with incarcerated women with trauma experiences (Bradley & Follingstad, 2003) and a case study evaluated DBT with a woman with PTSD and anorexia nervosa (Schinagle, 2002; see Table 6). Bradley and Follingstad modified DBT into 18 sessions of 2.5-hour group that addressed issues of interpersonal violence and emotion regulation. They found that their adaptation of DBT was effective in reducing depression symptoms and various posttraumatic stress related symptoms, including anxious arousal, intrusive experiences, anger and irritability, and dissociation; however, the comparison in their study may lack meaningfulness because their control group was not given treatment as usual but was placed on a wait-list. The findings from Schinagle’s study were also difficult to generalize because it was a case study with no quantitative data.

Treatment of Depression

Only a single study examining the efficacy of DBT with clients diagnosed with depression was found with a geriatric population (Lynch et al., 2003), but depression was also measured as one of the outcomes by other researchers (Bohus et al., 2004; Eccleston & Sorbello, 2002; Koons et al., 2001; Linehan et al., 1991; Safer et al. 2001a; Telch, 1997). Findings from studies that addressed depression in a secondary manner were mixed and inconclusive. In Lynch and colleague’s study with depressed older adults
Table 6

**Summary of Research Findings in DBT: Trauma**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Subjects/ setting</th>
<th>Design</th>
<th>Adherence to standard DBT</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradley &amp; Follingstad (2003)</td>
<td>Women with a history of trauma and depression symptoms in a medium security prison.</td>
<td>- Pilot study with random assignment to DBT ($n = 24$) or no-contact control group ($n = 25$).</td>
<td>- 18 sessions of 2.5 hour group therapy on interpersonal victimization and emotion regulation (emotion regulation skills based on DBT).</td>
<td>- Group x time interactions were significant for depression, anxious arousal, intrusive experiences, anger and irritability, dissociation, and impaired self-reference, but not significant for avoidance.</td>
</tr>
<tr>
<td>Schinagle (2002)</td>
<td>A woman with BPD, major depressive disorder, PTSD, and anorexia nervosa (binge/purge type)</td>
<td>- Case study ($n = 1$)</td>
<td>- One weekly 50-minute DBT individual therapy on outpatient basis.</td>
<td>- No quantitative data provided.</td>
</tr>
<tr>
<td><em>also in Table 5</em></td>
<td></td>
<td>- Length of treatment was unclear.</td>
<td>- Day program included DBT skills training group.</td>
<td>- Treatment described as effective: fewer days of hospitalization, higher ratings of happy feelings, improved physical health, improved self-awareness, reduction in self-harm behaviors, and weight gain/maintenance.</td>
</tr>
</tbody>
</table>

|
using DBT in combination with medication, preliminary results indicated that DBT was
effective in reducing self-reported symptoms of depression and improvement in adaptive
coping skills.

Summary of the Effectiveness of DBT

Among the efficacy studies of DBT, by far the most emphasis has been on its
efficacy with the treatment of females with BPD in outpatient settings. This is not
surprising, given the original intent by Linehan for developing DBT. The interest,
however, in using DBT for other populations and settings appears to have increased
recently. Overall, the outcomes for the traditional and novel uses of DBT appeared to be
somewhat mixed and inconclusive. While most researchers reported some types of
positive outcomes with DBT, the results varied across studies (e.g., some studies finding
reduction in suicidality while others finding no change). Because of multiple variations in
methodology and applicability of DBT in each study, examining systematic explanations
for such outcome differences is impossible. Nevertheless, the variety of positive
outcomes is also promising and suggests a wide range of applicability of DBT. They
show DBT’s potential in improving self-esteem and reducing depression, anxiety,
behavioral problems, and other maladaptive behaviors, as well as its original intent of
addressing BPD behaviors.

Rationale for the Study

Referral Decision Making

College students face the challenges of adjustment and maturation. Many of them
also struggle with various psychological problems. Counseling centers play important roles in helping students manage their stressors and succeed in colleges. More recently, many counseling centers are facing increased demand for their services and struggle to balance demand with their limited resources. Increasing group therapy options has been suggested and implemented by many centers; however, studies about referral making processes have been quite limited. Ideally, clients should be assigned to different treatment options based on clinical judgment. The reality, however, may be ruled by practical issues, according to the limited literature base. It is, therefore, important to further investigate the nature of clients’ referrals, and to examine whether clients’ clinical presentation matches with the treatment to which they were assigned.

Effectiveness of DBT

Linehan provided an excellent rationale for developing DBT and its application to the treatment of BPD. A part of her rationale, in particular for the skills training aspect of DBT, is focused on providing patients adaptive skills to replace maladaptive behaviors. In other words, she views symptoms of psychological disorders as not only problems to be rid of, but also as coping strategies for the individual. Because maladaptive coping may be the only strategy the person has, removal of the problematic behavior becomes extremely challenging. This perspective on the importance of skills training seems to apply not only to the individuals with BPD but also to people with other psychiatric disorders, and they can equally benefit from learning the materials in the DBT skills training. Until now, DBT has shown its potential in treating various disorders, including BPD. Unfortunately, the results from past studies are difficult to generalize because of
their methodological problems (e.g., lack of valid control group). The number of studies on disorders other than BPD is also limited. Therefore, the study aimed to investigate the effect of a DBT skills training group in a sample of people with varying disorders. Specifically, treatment outcomes will be compared for three groups of clients at a university counseling center who have been diagnosed with a range of psychiatric disorders. Changes in symptom severity over the course of 4 months of treatment in clients who received the DBT skills training group as well as individual therapy will be compared to two separate control groups: those who received IND and those who received individual therapy and participated in an IP. More details on the interpersonal process group will be provided in the following method section.

Hypotheses

1. Certain client characteristics (e.g., diagnosis, intake GAF, baseline scores of the CAS or the OQ-45) are associated with clients' referral to either DBT plus individual therapy, individual therapy plus IP group, or IND alone.

   a. It is predicted that clients with more clinically severe presentations (e.g., higher OQ and CAS scores, lower GAF) will be assigned to DBT.

   b. It is predicted that demographic factors (e.g., age, gender, relationship status, grade level) will be relatively equally distributed among three treatment conditions.

2. There will be a statistically significant difference in decreases in symptom severity from baseline to end of treatment between people who participated in the DBT
skills training group, those who participated in a process group, and those who received individual therapy only.

   a. The reduction across time in the total score and three subscale scores of the OQ-45 will be significantly larger for the subjects who participated in the DBT group than those in another group therapy or those who only had IND.
   
   b. The reduction across time in 9 scale scores of CAS will be significantly larger for the subjects who participated in the DBT group than those in the IP group or those who only had IND.
CHAPTER III

METHOD

Design

The study was a quasi-experimental study with comparison groups. Archival data from a university counseling center were used. Clients who used services at the counseling center between 2001 and 2007 were included in this study if their ages were between 18 and 45, if they met one of the three treatment conditions specified for this study, and if a sufficient number of data points were available for that person. Data were used only for the first semester of the target treatment received at the center. The three treatment conditions were: (a) DBT plus individual therapy (DBT), (b) the IP group plus individual therapy (IP), and (c) the individual therapy only (IND). IP and IND were chosen as comparison/control groups. IND was selected as a control group to address a lack of valid comparison groups in existing studies on efficacy or effectiveness of dialectical behavior therapy. As noted in the previous chapter, many of the past studies used a pre-post design without a control group, and many others used a wait-list as a control group. Selecting IND as a control group solved this problem in previous studies, and was also compatible with a few well-designed studies that used various individual therapy conditions as control groups. In addition, IP was included as the second comparison group to control for the amount of time spent in treatment. IP consisted of 1.5 hours of group therapy and 1-hour of individual therapy per week. In sum, data for this study were comprised of intake information and self-reported symptom levels from the first full semester of the target treatment.
Participants

Participants were clients at a university counseling center in a homogeneous city in the Western United States. There were 203 participants for the first research question, 77 for the second question with the CAS, and 101 for the second question with the OQ-45. Of the 203 participants, 88.77% (n = 180) were non-Hispanic White, and 72.41% (n = 147) identified themselves as members of The Church of Jesus Christ of Latter-day Saints. Females comprised 72.41% of the sample (n = 148), and males comprised 27.09% of participants (n = 55). Participant age ranged from 18 to 45, with a mean of 24.41 (SD = 5.70).

Of the 203 participants in the first study, 83 were in the DBT condition, with 74 females and 9 males. All the eligible clients who attended the DBT skills training group during the time period noted above were included in this condition. The IP condition included 53 clients, with 29 females and 24 males. This condition was comprised of all eligible clients who were referred for individual therapy and the interpersonal process group during the study period. The relatively smaller number in this condition was due to the large portion of clients who repeated this group, which meant only the first semester of data from those people were included in the study, and also due to a large number of those who participated in the IP group without simultaneously participating in individual therapy, which meant they did not meet the treatment criteria for the IP condition. The IND condition included 67 clients, with 45 females and 22 males. Data were randomly selected from the larger pool of individual therapy clients during the study period, and data from the first full semester of treatment were used for each individual.
Referral to IP or DBT group was made either during initial clinical staff meetings or by individual therapists during the course of treatment. Each client’s group assignment was based on his/her therapist’s clinical judgment or the consensus of the clinical staff (comprised of doctoral level psychologists and psychology trainees). The recommendation for DBT was made generally to clients who seemed to lack effective coping skills. Referral to the interpersonal process group was often made for those clients who reported difficulties in developing and maintaining relationships.

The number of participants in the second part of the study was reduced significantly because only those who had data for more than two time points could be included. This number differed for the data with the CAS and the OQ-45, resulting in 77 for the CAS and 101 for the OQ-45. Among those who had data for the CAS, 29 were in DBT (26 females, 3 males), 24 were in IP (13 females, 11 males), and 24 were in IND (17 females, 7 males). For those with the OQ-45 data, 35 were in DBT (31 females, 4 males), 29 were in IP (15 females, 14 males), and 37 were in IND (25 females, 12 males).

Measures

Personal Data Sheet

The personal data sheet contained clients’ demographic information (see Appendix A) and was filled out by each client prior to the intake interview. Specifically, the items on the most current version of this form were date, date of birth, age, gender, address and phone number, e-mail address, emergency contact, student status, ethnicity, number of credit hours enrolled in the semester, major, housing status, relationship status, medical status, medication status, previous psychological counseling experience,
disability, current employment status, religious affiliation, how he/she found out about the counseling center, significant others, the number of children in family of origin, birth order, and brief description of the reasons why he/she sought therapy. The earlier versions of this form reportedly lacked some of the information listed above, but included all the demographic data necessary for this study (i.e., age, gender, student status, ethnicity, religious affiliation, relationship status, and previous counseling experience).

*Intake Checklist*

The Global Assessment of Functioning (GAF; American Psychiatric Association, 2000) scores were obtained from the intake checklist (see Appendix B). This form was designed to assist case staffing at the counseling center, and was filled out by the intake therapist who also assigned the GAF score to each client. The list contained a checklist of all the paperwork a client needed to complete at the time of intake as well as the client’s GAF score.

*The College Adjustment Scale (CAS)*

The CAS (Anton & Reed, 1991) was administered at the time of intake assessment and at every 6 sessions afterward (most clients were administered the CAS every 6 sessions, although the frequency may have ranged from 5-7 sessions, depending on session time or other unique client factors). The CAS is a self-rating measure with 108 questions. It was specifically developed to assess psychological and developmental problems for college students in nine distinct areas: (a) anxiety (AN), (b) depression (DP), (c) suicidal ideation (SI), (d) substance abuse (SA), (e) self-esteem problems (SE),
(f) interpersonal problems (IP), (g) family problems (FP), (h) academic problems (AP), and (i) career problems (CP). Participants used a 4-point Likert scale to answer how well each item described them. It takes approximately 15-20 minutes to complete the measure. Psychometric properties of the CAS have been demonstrated to be adequate. The developer of CAS reported excellent internal consistency reliability for the CAS scales, ranging from \( r = .80-.92 \) (Anton & Reed). Reliability analyses from the current study also revealed excellent reliability (Table 7). The Cronbach's alpha ranged from .83-.94 at Time 0 administration, from .85-.93 at Time 1, and from .84-.97 at Time 2. At Time 3 administration, the Cronbach's alpha ranged from .82-.91, with exception of the alpha of .69 for the SA scale. A likely attributing factor for this low alpha in the SA scale was the absence of variability in some items for that scale.

The manual of the test also presented results from several validation studies. Based on the report, convergent and discriminant validity for this test appears to be well established (Anton & Reed, 1991). In the reported validation studies, well-established measures such as the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961, cited in Anton & Reed) and the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970, cited in Anton & Reed) were used for comparisons, and resulted in moderate to high correlations with the relevant items of CAS (Anton & Reed, 1991). An independent study also demonstrated statistically significant group differences on all of the CAS scale scores between clinical and nonclinical populations (Nafziger, Couillard, Smith, & Wiswell, 1998). In this study, CAS data from clients at a college counseling center were compared with the data from non-client students at the same college. The correlations between these two groups were
Table 7

*Cronbach’s Alpha Reliability for the CAS*

<table>
<thead>
<tr>
<th>CAS scales</th>
<th>Time 0</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Alpha</td>
<td>N</td>
<td>Alpha</td>
</tr>
<tr>
<td>AP</td>
<td>196</td>
<td>.873</td>
<td>54</td>
<td>.885</td>
</tr>
<tr>
<td>AN</td>
<td>197</td>
<td>.853</td>
<td>55</td>
<td>.866</td>
</tr>
<tr>
<td>IP</td>
<td>193</td>
<td>.832</td>
<td>55</td>
<td>.882</td>
</tr>
<tr>
<td>DP</td>
<td>192</td>
<td>.872</td>
<td>51</td>
<td>.881</td>
</tr>
<tr>
<td>CP</td>
<td>192</td>
<td>.925</td>
<td>53</td>
<td>.906</td>
</tr>
<tr>
<td>SI</td>
<td>194</td>
<td>.928</td>
<td>54</td>
<td>.927</td>
</tr>
<tr>
<td>SA</td>
<td>197</td>
<td>.935</td>
<td>54</td>
<td>.923</td>
</tr>
<tr>
<td>SE</td>
<td>192</td>
<td>.874</td>
<td>55</td>
<td>.888</td>
</tr>
<tr>
<td>FP</td>
<td>194</td>
<td>.856</td>
<td>53</td>
<td>.845</td>
</tr>
</tbody>
</table>

* The scale had zero variance items.

Statistically significant for all scales, with the clients scoring consistently higher than the nonclients. The original form of the CAS could not be included in the appendix because it is copyrighted.

*The Outcome Questionnaire (OQ-45.2)*

The OQ-45 (Lambert et al., 1996) was also administered at the time of intake and at every three sessions afterward (ranging for some clients from 3-4 sessions). The OQ-45 is a 45-item questionnaire, designed to assess an individual’s general level of distress. Respondents use a 5-point scale to rate how often they have experienced listed symptoms over the past week. It takes most respondents less than 10 minutes to complete the
measure. Results of the OQ-45 yield one total score and three subscale scores: symptom distress (SD), interpersonal (IP), and social role (SR).

Based on the information provided in the manual, psychometric properties of the OQ-45 were good for the total score, with test-retest correlation of .84 and internal consistency alpha of .93, and for subscales, with ranges from .78-.82 for test-retest reliability, and from .70-.92 for internal consistency (Lambert et al., 1996). Table 8 shows reliability analyses with the current sample. Across all the time points (Time 0 to Time 6), Cronbach’s alphas for the SD scale were good and ranged from .91-.97. The IR scale demonstrated adequate reliability with Cronbach’s alpha of .74-.91. The SR scale, however, demonstrated poor to adequate reliability, ranging from .55-.88. The Total score, which collapsed across all three subscales, demonstrated good reliability with Cronbach’s alphas of .91-.98. The difference in the reliability among the subscales may reflect differences in the number of items in each scale (25 in SD, 11 in IR, 9 in SR).

Concurrent validity for the total score was established by the developers of the OQ-45 with statistically significant correlations between the total and subscale scores of the OQ-45 and scores from various measures of symptom severity (e.g., Symptom Checklist-90-R; SCL-90-R, Derogatis, 1977; Beck Depression Inventory; BDI, Beck et al., 1961; State-Trait Anxiety Inventory; STAI, Spielberger, 1983; and Social Adjustment Scale; SAS, Wiessman & Bothwell, 1976; all cited in Lambert et al., 1996). Additionally, the construct validity of the OQ-45 was demonstrated by its ability to differentiate clinical and nonclinical samples at statistically significant levels, and also by its ability to track change over time (Lambert et al.). The original form of the OQ-45 could not be included in the appendix because it is copyrighted.
Table 8

*Cronbach’s Alpha Reliability for the OQ-45*

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th></th>
<th>IR</th>
<th></th>
<th>SR</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Alpha</td>
<td>N</td>
<td>Alpha</td>
<td>N</td>
<td>Alpha</td>
<td>N</td>
<td>Alpha</td>
</tr>
<tr>
<td>Time 0</td>
<td>187</td>
<td>.908</td>
<td>185</td>
<td>.737</td>
<td>196</td>
<td>.549</td>
<td>171</td>
<td>.913</td>
</tr>
<tr>
<td>Time 1</td>
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<td>.910</td>
<td>72</td>
<td>.770</td>
<td>76</td>
<td>.592</td>
<td>68</td>
<td>.925</td>
</tr>
<tr>
<td>Time 2</td>
<td>59</td>
<td>.927</td>
<td>57</td>
<td>.825</td>
<td>61</td>
<td>.700</td>
<td>56</td>
<td>.943</td>
</tr>
<tr>
<td>Time 3</td>
<td>47</td>
<td>.915</td>
<td>48</td>
<td>.866</td>
<td>49</td>
<td>.566</td>
<td>46</td>
<td>.941</td>
</tr>
<tr>
<td>Time 4</td>
<td>23</td>
<td>.926</td>
<td>23</td>
<td>.859</td>
<td>24</td>
<td>.602</td>
<td>23</td>
<td>.947</td>
</tr>
<tr>
<td>Time 5</td>
<td>15</td>
<td>.930</td>
<td>14</td>
<td>.848</td>
<td>15</td>
<td>.726</td>
<td>14</td>
<td>.941</td>
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<tr>
<td>Time 6</td>
<td>12</td>
<td>.969</td>
<td>11</td>
<td>.914</td>
<td>12</td>
<td>.878</td>
<td>11</td>
<td>.978</td>
</tr>
</tbody>
</table>

Procedures

Data for this study were collected continuously at a university counseling center from 2001, when the DBT skills training group was implemented, through 2007, when the current study was conducted. All participants who obtained services at the counseling center signed an informed consent form specifying that their data could be used for archival research (see Appendix C). Pretreatment data were gathered at the time of intake interview or at the time of initial contact when clients requested therapy. Data collection (i.e., OQ-45 and CAS) was ongoing over the course of treatment.

*DBT Skills Training Group (DBT)*

Subjects in the DBT condition participated in the DBT skills training group and
individual therapy. The DBT skills training group met once a week for 2-hour sessions or twice a week for 1-hour sessions during a semester. Typically one or two sections of this group were offered each semester. The group was run by two therapists, whose experience levels ranged from graduate student therapist to Ph.D. therapists. Each group typically contained five to ten participants. The skills training program was divided into five modules, four modules from the standard DBT skills training group plus a short section on chain analysis. In standard DBT, chain analysis was taught during individual therapy sessions; however, the university counseling center taught this concept in two group sessions as a separate module. Each module generally went for 2 to 3 weeks, using Linehan’s (1993a) DBT skills training manual as a guideline. The group was closed once a module started, but clients were free to enter at the beginning of each module during some of the semesters. Individuals were included in this study only if they joined the group during the first module. Unlike standard DBT, individual therapists at the counseling center practiced from their own theoretical perspective and not necessarily DBT; therefore, this study could only examine the effect of DBT skills training group independent of DBT individual therapy.

Interpersonal Process Group (IP)

Subjects in the IP condition received individual therapy and participated in an interpersonal process group. The IP group met once a week for 90 minutes throughout the semester, and the group was generally closed after the first one or two sessions. Each IP group generally consisted of two group leaders and 6-10 members. The group leaders’
experience levels were the same as those of DBT groups. IP group was described as
follows in the counseling center brochure:

There are two primary areas of focus for this group, depending on the
needs of the group and the style of group leadership. Personal growth is
often addressed in group, with individual group members bringing their
concerns to the group for feedback and support. Balancing personal needs
with the needs of others is one of the important aspects of group.
Relationship development is the other dimension of group process and
provides first hand experience with effective communication and
emotional intimacy. Often, group members address setting boundaries,
listening, appropriate disclosure and problem solving. Group members
will give and receive feedback about initial impressions, positive and
negative patterns of interaction and stages of personal and group
growth/development. (USU Counseling Center, n.d.a).

The IP group was usually unstructured and conducted based on the concept that the group
became a microcosm of participants’ interpersonal lives. During the initial phase of the
group, the focus was on building a therapeutic alliance and increasing openness among
group members. Once they began to feel comfortable with each other, clients often
participated more actively in group sessions and made deeper levels of self-disclosure.
Some of the issues the participants brought to the group included various relational
difficulties, adjustment, self-esteem, and trauma of childhood or adulthood.

Individual Therapy Only (IND)

Subjects in IND received individual therapy only, generally because group therapy
was not requested or recommended, and sometimes because schedules or availabilities
did not allow them to participate in groups. Clients attended individual therapy once a
week for a 50-minute session. Because there was no artificial session limit at this
counseling center, data for a full semester were used even when the client continued
treatment into subsequent semesters. Therapists’ theoretical orientations and treatment
modalities included, but were not limited to, cognitive behavioral therapy, person-centered therapy, existential therapy, schema therapy, emotion-focused therapy, family systems therapy, and psychodynamic therapy. Most therapists endorsed multiple theoretical orientations and integrated them as necessary (Utah State University Counseling Center, n.d.). The experience level of individual therapists ranged from graduate students in an APA-accredited doctoral program to seasoned or senior licensed psychologists (Table 9).

*Individual Therapy for All Conditions*

All participants were assigned to weekly individual therapy during the weekly staffing meeting. Clients were typically matched with therapists’ areas of interests, as well as therapists’ level of experience, such that more complex cases were likely to be assigned to more experienced therapists. Table 9 shows the experience level of individual therapists in each of the three conditions. A Chi-square test demonstrated that the experience levels were evenly distributed across the conditions, $\chi^2(4, N = 190) = 6.937$, $p = .14$, $V = .14$.

Table 9

*The Number of Clients for Each Level of Therapists’ Experience*

<table>
<thead>
<tr>
<th>Experience</th>
<th>DBT</th>
<th>IP</th>
<th>IND</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate student therapist</td>
<td>12 (28%)</td>
<td>14 (33%)</td>
<td>16 (38%)</td>
<td>42</td>
</tr>
<tr>
<td>Predoctoral intern</td>
<td>16 (32%)</td>
<td>10 (20%)</td>
<td>23 (46%)</td>
<td>49</td>
</tr>
<tr>
<td>Psychologist/staff therapist</td>
<td>43 (43%)</td>
<td>28 (28%)</td>
<td>28 (28%)</td>
<td>99</td>
</tr>
</tbody>
</table>
CHAPTER IV
RESULTS

Research Question #1: Associations Between Client Characteristics and Treatment Referrals.

Preliminary Bivariate Correlations

Bivariate correlations for the main variables are shown in Table 10. Not surprisingly, statistically significant correlations were found consistently between GAF, CAS scores, and the OQ scores. Except between gender and the Anxiety scale of CAS, no other correlations were found to be statistically significant.

Demographic Information

Demographic variables of gender, age, student status (e.g., freshman), relationship status, and religious affiliation were compared across groups to assess whether such characteristics were associated with clients’ referrals to each of three treatment conditions (i.e., DBT, IP, IND). All participants \((N = 203)\) were included in these analyses, unless their data on the applicable variables were missing. Participants were also excluded from the analyses when their data violated the assumptions of an analysis being used. Specific samples sizes for each analysis are reported in the respective tables.

Chi-square tests of independence were used to analyze nominal variables, such as student status, ethnicity, relationship status, and religious affiliation. To comply with the assumption of Chi-square tests of independence, the analyses were conducted only for those variables that contained at least five cases in each cell. The assumption that scores
### Table 10

**Bivariate Correlation**

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>Gender</th>
<th>GAF</th>
<th>AP</th>
<th>AN</th>
<th>IP</th>
<th>DP</th>
<th>CP</th>
<th>SI</th>
<th>SA</th>
<th>Se</th>
<th>FP</th>
<th>OQ Total</th>
<th>OQ SD</th>
<th>OQ IR</th>
<th>OQ SR</th>
</tr>
</thead>
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</tr>
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<td></td>
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<td>GAF</td>
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<tr>
<td>AP</td>
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<td>.44**</td>
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<tr>
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*Note. N ranges from 186 to 203, depending on variables.

*p < .05; **p < .01.
are independent was also assured because participants could provide only one response for each of these nominal variables.

For interval or ratio variables, one-way analyses of variance (ANOVA) were used. The first assumption of ANOVA, the independence of groups, was ascertained because each participant was assigned to only one group. The second assumption, normal distribution of dependent variables, was assessed in multiple parts. First, using the stem-and-leaf plots of the Explore function of SPSS, outliers were identified for variables of age, and nine extreme scores were identified (three in DBT, five in IP, and one in IND). Next, skewness, kurtosis, and the Shapiro-Wilks W test were used (Garson, 2008). To be considered to have a normal distribution, a division of skewness by its standard error must be between +2 and -2. Similarly, a division of kurtosis by its standard error must also fall between +2 and -2 if the scale had a normal distribution. In the Shapiro-Wilks W test, a W of 1 indicates a perfectly normal distribution, and a statistically significant W means that the data do not have a normal distribution (Garson). Table 11 presents these values for age. Scores were calculated twice, once with all the scores included and the second time without the nine outliers. Although the normality of age improved when outliers were removed, age still did not form normal distribution for DBT and IP. The analysis with age, therefore, is presented without the outliers, but the results should be interpreted with caution. The second assumption, homogeneity of variance, was assessed by using the Levene’s test. Levene’s statistic for age without outliers was statistically significant, $F(2, 191) = 8.19, p < .01$. Although this lack of homogeneity violated the assumption of ANOVA, this was considered acceptable because ANOVA is robust enough to tolerate this violation when groups are of similar size (Garson).
Table 11

**Distribution of Demographic Variables Across Treatment Groups**

<table>
<thead>
<tr>
<th>Treatment groups</th>
<th>DBT (N)</th>
<th>JP (N)</th>
<th>IND (N)</th>
<th>Total (N)</th>
<th>$\chi^2$</th>
<th>df</th>
<th>Cramer’s $V$</th>
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<tbody>
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<tr>
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<td>9</td>
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<td>22</td>
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<td>19</td>
<td>39</td>
<td>17.18*</td>
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<td>12</td>
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<td>39</td>
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<td>20</td>
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</table>

*p < .05; **p < .01.
The results of the main analyses indicate that the groups were not statistically significantly different in ethnicity and religious affiliation, $\chi^2(2, N = 195) = 0.03, p = .99, V = .01; \chi^2(2, N = 203) = .89, p = .64, V = .07$, respectively (Table 12). The groups were also not statistically significantly different in age, according to ANOVA (Table 13).

Clients in the three groups, however, were found to be different on all other demographic variables. A Chi-square test for gender was statistically significant with a moderate effect size, $\chi^2(2, N = 203) = .89, p < .01, V = .32$. Observations of the data revealed that 50.00% of females were in DBT, whereas 30.41% in IND and 19.59% in IP. The distribution of males was reversed: 43.64% in IND, 40.00% in IP, and 16.36% in DBT. Comparing distributions within each group, IP had roughly equal numbers of male and female clients (45.28%, 54.71%, respectively), but DBT had a much greater number of female than male clients (89.16%, 10.84%, respectively). IND was somewhat in the middle of these patterns, having roughly twice as many females than males (67.16%, 32.84%, respectively).

Although the earlier analysis showed that clients' age did not differ across groups, a Chi-square test of student status was statistically significantly different with a medium sized effect, $\chi^2(8, N = 201) = 17.18, p = .03, V = .21$. Review of the data indicated that IP contained more advanced students (junior, senior, and graduate students) than freshmen and sophomores, whereas DBT had more middle level students (sophomore and junior) than freshmen, seniors, or graduate students. Most freshmen were found in IND.

A statistically significant difference was also found for marital status, which yielded a small to medium effect size, $\chi^2(4, N = 202) = 16.04, p < .01, V = .20$. While the group difference for "never married" was not large, there were fewer "married/partnered/
Table 12

*Distribution of Demographic Variables and Previous Therapy Experience Across Treatment Groups*

<table>
<thead>
<tr>
<th>Variables</th>
<th>DBT (N)</th>
<th>IP (N)</th>
<th>IND (N)</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$V$</th>
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</thead>
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<td>Gender</td>
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<td>24</td>
<td>22</td>
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<td>19</td>
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<td>.21*</td>
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<tr>
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</table>

*p < .05; ** p < .01.

committed” and “divorced/separated” people in IP than DBT or IND (1 and 4 in IP, 23 and 7 in DBT, and 20 and 8 in IND, respectively).

Clinical Presentations

Clients’ clinical presentations were assessed by using their experience of previous
Table 13

Analyses of Variance for Age and GAF

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<tr>
<th>DBT</th>
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<th>IND</th>
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<td>M (SD)</td>
<td>M (SD)</td>
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<td>N = 48</td>
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<td>23.65 (3.03)</td>
<td>23.48 (5.46)</td>
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<tr>
<td>GAF</td>
<td>n = 79</td>
<td>N = 51</td>
</tr>
<tr>
<td>58.20 (7.04)</td>
<td>62.96 (5.86)</td>
<td>61.74 (5.86)</td>
</tr>
<tr>
<td>F</td>
<td>df</td>
<td>η²</td>
</tr>
<tr>
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<td>2, 191</td>
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</tr>
<tr>
<td>10.17**</td>
<td>2, 193</td>
<td>.10</td>
</tr>
</tbody>
</table>

** p < .01.

psychological counseling services, GAF score, diagnoses, and the pretreatment scores on the CAS and OQ-45. Chi-square tests, ANOVA, or MANOVA were used for all available participants for these analyses. Again, chi-square tests of independence was calculated only for those variables that met the criteria for expected cell counts. For using ANOVA, the same method described in the previous section was used to assess whether GAF meets the assumptions. GAF appeared to have no outliers, and Shapiro-Wilks W as well as skewness and kurtosis for GAF, all indicated that GAF has a normal distribution (Table 11). The homogeneity of variance for GAF was also assured, based on a non-significant Levene statistic, $F (2, 193) = 2.01, p = .14$. The assumptions for MANOVA will be described in a later section.

When participants’ previous experience of psychological counseling (dichotomously coded as yes/no) was compared among groups, a chi-square test of independence demonstrated statistically significant differences, $\chi^2 (2, N = 198) = 10.98,$
$p < .01$, $V = .24$, indicating a small- to medium association between previous therapy experience and treatment referral. Observation of the data showed that more people with no previous counseling services were in DBT than in IP or IND. DBT had 68 people (46.58%) with no previous service, whereas IP had 36 (24.66%) and IND had 42 (28.88%). Similarly, DBT had the smallest percentage of people with previous mental health services (21.15%, $N = 11$), whereas 30.77% ($N = 16$) of people with previous experience were in IND and 48.08% ($N = 25$) were in IP.

The mean GAF score was 60.63 (SD = 6.66) for the whole sample, with 58.20 (SD = 7.04) in DBT, 62.96 (SD = 5.86) in IP, and 61.74 (SD = 5.86) in IND. ANOVA on these data demonstrated a statistical significance, $F(2, 193) = 10.17, p < .001$. Scheffe post hoc analyses showed that statistically significant differences were found between DBT and IP (Cohen's $d = -.74$), and DBT and IND (Cohen's $d = -.55$), showing that GAF scores for clients in DBT were lower than those in IP or IND. There was not a significant difference between IND and IP and the effect size was small (Cohen's $d = .21$).

Tables 14 and 15 show diagnostic presentations of participants per group. The $N$ in the tables indicates the number of participants diagnosed with a disorder in the diagnostic category. As noted earlier, chi-square tests of independence were conducted only on variables with sufficient representations to meet the requirement of chi-square tests (i.e., expected value of at least five in each cell). The Axis I variables that met this requirement were mood disorders, relational problems, anxiety disorders, adjustment disorders, and identity problems. Chi-square tests, however, did not demonstrate statistical significance for any of these variables. For Axis II disorders, only borderline personality disorder, cluster B, and cluster C had enough representation to conduct chi-
Table 14

*Prevalence of Axis I Diagnoses*

<table>
<thead>
<tr>
<th>Variables</th>
<th>DBT (N)</th>
<th>IP (N)</th>
<th>IND (N)</th>
<th>Total (N)</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$V$</th>
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<td>Mood disorders</td>
<td>41</td>
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<td>87</td>
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<td>60</td>
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<td>3</td>
<td>4</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impulse control disorders</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Childhood (ADHD)</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bereavement</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religious or spiritual problem</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual/physical abuse of adult</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleep disorders</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissociative disorders</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychotic disorders</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational problem</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acculturation problem</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Total $N = 193$. Data were missing for 10 participants. Chi-square tests were conducted only when a sufficient number of responses was provided. The diagnoses add up to more than 100% because some clients had comorbid diagnoses. All chi-square statistics nonsignificant with $\alpha = .05$.

square tests. The results of chi-square tests were statistically significant for borderline personality disorder and cluster B, which contains borderline personality disorder, $\chi^2(2, N = 193) = 27.41, V = .38, p < .01$, and $\chi^2(2, N = 193) = 25.46, p < .001, V = 36, p < .01$, respectively, indicating that there is a medium size association between these diagnoses and the treatment referral. These diagnoses appeared to be overrepresented in the DBT group relative to the other two groups (IP, IND). No statistically significant difference was found for cluster C, $\chi^2(2, N = 193) = 2.27, p = .32, V = .11$. 
Table 15

*Prevalence of Axis II Diagnoses or Features*

<table>
<thead>
<tr>
<th>Cluster</th>
<th>DBT (N)</th>
<th>IP (N)</th>
<th>IND (N)</th>
<th>Total (N)</th>
<th>$\chi^2$</th>
<th>$df$</th>
<th>$V$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster A</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paranoid</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizoid</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizotypal</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cluster B</td>
<td>23</td>
<td>2</td>
<td>2</td>
<td>27</td>
<td>25.46**</td>
<td>2</td>
<td>.36**</td>
</tr>
<tr>
<td>Antisocial</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borderline</td>
<td>21</td>
<td>1</td>
<td>1</td>
<td>23</td>
<td>27.41**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Histrionic</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td>.38**</td>
</tr>
<tr>
<td>Narcissistic</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cluster C</td>
<td>9</td>
<td>8</td>
<td>5</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidant</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependent</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obsessive-compulsive</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOS</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2.27</td>
<td></td>
<td>.11</td>
</tr>
</tbody>
</table>

*Note.* Total $N = 193$. Data were missing for 10 participants. Chi-square tests were conducted only when there was a sufficient number of responses. The diagnoses add up to more than 100% because some clients had comorbid diagnoses. **$p < .01$.**

Table 16 shows the mean scores of the CAS at pretreatment (Time 0), as well as clinical cut-off scores provided by the scale developer. Before the primary analysis (MANOVA) was run to compare the group differences, preliminary analyses were conducted to identify outliers and to test for the assumptions of the MANOVA. Stem-and-leaf plots were used to identify outliers. While most scales contained zero to a few outliers, the substance abuse scale had 15 to 19 outliers in each group. This was 25.62%
Table 16

*Mean Scores of the College Adjustment Scale (CAS) at Pretreatment (Time 0)*

<table>
<thead>
<tr>
<th>CAS</th>
<th>Clinical Cutoff</th>
<th>DBT (N = 84)</th>
<th>IP (N = 52)</th>
<th>IND (N = 65)</th>
<th>Total (N = 198)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP</td>
<td>40</td>
<td>29.50 ± 8.19</td>
<td>26.35 ± 7.33</td>
<td>27.67 ± 7.26</td>
<td>28.07 ± 7.74</td>
</tr>
<tr>
<td>AN</td>
<td>39</td>
<td>32.98 ± 7.14</td>
<td>27.75 ± 7.20</td>
<td>29.74 ± 7.02</td>
<td>30.56 ± 7.42</td>
</tr>
<tr>
<td>DP</td>
<td>34</td>
<td>31.27 ± 8.10</td>
<td>25.75 ± 7.43</td>
<td>28.17 ± 7.86</td>
<td>28.80 ± 8.13</td>
</tr>
<tr>
<td>CP</td>
<td>41</td>
<td>20.28 ± 7.73</td>
<td>21.05 ± 9.87</td>
<td>21.29 ± 8.99</td>
<td>20.81 ± 8.72</td>
</tr>
<tr>
<td>SI</td>
<td>27</td>
<td>21.22 ± 8.29</td>
<td>17.25 ± 6.66</td>
<td>17.09 ± 6.67</td>
<td>18.82 ± 7.60</td>
</tr>
<tr>
<td>SA</td>
<td>33-34</td>
<td>15.51 ± 7.15</td>
<td>13.25 ± 2.78</td>
<td>14.49 ± 6.22</td>
<td>14.58 ± 6.01</td>
</tr>
<tr>
<td>SE</td>
<td>39</td>
<td>34.67 ± 6.93</td>
<td>30.47 ± 7.30</td>
<td>31.50 ± 7.33</td>
<td>32.41 ± 7.37</td>
</tr>
<tr>
<td>FP</td>
<td>37</td>
<td>24.06 ± 7.54</td>
<td>21.35 ± 6.79</td>
<td>23.78 ± 7.32</td>
<td>23.26 ± 7.33</td>
</tr>
</tbody>
</table>

*As reported by Amott & Reed (1991).*

of the entire sample; there, SA scale was removed from the MANOVA. From the remaining eight scales, 16 participants with extreme scores were removed.

The first assumption of MANOVA, multivariate normality, was assessed first by evaluating for univariate normality of dependent variables in the same method used for the normality assumption of ANOVA. As seen in Table 17, suicide ideation (SI) and career problems (CP) scales were skewed in all three groups. Although some of the kurtosis statistics were not consistent with violation of normality, the other two indices strongly suggested that the data were not normally distributed. The scales of SI and CP,
Table 17

*Normality for the CAS Scales at Pretreatment (Time 0)*

<table>
<thead>
<tr>
<th>CAS scales</th>
<th>DBT</th>
<th>IP</th>
<th>IND</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Skewness</td>
<td>Kurtosis</td>
<td>W</td>
</tr>
<tr>
<td></td>
<td>SE = .27</td>
<td>SE = .54</td>
<td>df = 77</td>
</tr>
<tr>
<td>AP</td>
<td>.04</td>
<td>-.53</td>
<td>.99</td>
</tr>
<tr>
<td>AN</td>
<td>-.08</td>
<td>-.49</td>
<td>.98</td>
</tr>
<tr>
<td>IP</td>
<td>.14</td>
<td>-.68</td>
<td>.98</td>
</tr>
<tr>
<td>DP</td>
<td>-.10</td>
<td>-.89</td>
<td>.97</td>
</tr>
<tr>
<td>CP</td>
<td>.83***</td>
<td>-.17</td>
<td>.90**</td>
</tr>
<tr>
<td>SI</td>
<td>.70***</td>
<td>-.63</td>
<td>.90**</td>
</tr>
<tr>
<td>SA</td>
<td>2.51***</td>
<td>5.98***</td>
<td>.56**</td>
</tr>
<tr>
<td>SE</td>
<td>-4.00***</td>
<td>-.24</td>
<td>.97</td>
</tr>
<tr>
<td>FP</td>
<td>.59***</td>
<td>-.50</td>
<td>.94**</td>
</tr>
</tbody>
</table>

* W has p > .05; ** W has p > .00; *** Skewness/kurtosis divided by its standard error has a value greater than 2 or smaller than -2.
therefore were considered to violate the assumption of normality and were not included in the MANOVA. The family problems (FP) scale was also excluded from the MANOVA because $W$ in all three groups indicated that the data were not normally distributed. The self-esteem problems (SE) and interpersonal problems (IP) scales were kept from MANOVA despite some indication of violation of normality because the majority of the information was consistent with normal distribution of data. Univariate normality increases the likelihood of multivariate normality, and MANOVA is robust in the face of most violations of this assumption as long as sample size is sufficient (i.e., larger than 20).

The second assumption of the MANOVA, homogeneity of covariance, was assessed through the Box’s Test of Equality on SPSS output. The Box’s $M$, after removing the aforementioned scales, was not statistically significant, $F(30, 79915.03) = .79, p = .78$, indicating that the covariances among the dependent variables were the same for all groups. The third assumption, independence of observations, was assured because the procedure in this research ensured that each client filled out the CAS independently and without any influence from others in his/her group.

Scales that were included as dependent variables in the MANOVA were AP, AN, IP, DP, and SE. The independent variable was the client’s treatment referral (Group), with three categories of DBT, IP, and IND. The Wilk’s Lambda for the main effect (Group) was statistically significant, $F(16, 182) = 3.80, p < .01$, which indicated that there was at least one statistically significant difference in the vector of means of the five CAS scales among three groups. Eta squared for this effect was .10, indicating that the
group difference accounted for 10% of the variability in the mean CAS scores. Table 18 shows results of univariate analyses of variance for each scale.

Sheffe’s post hoc analyses were then conducted to locate where the group differences lay. Table 19 shows the mean scores of the selected five scales for each group after the outliers have been removed, reflecting the actual sample used for the MANOVA. In the Academic Problem scale, a statistically significant difference was found only between DBT and IP, with scores in DBT being higher than those in IP. In the

Table 18

Univariate Analysis of Variance for the CAS Scales

<table>
<thead>
<tr>
<th>Scales</th>
<th>$F$</th>
<th>$df$ between</th>
<th>$df$ within</th>
<th>.05</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP</td>
<td>4.20</td>
<td>22222</td>
<td>1.7918e+14</td>
<td>.02</td>
<td>.05</td>
</tr>
<tr>
<td>AN</td>
<td>13.64</td>
<td>&lt;.01</td>
<td>.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP</td>
<td>9.91</td>
<td>&lt;.01</td>
<td>.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DP</td>
<td>11.52</td>
<td>&lt;.01</td>
<td>.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE</td>
<td>9.24</td>
<td>&lt;.01</td>
<td>.09</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$N = 77$ (DBT), 49 (IP), 56 (IND).

Table 19

Mean Scores of the Selected Scales of the CAS at Pretreatment, Without the Outliers

<table>
<thead>
<tr>
<th>Scales</th>
<th>DBT ($N = 77$)</th>
<th>IP ($N = 49$)</th>
<th>IND ($N = 56$)</th>
<th>Total ($N = 182$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>AP</td>
<td>29.70</td>
<td>7.91</td>
<td>26.02</td>
<td>7.36</td>
</tr>
<tr>
<td>AN</td>
<td>30.12</td>
<td>6.92</td>
<td>26.92</td>
<td>6.43</td>
</tr>
<tr>
<td>IP</td>
<td>28.87</td>
<td>6.44</td>
<td>25.41</td>
<td>6.07</td>
</tr>
<tr>
<td>DP</td>
<td>31.58</td>
<td>7.93</td>
<td>25.29</td>
<td>7.08</td>
</tr>
<tr>
<td>SE</td>
<td>34.97</td>
<td>6.32</td>
<td>30.24</td>
<td>7.39</td>
</tr>
</tbody>
</table>
Interpersonal Problem scale, the Anxiety scale, the Depression scale, and the Self-Esteem scale, DBT was found to have statistically significantly higher scores than both IP and IND. Cohen's $d$ values ranged from .48 to .93, and all $p$-values for pairwise comparisons were less than .03.

The mean scores of the OQ-45 at pretreatment (Time 0) and the clinical cut-off scores provided by the scale developer are shown in Table 20. As was presented in the method section, reliability of the SR scale at Time 0 was poor (.55); therefore, results of the SR scale were interpreted with caution. Assessment of outliers and compliance with the assumptions of the MANOVA were conducted in the same manner as was used for the CAS scales. Stem-and-leaf plots identified seven outliers in the SR scale but none for the other scales, including the total score. Those outliers, four from DBT and three from IND, were removed from the subsequent MANOVA. The Total score of the OQ-45 was not included in MANOVA and was analyzed separately using ANOVA because the Total score would have 100% colinearity with other subscale scores and compromise the statistical power of MANOVA.

Table 21 shows the results of assessment of normality. Based on the skewness and kurtosis for each scale and group, it appeared that every cell had normal distribution. One indication of the violation of normality was found in the SR scale for IND by Shapiro-Wilks $W$ test. This scale, however, was kept for the MANOVA because its skewness and kurtosis statistics were consistent with a normal distribution. The assumption of homogeneity of the covariance was reassured because the Box's $M$ was not statistically significant, $F (12, 144762.4) = .41, p = .96$. The third assumption, independence of observations, was also assured for the same reason as the CAS.
Table 20

Mean Scores of the OQ-45 at Pretreatment

<table>
<thead>
<tr>
<th>Scales</th>
<th>Clinical Cutoff(^a)</th>
<th>DBT ((N=83))</th>
<th>IP ((N=53))</th>
<th>IND ((N=67))</th>
<th>Total ((N=2032))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(M)</td>
<td>(SD)</td>
<td>(M)</td>
<td>(SD)</td>
<td>(M)</td>
</tr>
<tr>
<td>Total</td>
<td>(6e+07)</td>
<td>87.50</td>
<td>20.96</td>
<td>72.07</td>
<td>18.25</td>
</tr>
<tr>
<td>SD</td>
<td></td>
<td>52.94</td>
<td>14.00</td>
<td>41.37</td>
<td>12.21</td>
</tr>
</tbody>
</table>

\(^a\)As reported by Lambert et al. (1996).

The MANOVA was conducted with the client treatment referral (Group: DBT, IP, IND) as the fixed factor. The dependent variables included the SD scale, the IR scale, and the SR scale. The Wilk’s Lambda for the main effect (Group) was statistically significant, \(F(6, 382) = 5.15, p < .01\), which indicated that there was at least one statistically significant difference in the vector of means. The eta squared value of .08 indicated that the treatment groups accounted for 8% of the variance in the OQ-45 scores. The ANOVA for the Total score was also statistically significant, \(F(2, 193) = 10.88, p < .01\), with the eta square value of .10. The results of the univariable analysis from the MANOVA are shown in Table 22.

Scheffe’s post hoc analyses were then conducted. For the SD scale, statistically significant differences were found between DBT and IP, and between DBT and IND, with scores in DBT being significantly higher than those in IP or IND. No difference was found between IP and IND. The same pattern was found for the TOTAL scores as well. For the IR scale, only statistically significant difference found was that people in DBT scored significantly higher than those in IND. For the SR scale, scores were statistically
Table 21

Normality of the OQ-45 Scales at Pretreatment

<table>
<thead>
<tr>
<th>OQ-45 scales</th>
<th>DBT</th>
<th></th>
<th>DBT</th>
<th></th>
<th>DBT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Skewness</td>
<td>Kurtosis</td>
<td>W</td>
<td>df = 79</td>
<td>Skewness</td>
<td>Kurtosis</td>
</tr>
<tr>
<td>SD</td>
<td>-.29</td>
<td>-.45</td>
<td>.98</td>
<td></td>
<td>.18</td>
<td>.12</td>
</tr>
<tr>
<td>IR</td>
<td>-.26</td>
<td>-.77</td>
<td>.97</td>
<td></td>
<td>.22</td>
<td>-.04</td>
</tr>
<tr>
<td>SR</td>
<td>.03</td>
<td>-.42</td>
<td>.98</td>
<td></td>
<td>-.03</td>
<td>.14</td>
</tr>
<tr>
<td>Total</td>
<td>-.34</td>
<td>-.52</td>
<td>.98</td>
<td></td>
<td>-.10</td>
<td>.09</td>
</tr>
</tbody>
</table>

* W has p > .05; *** Skewness/kurtosis divided by its standard error has a value greater than 2 or smaller than -2.
Table 22

**Analysis of Variance for the OQ-45 Scales at Pretreatment (Time 0)**

<table>
<thead>
<tr>
<th>Scales</th>
<th>$F$</th>
<th>$df$ between</th>
<th>$df$ within</th>
<th>$0.5$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
<td>13.32</td>
<td>2</td>
<td>193</td>
<td>&lt;.01**</td>
<td>.12</td>
</tr>
<tr>
<td>IR</td>
<td>3.48</td>
<td>2</td>
<td>193</td>
<td>.03*</td>
<td>.04</td>
</tr>
<tr>
<td>SR</td>
<td>4.02</td>
<td>2</td>
<td>193</td>
<td>.02*</td>
<td>.04</td>
</tr>
<tr>
<td>Total</td>
<td>10.88</td>
<td>2</td>
<td>193</td>
<td>&lt;.01**</td>
<td>.10</td>
</tr>
</tbody>
</table>

$N = 79$ (DBT), 53 (IP), 64 (IND).

significantly higher in DBT than in IP. Table 23 shows the mean scores of the sample used in the MANOVA, which was without the SR scale and the outliers. Cohen’s $d$ values for significant pairwise comparisons ranged from .42 to .89.

**Research Questions #2: Group Differences on the Treatment Outcome**

Of 203 participants who were referred to one of three treatment modalities, those who did not pursue treatment beyond the first session and those who did not complete the outcome assessments (CAS and OQ-45) for more than two time points were excluded from the second research question. This left 77 participants for the analysis with the CAS and 101 for the analysis with the OQ-45.

Linear mixed effects modeling (LME) for repeated measures was used to test the hypothesis that the participants in the DBT condition would exhibit greater decrease in symptom severity over time than those in IP and IND conditions would. Time was organized into four time points for the CAS and six for the OQ-45. Fixed factors and covariates included in the model were: time, treatment assignment, the degree of treatment participation (the number of group sessions attended for DBT and IP
Table 23

Mean OQ-45 Scores for the Sample Used in the MANOVA

<table>
<thead>
<tr>
<th>Scales</th>
<th>DBT (N = 79)</th>
<th>IP (N = 53)</th>
<th>IND (N = 64)</th>
<th>Total (N = 196)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Total</td>
<td>87.54</td>
<td>20.78</td>
<td>72.07</td>
<td>18.25</td>
</tr>
<tr>
<td>SD</td>
<td>53.09</td>
<td>13.97</td>
<td>41.37</td>
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</tr>
<tr>
<td>IR</td>
<td>19.37</td>
<td>6.35</td>
<td>17.32</td>
<td>6.12</td>
</tr>
<tr>
<td>SR</td>
<td>15.08</td>
<td>3.44</td>
<td>13.37</td>
<td>3.47</td>
</tr>
</tbody>
</table>

conditions, and the number of individual sessions attended for IND condition), the training level of the individual therapist, GAF at the intake, diagnosis (mood disorder, anxiety disorder, adjustment disorder, relational problem--V Code, borderline personality disorder or its features), and age. Gender was not included in the analyses because of a large disparity in the representation (21-30 males, 56-71 females). Compound symmetry was chosen as the covariance structure for the model, and model fit was assessed with the information criteria (Akaike’s Information Criteria--AIC). AIC is an index calculated to indicate the fitness of a model, and the model with the lowest AIC is considered as the best model.

As shown in Tables 24 and 25, a high rate of attrition was noted for each successive time point. This drop in the number did not necessarily mean attrition from treatment, but more often reflected the absence of data. Whether the missing data were due to subjects’ refusal, treatment drop out, or administrative error (i.e., not administering the measures) is unknown. To make certain that there was no systematic influence of the frequency of test administration, characteristics of people who completed
Table 24

*Mean Scores of the CAS at Each Time Point*

| Scale | Time 0  
|-------|--------|
|       | (N = 77) | Time 1  
|       | (N = 44) | Time 2  
|       | (N = 34) | Time 3  
|       | (N = 14) |
| AP   | 27.33   | 25.09   | 27.21   | 27.00   |
|      | (6.84)  | (7.05)  | (7.85)  | (8.26)  |
| AN   | 29.65   | 27.20   | 27.90   | 29.29   |
|      | (7.17)  | (7.14)  | (6.58)  | (6.49)  |
| IP   | 26.19   | 25.23   | 24.33   | 25.45   |
|      | (6.71)  | (6.36)  | (6.28)  | (7.08)  |
| DP   | 27.95   | 23.80   | 23.64   | 24.92   |
|      | (7.52)  | (7.09)  | (7.14)  | (6.88)  |
| SE   | 31.84   | 28.66   | 30.08   | 31.29   |
|      | (6.98)  | (6.87)  | (7.08)  | (6.45)  |

*Note.* Standard deviations are reported in parentheses.

Table 25

*Mean Scores of the OQ-45 at Each Time Point*

| Scale  | Time 0  
|--------|--------|
|        | (N = 101) | Time 1  
|        | (N = 66)  | Time 2  
|        | (N = 55)  | Time 3  
|        | (N = 44)  | Time 4  
|        | (N = 25)  | Time 5  
|        | (N - 12)  |
| Total  | 77.94   | 72.46   | 70.45   | 69.30   | 74.92   | 75.75   |
|        | (20.13) | (20.52) | (23.01) | (22.70) | (25.16) | (20.63) |
| SD     | 46.02   | 42.35   | 40.56   | 39.40   | 44.26   | 45.17   |
| IR     | 17.93   | 17.12   | 17.07   | 16.89   | 17.66   | 17.58   |
|        | (6.32)  | (5.62)  | (6.48)  | (7.32)  | (8.57)  | (6.50)  |
| SF     | 13.99   | 12.98   | 12.81   | 13.01   | 13.01   | 13.00   |
|        | (4.03)  | (3.85)  | (4.17)  | (4.04)  | (4.37)  | (4.49)  |

*Note.* Standard deviations are reported in parentheses.

more measures were compared to those who completed fewer measures. Comparisons were made between people who completed two or less CAS and those who completed three or four CAS, and between those who completed two or three OQ-45 and those who
completed four or more OQ-45. As expected, these comparisons using t tests and chi-
squares revealed that there were no differences in the demographic factors or Time 0
assessments between these two groups (see Tables 26 and 27). The issue of treatment
attrition or missed appointments was controlled for by including the attendance as a
covariate in the model. LME is an appropriate analytic technique for managing missing
data, as estimates are calculated at each time point, using the observations available at
that time point. Thus, missing data does not result in listwise deletion of cases from the
dataset.

**General Analysis Strategy**

For each of nine outcome variables, several different models were tested with the
following fixed factors and covariates: treatment assignment (DBT, IP, IND), treatment
attendance, time, GAF, age, therapist’s level of training, and diagnoses of mood
disorders, anxiety disorders, adjustment disorder, relational problems, and borderline
personality disorder (BPD) or its features. Diagnoses were coded as 0 or 1, 1 representing
the presence of a diagnosis. Because the sample size was not large enough to include all
variables simultaneously, each model was tested with combinations of fewer fixed
factors and covariates. Specifically, across all the models, three variables were always
included as “basic” fixed factors and covariates because of their theoretical salience to
the research question: fixed factors were treatment assignment and time, and the
covariate was treatment attendance. It made sense for the fixed factors of treatment and
time to be in the basic model because the main research question here was the change
Table 26

*t Tests and Chi-square Tests to Compare Participants Who Completed Two CAS (N = 65) to Those Who Completed Three or Four CAS (N = 12)*

<table>
<thead>
<tr>
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<th>df</th>
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<td>AP at T0</td>
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<td>IP at T0</td>
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<td>DP at T0</td>
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<td>SE at T0</td>
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*One or more cells did not have the minimum expected count of 5.
Table 27

*t Tests and Chi-square Tests to Compare Participants Who Completed Two or Three OQ-45 (N = 27) to Those Who Completed Four or Five OQ-45 (N = 22)*

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</table>

*One or more cells that did not have the minimum expected count of 5.

The categories were (a) treatment completion or continuation, and (b) premature termination.

over time for each treatment condition. The treatment attendance was also included in the basic model because the effectiveness of treatment might vary depending on the level of clients' attendance. After running this basic model, other variables were added, and models for each potential covariate were calculated separately. A particular interest in this study was the two-way interaction of time and treatment assignment, which would answer the primary question regarding group differences in treatment outcome. Statistical significance of this interaction would mean that groups had different trajectories of outcome measures over time. Of additional interest was the three-way interaction of time, treatment assignment, and attendance, which would address the issue of treatment adherence as it relates to treatment assignment over time. The final model for each
dependent variable included main effects and interactions for the three core variables (treatment assignment, time, and treatment attendance), as well as any significant covariates that emerged from the exploratory models.

**CAS-Academic Problems**

In the basic model for Academic Problems (AP), time demonstrated a nonsignificant trend, $F(3, 94.66) = 2.57, p = .06$. Table 22 shows that the mean scores of the sample decreased between Time 0 and Time 1, but reverted at Time 2 and Time 3. Exploratory analyses were then performed to assess the association between AP and potential covariates. When GAF was added to the basic model, time became statistically significant, $F(3, 94.81) = 2.73, p < .05$, although GAF itself was not. The information criteria for these two models were very similar, with AIC of 1034.76 in the basic model and 1034.82 in the model with GAF. The best fitting and most parsimonious model for AP, therefore, was the basic model with fixed factors of treatment and time, and a covariate of treatment attendance.

**CAS-Anxiety**

On the basic model for Anxiety (AN), the fixed factor of time was statistically significant, $F(3, 93.35) = 5.56, p < .01$. Also significant were the interactions of treatment and time, as well as the interaction of treatment, time, and attendance, $F(6, 91.84) = 2.30, p < .05$, and $F(11, 101.08) = 2.31, p < .01$, respectively. These three variables continued to yield statistical significance when additional variables were included in the model, except for the interaction of time and treatment when they were run with diagnoses of borderline personality disorders, mood disorders, anxiety disorders, adjustment disorders,
and relational problems. None of the potential covariates (e.g., GAF, diagnoses) were found to be statistically significant. Interestingly, even the diagnosis of anxiety disorders was not statistically significant in the model, $F(1, 62.33) = 2.38, n.s$. The basic model, therefore, was chosen as the final model ($AIC = 1011.62$).

Because the interaction of time and treatment were statistically significant, treatment differences were then assessed by creating a graph (Figure 1). Judging from the graph, it appeared that all treatment conditions dropped their scores from Time 0 to Time 1, but IND showed much greater reduction than DBT and IP. IND continued to demonstrate variability over the course of the semester, while both DBT and IP showed initial reduction in symptoms followed by increases to baseline rates by the end of the semester.

The three-way interaction of time, treatment, and attendance are shown in Figures 2 and 3. To consider differences based on attendance, the participants were divided into groups of high and low attendance. The cutoff number of attendance was set at nine sessions because this was the median, and represents attendance at more than half of the offered sessions. Values of nine or greater were included in the high attendance group, and values below nine were included in the low attendance group. Among high attendance individuals, there was less variability in anxiety over the course of the semester in all treatment conditions. IND individuals demonstrated initial improvement, followed by increases in anxiety symptoms as the semester progressed. Individuals in the DBT condition, however, demonstrated stable scores from Time 0 to Time 1, followed by increases at Time 2 and slight decrease again at Time 3. Scores for those in the IP condition remained relatively stable throughout the semester. In comparison, scores for
low attendance individuals were much more variable in all treatment conditions, with only individuals in IND showing overall improvement across the semester.

**CAS-Interpersonal Problems**

No statistically significant fixed factor/covariate was found in the basic model for Interpersonal Problems (IP), although the fixed factor of treatment showed a nonsignificant trend with a $p$ value of .06, $F(2, 113.71) = 2.93, n.s.$ When diagnoses of
Figure 2. Mean Anxiety scores for participants with low attendance ($N = 29$).

anxiety disorder, adjustment disorder, and relational problems were added separately to the basic model, the fixed factor of treatment was statistically significant, $F(2, 100.21) = 3.65, p < .05$, $F(2, 100.70) = 3.60, p < .05$, and $F(2, 100.44) = 3.62, p < .05$, respectively. When a diagnosis of BPD was included, the model also yielded a statistically significant effect of treatment and BPD diagnosis, $F(2, 103.22) = 4.89, p < .01$, and $F(1, 60.60) = 9.79, p < .01$, respectively. Figure 4 shows that people in DBT presented with more interpersonal problems that those in IP and IND. Comparing people with and without
Figure 3. Mean Anxiety scores for people with high attendance ($N = 48$).

DBT presented with more interpersonal problems than those in IP and IND. Comparing people with and without BPD, those with the diagnosis reported more interpersonal problems (see Figure 5). Further, GAF score was also found to be a statistically significant factor when added to the basic model, $F(1, 72.55) = 4.69$, $p < .05$, with lower functioning people reporting more interpersonal problems (see Table 28). Other models or variables were not statistically significant, including the model with a diagnosis of
Figure 4. Mean scores of Interpersonal Problems for the three treatment groups.

Table 28

Correlational Between GAF and Scores of Interpersonal Problems

<table>
<thead>
<tr>
<th></th>
<th>Time 0 (N = 77)</th>
<th>Time 1 (N = 44)</th>
<th>Time 2 (N = 34)</th>
<th>Time 3 (N = 14)</th>
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</thead>
<tbody>
<tr>
<td>GAF</td>
<td>-.29**</td>
<td>-.29*</td>
<td>-.34*</td>
<td>-.60*</td>
</tr>
</tbody>
</table>

*p < .05, ** p < .01.
Figure 5. Mean scores for those with and without BPD diagnosis.

relational problems. The model including the BPD diagnosis demonstrated the lowest value for AIC (878.42), suggesting that this is the best fitting model.

**CAS-Depression**

In the basic model for Depression (DP), time was statistically significant, $F(3, 100.45) = 5.60, p < .01$. The three-way interaction of time, treatment, and attendance also demonstrated nonsignificant trend with a $p$ value of .08, $F(11, 112.46) = 1.73, n.s.$ A
Table 29

Correlation Coefficients Between GAF and Depression Scores

<table>
<thead>
<tr>
<th></th>
<th>Time 0 (N = 77)</th>
<th>Time 1 (N = 44)</th>
<th>Time 2 (N = 34)</th>
<th>Time 3 (N = 14)</th>
</tr>
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<tbody>
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<td>GAF</td>
<td>-.35**</td>
<td>-.16</td>
<td>-.32</td>
<td>-.80**</td>
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</table>

**p < .01.

Figure 6. Mean scores of depression problems for participation with and without BPD diagnosis.
Figure 7. Group differences in the mean scores of Depression Problem scale for people with and without BPD diagnosis. 
*Note.* The number of participants with a BPD diagnosis was zero for IP and IND.

selected as the final model, which was also the model with the lowest information criteria (AIC = 936.02).

**CAS-Self-Esteem Problems**

The basic model for Self-esteem Problems (SE) demonstrated a statistically significant effect of time, $F(3, 90.21) = 3.77, p < .01$. No other factors/covariates in the
Figure 8. Mean Depression scores for people with low attendance (<9; N = 29).

Note. There was no person with BPD diagnosis in IP or IND.

basic model were statistically significant. The effect of time continued to be statistically
significant for all subsequent models, with only a small variation in $F$ values. In addition
to time, BPD diagnosis was statistically significant, $F(1, 59.83) = 3.98, p < .05$. Figure
10 shows that SE scores for people with BPD were consistently higher than those without
BPD. While scores for those with BPD decreased slightly from Time 0 to Time 2, the
Figure 9. Mean Depression scores for people with high attendance (≥ 9; N = 48). 
Note. n for “No BPD in DBT” at Time 3 is 0.

scores for those without BPD increased after an initial drop at Time 1. With AIC of 896.12, the model with BPD was selected as the final model.

OQ-45 Total Score

In the basic model for the OQ-45 Total Score, the fixed factor of time was the only statistically significant variable, \( F(5, 188.16) = 3.23, p < .01 \). Table 23 shows that the mean OQ-45 Total Score for the whole sample decreased relatively steadily from
Figure 10. Mean Self-Esteem Problems scores for people with or without BPD diagnosis.

Time 0 to Time 3, but subsequently increased nearly to the level at Time 0. With all the remaining models, time continued to be statistically significant. In a model with the mood disorder diagnosis, the diagnosis was also statistically significant, $F(1, 89.88) = 5.05, p < .05$. Figure 11 shows that scores for people without a mood disorder slowly declined over time, until they increased again at Time 5. Those with a mood disorder diagnosis started out with a higher mean score at Time 0, improved until Time 2, but their scored fluctuated afterward, between Time 2 and Time 5. The diagnosis of BPD
Figure 11. Mean OQ Total scores for people with and without a mood disorder diagnosis.

(and its features) was statistically significant as well, $F(1, 88.52) = 7.87, p < .01$. While scores for those with a BPD diagnosis fluctuated over time, the scores for those without BPD declined gradually until Time 3 and increased again (see Figure 12). When both mood disorder and BPD diagnoses were simultaneously included in the basic model, time, mood disorder diagnosis and the BPD diagnosis continued to be statistically significant, $F(5, 174.76) = 3.03, p < .01$, $F(1, 88.97) = 4.14, p < .05$, and $F(1, 87.74) =$
Figure 12. Mean OQ-45 Total scores for participants with and without a BPD diagnosis.

6.90, p < .01, respectively. Shown in Figure 13, people with neither diagnosis generally scored lowest and maintained small but steady progress until Time 4. Participants with a “mood disorder only” also showed overall decrease in scores despite some fluctuation. On the other hand, scores for participants with both disorders fluctuated and demonstrated overall increase. Those with “BPD only” also had large fluctuations of
scores. Given its statistical significance, this model with BPD and mood disorder, therefore, was chosen as the final model (AIC = 2184.55).

The OQ-45 Symptom Distress (SD)

In the basic model with the OQ-SD, time was the only statistically significant factor, $F(5, 188.31) = 2.75, p < .05$. As seen in Table 23, the mean score of the OQ-SD for the entire sample decreased from Time 0 to Time 3, but increased to the pretreatment
level at Time 4 and Time 5. All subsequent models yielded statistically significant effects of time, mood disorder, and BPD. Combining the basic model with fixed factors of mood disorder and BPD diagnoses still resulted in statistically significant effects of time, mood disorder diagnosis, and BPD diagnosis, $F(5, 175.23) = 2.71, p < .05$, $F(1, 88.46) = 5.46, p < .05$, and $F(1, 87.13) = 4.49, p < .05$, respectively. Figure 14 shows how those variables relate to the SD scores. Scores for participants with neither diagnosis slowly but steadily declined until they increased at the end of the semester. Participants with mood disorder only demonstrated overall decrease as well, despite some fluctuations in the middle of the semester. Participants with both disorders and those with BPD only, however, experienced overall increase in their scores. Based on its statistical significance and AIC value, this model with BPD and mood disorder diagnoses was chosen as the final model (AIC = 1957.14).

The OQ-45 Interpersonal Relations (IR)

The basic model of the OQ-45 IR yielded a statistically significant effect of time only, $F(5, 187.88) = 2.23, p < .05$ (AIC = 1745.53). Table 23 shows a small decline in the scores between Time 0 and Time 3, and slight increase from Time 3 and Time 4. In the subsequent exploratory analyses, the fixed factor of time was statistically significant only in the model with GAF. GAF itself was not statistically significant, $F(1, 93.44) = 2.02, p = n.s$. The diagnosis of BPD was statistically significant as well, $F(1, 88.88) = 9.24, p < .01$ (AIC = 1605.98), but time was not, $F(5, 173.83) = 1.90, p = n.s$. Figure 15 indicates that people with BPD overall reported higher interpersonal relations problems than those without BPD. No variable was found to be statistically significant in models
Figure 14. Mean QO-45 Subjective Distress scores for participants with and without diagnoses of BPD and mood disorder.

with the therapist’s experience, age, and the diagnoses of mood disorder, anxiety disorder, relational problems, or adjustment disorder. In summary, the model with GAF yielded statistically significant effect of time but not GAF itself. The model with BPD yielded statistically significant effect of BPD but not time. AIC of these two models were 1722.19 and 1605.98, respectively. The basic model, therefore, was most parsimonious and chosen as the final model.
Figure 15. Mean OQ-45 Interpersonal Relations scores for participants with or without BPD diagnosis.

The **OQ-45 Social Roles (SR)**

The basic model for the OQ-45 SR did not yield any statistically significant effect. No variable was found to be statistically significant in any of the subsequent models, except the diagnosis of BPD, $F(1, 85.48) = 5.92, p < .05$. Shown in Figure 16, participants with a diagnosis of BPD or its features scored higher (i.e., worse) on social role problems than did those without the diagnosis.
Figure 16. Mean Social Role scores for participants with and without BPD diagnosis.
CHAPTER V
DISCUSSION

Research Question 1: Referral Patterns

The first goal of the current study was to investigate the pattern of referrals at a university counseling center. The main question was whether clients' characteristics differed for the three treatment modalities: the DBT skills training group plus individual therapy, the IP group plus individual therapy, and individual therapy only. Overall, the results supported the hypothesis that the groups would differ in clients' clinical characteristics.

Clinical Factors Influencing Referral Decisions

In general, people in the DBT skills training group presented with more severe impairment than those in the IP group or in individual therapy only. This pattern generally held whether GAF, the OQ-45, or the CAS was used as a measure of severity. Comparing prior counseling experiences, the DBT group also had significantly more people with no previous experience than IP or IND. The difference in diagnosis, however, was only observed for the diagnosis of BPD or its features, with all clients with a BPD diagnosis being found in the DBT condition. Further, effects of demographic variables on referrals were mixed. Significantly more females were in DBT than in IP or IND. IP had significantly fewer numbers of participants who were married/partnered or divorced/separated compared to IND or DBT. Looking at the student status, IND had the highest number of freshmen, while IP had more advanced students and DBT had middle-

severe case of the disorder than the one with a better ability. Thus, the emotion regulation
and distress tolerance skills taught in DBT may serve as a buffer against more severe symptoms, regardless of the specificity of the disorder (i.e., diagnosis). In any case, it was not the diagnosis itself, but the level of symptom severity, that mattered in referral decision making.

The role of gender in referral decision making may partly be due to the high number of BPD diagnoses in the DBT condition because BPD diagnosis is predominant in females (87% of this sample and 75% according to the DSM-IV-TR; APA, 2000). This characteristic of BPD may also have created a gender stereotype for DBT, implying that DBT is for females who have problems regulating their emotions, managing distress, or maintaining relationships. When men have similar difficulties, they may be referred to other treatment options. For example, one way in which a pattern of maladaptive coping may manifest in males is a problematic use of pornography and masturbation (Carnes, 1991; Cooper, Putnam, Planchon, & Boies, 1999). In this counseling center, men who present with this problem are often referred to the Men’s Identity Group, which is a process oriented group just for males at this counseling center. While women who suppress emotions may be referred to the DBT skills training group to increase their ability to recognize and express emotions, men with the same issue are more likely to be referred to the Men’s Identity Group. Thus, while clinicians were open to refer clients to DBT for problems other than BPD, they may still have been influenced by gender stereotyping and thought of DBT in helping female clients but not male clients. Another possible explanation for this pattern of referral may simply be the preference of the clients. More specifically, men may simply have expressed preference for the Men’s Identity Group over the DBT Skills Training Group.
Previous counseling experience also related to treatment referral. The fact that the DBT condition had more people with no previous experience might indicate that people needed to develop some skills before they would be referred to IP or IND. This idea is also supported by the higher symptom severity for those in DBT, indicating therapists’ potential belief that those with lower functioning might have needed to learn the “basics” first (i.e., learning how to cope with distress or manage their emotions), before they can participate effectively in individual therapy by itself or an interpersonal group.

Differences in student status across the treatment conditions may reflect types of developmental issues and phase of life challenges, which then could tie into the type of psychopathology. For example, students in their senior year may be getting ready to graduate and start a family, thus struggling with relational problems to be dealt with in an IP group. A freshman student may, instead, be working on test anxiety or basic adjustment issues in individual therapy. It might also be that freshmen are less willing to accept a referral to any group than more advanced students.

Referrals also related to relationship status; the IP condition had the fewest number of participants who were in committed relationships (i.e., married) or who had been in one (i.e., divorced). This made sense because relationship development is one of the primary intervention targets in the Interpersonal Group, which made the IP group an ideal referral for those with interpersonal difficulties and a desire to form relationships. In other words, people with interpersonal difficulties had the least amount of experience in intimate relationships, and they tended to be referred to the IP condition more often than to the other treatment options. Of course, having a limited relationship history does
not necessarily mean that the person has poorer interpersonal skills or that the person is discontent in his/her interpersonal relationships.

Overall, the results for research question number one indicated that treatment referrals were made at least partially based on the clinical severity and diagnostic presentations. Gender and relationship status also had impact on referrals, and arguments were made that those factors were related to clinical issues and presentation. These findings on the impact of clinical factors were pleasantly surprising given the finding from another study which concluded that clinical considerations had little impact on actual referrals (Quintana et al., 1991). The design of this study, however, did not allow for drawing conclusion about the degree to which practical matters (e.g., scheduling or group/therapist availability) may have played a role. Details about structural and logistical influences on referral decisions were not available in this archival data set. Nevertheless, the presence of group differences in clinical issues provides strong evidence that clinical judgment does matter in making treatment referrals at this counseling center.

Research Question 2: Effectiveness of DBT Skills

Training with College Students

Analyses for the second research question assessed the effectiveness of the DBT skills training group for this college population, relative to two other commonly used treatment modalities in the university counseling center. It was important for a number of reasons to investigate how college students benefited from the DBT skills training. First, skills taught in DBT are adaptive coping strategies that appear to be applicable to many
people who may not have a diagnosis of BPD. In fact, many researchers have evaluated
the effectiveness of DBT with other psychopathologies in various treatment settings (see
Dimeff & Koerner, 2007). Nevertheless, a large portion of DBT-related research was on
participants with a diagnosis of BPD, and studies with other disorders were relatively
limited. In particular, studies of the effectiveness of DBT with a relatively higher
functioning clinical population were not represented in the literature base. College
students at a university counseling center seem to fit this category. The fact that
participants were college students in good standing indicated a certain level of
functioning ability. Maintaining one’s student status would require demonstration of
adequate academic performance (i.e., GPA, attendance), which would be difficult to do
without some degree of psychological health. In fact, comparisons of the sample of this
study and the national samples (Lambert et al., 1996) showed that the mean Total score
of the OQ-45 for the current sample ($\bar{x} = 80.08, SD = 20.40$) was slightly lower than the
means of national sample from the outpatient clinics ($\bar{x} = 83.09, SD = 22.23$) and from
the inpatient facilities ($\bar{x} = 88.80, SD = 20.40$). The effect sizes for these comparisons
were in small to medium ranges ($d = -.14$ and $.37$, respectively). At the same time,
comparisons of CAS scores between the current sample and the national normative
sample of other college students (Anton & Reed, 1991) indicated that the current sample
exhibited much higher clinical severity than other college students, with medium to large
Cohen’s $d$ estimates of effect size (ranging from $.57$ to $1.51$). These results support the
conclusion that the university counseling center clients, therefore, would be those who
meet a certain level of functioning while struggling with various forms of
psychopathology, making them an ideal target for studying a relatively higher functioning clinical population. Furthermore, using the DBT skills training with college students was of interest because the skills taught in DBT seemed to complement the developmental tasks the students face (e.g., managing emotions, developing mature relationships) as well as the adjustment challenges relevant to a campus setting.

As was predicted and verified in the first research question, students in the DBT condition exhibited higher clinical pathology than those in the IP or IND conditions at the beginning of treatment. The second research question hypothesized that the DBT condition would show greater progress across time than the IP or IND condition would, hopefully “catching up” with people in other treatment conditions. Overall, however, the results showed complicated patterns and offered little direct support for this hypothesis. Nevertheless, this lack of direct support does not necessarily mean that the DBT skills training group is ineffective with college students. It may, instead, be considered an accomplishment to have kept these distressed students at the relatively stable level without deteriorating further, which would suggest a preventative value of the skills training group. The lack of apparent improvement may also be partially explained by the type of assessment used in this study, the length of follow-up, and the treatment fidelity with DBT at the counseling center.

Effectiveness of Treatment

Differential impact of treatment was only observed with anxiety and depression symptoms. With all other outcome measures, it was time or diagnosis that influenced the outcome. Reviewing the differences among treatment conditions across time with anxiety
symptoms, DBT participants, who started with poorer scores than IP or IND participants, continued to present with more anxiety symptoms over the course of a semester. Students in DBT, in fact, seemed to do slightly worse over time. On the other hand, IP improved gradually until symptoms returned at the end of the semester. The most progress was seen with IND, whose symptom scores fluctuated throughout the semester but showed overall improvement at the end. When the level of attendance was taken into consideration, the difference between high attendance (i.e., more frequent sessions) and low attendance (i.e., less frequent sessions) participants was visible but perplexing. Contrary to expectations, symptom severity of people who had better attendance changed little for all three treatment conditions. Across time, DBT participants consistently presented with more symptoms than IP and IND. Scores for people with low attendance, however, presented in different patterns for each treatment. The group with most progress was IND, which showed a relatively steady progress over time. Clients in IP and DBT got better at first, but became more anxious again at the end of the semester. While a lack of change in the high attendance group was disappointing, it may speak to the benefit of those treatments that the high attendance participants in DBT and IP did not experience the end-of-semester increase in symptoms as the low attendance participants did.

In predicting depression symptoms, the three-way interaction of treatment, time, and attendance was statistically significant when the diagnosis of BPD was taken into consideration. Differences for treatment conditions, however, were difficult to interpret because everyone with BPD was in the DBT condition. The relatively low number of people with BPD further complicated this. Comparing treatment conditions and BPD
diagnosis, all groups generally presented with a similar pattern of change over time, showing relatively dramatic improvement at first but worsening at the end. Overall, however, scores seemed to improve over time. Participants with high attendance, on the other hand, showed gradual improvement over time with no deterioration at the end of the semester.

For both anxiety and depression, one possible argument for the differences between the high and low attendance groups may be that infrequent attendance/sessions could be a function of the level of support needed to maintain basic functioning. In other words, people who were functioning adequately had less need to attend regular counseling, while people who struggled more needed more treatment and continued to attend more sessions. If this explanation were true, the lack of improvement in the high attendance group would not necessarily negate the effectiveness of treatment. Those individuals may not have demonstrated reductions in symptoms over time, but they may be accessing the services they need to maintain adequate functioning. These patterns may also simply be reflecting the nature of each treatment. In individual therapy, reduction of treatment (i.e., attendance) may directly reflect improvement of condition, and the decision for fewer sessions may have been clinically supported by the therapists. Because individual sessions can be tailored for each individual, clients in individual therapy may not “miss” anything by reduced appointments. On the other hand, missing sessions in structured treatment such as the DBT skills training would directly reduce the amount of therapeutic material the person would receive. In other words, a consequence of missing sessions may be greater for DBT than IND.
Effects of Time

While treatment seemed to have little effect on outcome in this study, change over time was observed in most of the outcome measures. Specifically, a relatively consistent pattern emerged indicating that students improved during the first part of the semester and declined again at the end of the semester. This pattern may relate to the academic stress that increases with final exams at the end of each semester. The end of a semester is also a time for change (e.g., graduation, summer jobs, returning to parents’ home) for many students, which tends to increase stress. Support for this possibility is provided by the fact that this pattern held particularly with symptoms of anxiety disorders (i.e., the Anxiety problem scale of CAS).

Effects of Selected Demographic Variables and Condition Characteristics Covariates

Adding the diagnosis of BPD (or its features) was meaningful for most of the outcome measures. It was particularly helpful in understanding change over time for models predicting depression symptoms (DP of CAS), self-esteem problems (SE of CAS) and problems in interpersonal relationships (OQ-45, IR). In these cases, people with a BPD diagnosis (or its features) presented with more symptoms/problems across time in general. Interestingly, however, while clients without BPD diagnosis tended to succumb to the end of semester increase of symptoms, clients with a BPD diagnosis showed improvement at the end of semester. This decrease at the end was particularly large for interpersonal problems, in which people with BPD did better than those without BPD at the last time point. Further, in assessing interpersonal problems (IP of CAS) and social role problems (SR of OQ-45), BPD was practically the only factor that had a significant
effect on the outcome measures. Both cases showed that people with BPD reported more problems than those without BPD. Any patterns with BPD diagnosis, however, should be interpreted with caution because the number of people with BPD was markedly lower than those without BPD.

The diagnoses of BPD and mood disorder were also connected to change over time for general symptom severity (OQ-45 Total and Symptom Distress). Scores for people with BPD as well as both BPD and mood disorder tended to fluctuate and showed overall increase (i.e., deterioration), while others had little fluctuation and general decrease over time. One group that did not experience the end of semester deterioration was those with mood disorder only (no BPD), who actually improved at the last time point.

Implication of Treatment Effectiveness

On the surface, none of the models supported the hypothesis that the DBT condition would show greater progress or reduction in reported symptoms. The effect of treatment condition over time was present only with anxiety and depression symptoms, and it was not in the direction of the hypothesis. While participants in the DBT skills training continued to present with more anxiety symptoms, those in individual therapy demonstrated overall improvement, and those in the process group showed small improvement until the end of semester approached.

These results, however, do not necessary rule out the effectiveness of DBT skills training group. In part, a lack of positive impact of the treatment may be due to the duration of the data collection, which limited the outcome to the change during one
semester. It is possible that, given the higher severity of clients in DBT treatment, the clients need more time to make improvements. It is also often said that clients feel worse before they start getting better because treatment tends to increase their awareness of painful emotions and creates the initial increase in their psychological distress (e.g., Hayes & Strosahl, 2004; Ladany, Walker, Pate-Carolan, & Evans, 2007). This may very well be happening to clients who are in the DBT skills training group and working on improving their emotional awareness.

Furthermore, in regard to the treatment fidelity, it should be noted that Linehan’s clients typically stay in the skills training group for at least one year, and that Linehan recommends six months for higher functioning clients (Linehan, 1993b). In addition, there was no way of assessing how and whether the individual therapists were addressing the DBT skills with their clients in individual sessions. Without the individual therapists’ involvement as skills coaches, clients may be less likely to practice and apply the skills.

Another contributing factor for the current results may be related to the assessment tools (i.e., CAS and OQ-45). If the results are to be believed without a question, it would mean that the treatment offered at this counseling center is generally ineffective. This is extremely difficult to believe, particularly given reports from client satisfaction surveys. In fact, 80-88% clients responded “agree” or “strongly agree” to the survey item that stated their problem changed for the better as a result of therapy. Further, 91-99% reported feeling satisfied with their therapists, and 91-96% reported that they would return again for service if necessary in the future (USU Counseling Center, n.d.). Assuming that treatment is effective, an alternate explanation, then, might have to do with what the assessments were measuring. The OQ-45 and the selected scales used
from the CAS were measures of the subjective distress and mood. What they failed to
capture was the behavioral aspect of psychopathology, such as self-harm behaviors. It is,
therefore, highly possible that clients in the DBT skills training group were reducing their
behavioral symptoms by using the coping skills they were learning while experiencing
the same or higher level of emotional distress.

In addition, there was a problem with the assessment data due to the inconsistency
in administration. As it appeared in the high attrition of data, clients at the counseling
center were not being administered the CAS and the OQ-45 as scheduled. At this
particular center, those measures were administered by the support staff. It seemed that
the schedule for administration was not followed vigorously and that practical issues took
priority to testing (e.g., clients were excused from testing if testing time cut too much
into their therapy time).

Conclusion

The referral pattern at this counseling center was consistent with theoretical and
clinical decision making. Students with more psychological impairments were generally
assigned to DBT skills training group. Although students with BPD were consistently
referred to the skills training group, other diagnoses did not have a particular pattern of
referral. In most cases, therefore, the level of severity played a larger role in referral
decision making than the diagnosis itself. Although the initially higher severity in DBT
condition was expected, the pattern of change over the semester was not as predicted.
Overall, clients in the skills training group continued to present with more psychological
problems than those in the interpersonal process group or in individual therapy only.
Thus, more pronounced effectiveness of the DBT skills training group was not demonstrated in this study. Yet, the fact that those clinically severe clients stayed at a relatively same level is promising, indicating that the treatment may have helped those students kept them from deteriorating further and possibly helped them stay in school.

Limitations of the Current Study and Implications for Future Studies and Practice

In investigating referral patterns, the current study only assessed whether the clinical characteristics played a role in referral, but did not test how much practical considerations (e.g., scheduling) affected the actual referrals. To make a better comparison with Quintana and colleagues’ study (1991), it would be beneficial for future studies to survey all the factors that intake clinicians and clinical staff consider during their decision making (e.g., initial recommendation, scheduling issues, clients’ preference) and compare them with the actual referral. Further, it would be interesting to include other treatment options (e.g., men’s issues groups, stress and anxiety management groups), and assess whether the pattern of referrals found in this study would still hold.

Another limitation in the current study was that clients’ diagnosis was not assigned at the intake but was provided at the termination based on the information the therapists learned through the course of treatment. This meant that the current results may not accurately reflect the diagnostic impressions made by the intake/referring therapist. That being said, their diagnoses likely reflected the clients’ actual psychopathology more accurately than it would were they given at the intake. In
addition, even though official diagnoses were not provided at the intake, it can be said that the case conceptualization started from the beginning, which then influenced the referral process.

Attrition was most problematic when the effectiveness of DBT skills training group was investigated. Although the selected statistical method accommodated for attrition, it certainly reduced the number of cases that could be included in the study to begin with, and it also reduced the statistical power. The problem of attrition was not due to treatment drop-out, but was related to missing the assessments. Although the OQ-45 and the CAS were designed to be administered at certain intervals at this counseling center, it turned out that many clients actually skipped or missed assessments at one or more time points. In an active treatment facility such as this, it does seem appropriate to place priority on meeting clients’ treatment needs rather than on ongoing assessment; for example, skipping the assessment when it might cut too much into the session time. Nevertheless, the assessments can be valuable and complementary to treatment. If administering the OQ-45 and the CAS at the scheduled interval is impractical, the schedule, and perhaps the method, should be reevaluated to maximize their utility. This might include reconsideration of using the CAS, which takes longer to complete, for tracking change over time. More importantly, the other assessments that measure behavioral changes need to be incorporated to more accurately track clients’ change over time. The currently used measures, the OQ-45 and the CAS, may be valuable tools to understand shifts in clients’ mood and subjective distress, but they do not assess the use of adaptive or maladaptive coping strategies.
Another limitation in this study was the limited fidelity to DBT. First, administering the group in one semester was much shorter than the original protocol suggested, although modifying the program to shorter duration was perfectly appropriate, according to Linehan (1993b). The bigger problem, however, was that the clinicians who provided individual therapy were not necessarily DBT therapists. As such, in actuality, clients in the DBT condition attended the DBT skills training and received unspecified individual therapy. The results of this study, therefore, cannot be justifiably used to speak to the effectiveness of DBT itself. This lack of treatment fidelity, however, was not problematic in itself because it would be ideal if the skills training could be used to complement any type of therapy. Nevertheless, a lack of positive finding in this study was contrary to other findings with purer forms of DBT, which may be due to a lack of fidelity to DBT by the individual therapists. In fact, Linehan (1993a) does emphasize the importance of incorporating the skills in the individual therapy. Thus, it might very well improve the effectiveness of the skills training group to increase the individual therapists’ understanding of the DBT skills and have them incorporate the skills more effectively in their individual work.
REFERENCES


Appendix A:

Personal Data Sheet
Name: ___________________________ Date: ___________________________

Banner ID# A ___________________________

Date of Birth: ____ / ____ / ____ Age: ____

Address: ___________________________

Male: _______ Female _______ (check one)

_________________________

City State Zip

Local Phone: ___________________________

Alternate Phone: ___________________________

May we contact you by e-Mail? if yes E-Mail: ___________________________

Use of e-mail is not a secure form of communication; thus confidentiality cannot be insured.

Emergency Contact: Person to contact in case of a medical emergency.

Name: ___________________________ Relationship ___________________________

City, State: ___________________________ Phone Number ___________________________

Student Status

____ Freshman
____ Sophomore
____ Junior
____ Senior
____ Graduate (____ Masters / ____ Ph.D.)
____ Partner / Spouse
____ Other (________________________)

Ethnicity (check all that apply)

____ White / Caucasian / European American
____ Black / African American
____ Native American / Alaskan Native
____ Hispanic / Latina/o
____ Asian American
____ Pacific Islander
____ International (Country: __________________)
____ Other (Specify: __________________)

Number of credit hours enrolled for THIS Semester: ____ Major: ___________________________

Housing: ____ On Campus or ____ Off Campus

(Check One below)

____ I live with parents/family
____ I live alone

____ I live with ____ (#) of roommates
____ I live with my spouse/partner/children

Relationship status: (check one)

____ Single
____ Married
____ Committed
____ Relationship/Partner
____ Divorced/Separated
____ Widowed

Medical:

Have you ever had any significant medical problems? ____ Yes ____ No

Describe briefly

__________________________________________________________
Are you presently taking any medication (including oral contraceptives, Herbal, or Dietary supplements) or undergoing any medical treatment?  ____ Yes  ____ No  List and/or describe ________________________________

Previous Psychological Counseling:  ____ Yes  ____ No

If yes, please briefly describe where and when and who these services were sought from: ________________________________

Have you been diagnosed with a disability? (For accommodation purposes)  ____ Yes  ____ No

Are you currently working?  ____ Yes  ____ No  If so, how many hours per week? ________________

Religious Affiliation: ________________________________

How did you find out about our services? (Check all that apply)

____ Friend  ____ Ad in Statesman  ____ Workshop attendance

____ Family Member  ____ Advisor  ____ Pamphlets

____ Faculty  ____ Web Page  ____ Physician / Student Health Center

____ Previous experience with USU Counseling Center

____ Other (Specify: ____________________________)

Referred by: ____________________________

(Name)  (Role)

Significant Others: (Please list significant people in your life; e.g., parents, siblings, spouse, children, close friends, etc.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Living (Y/N)</th>
<th>Relationship to you</th>
<th>Occupation</th>
<th>Living with you (Y/N)</th>
</tr>
</thead>
<tbody>
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</table>

Total number of children in family of origin ________ (including you)
Your birth order ________

Briefly describe the issue(s) bringing you to the Counseling Center.

__________________________________________________________________________

__________________________________________________________________________

Revision 06/2006
Appendix B:

Intake Checklist
## INTAKE CHECKLIST

**Client Name:** ___________________________  **Date:** ___________________________

**Intake Therapist:** ___________________________

### DID YOU:

<table>
<thead>
<tr>
<th>Intake/Staffing &amp; Wait List Process</th>
<th>1</th>
<th>Explain intake appointment and the staffing process. If a wait list exists, alert the client to the amount of time it is likely to take to begin ongoing therapy.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Six Session Eval.</td>
<td>2</td>
<td>Alert the client to the sixth session re-evaluation. At this time they will usually be moved to an every-other week appointment schedule.</td>
</tr>
<tr>
<td>Groups</td>
<td>3</td>
<td>Explore the possibility of group therapy as an alternative to individual therapy.</td>
</tr>
<tr>
<td>Forms</td>
<td>4</td>
<td>Make sure that the client filled out the forms and signed the &quot;client rights&quot; sheet and these were discussed.</td>
</tr>
<tr>
<td>Supervision/Taping</td>
<td>5</td>
<td>Supervision disclosure/Any Taping Objections: Check client rights form.</td>
</tr>
<tr>
<td>Call Back</td>
<td>6</td>
<td>Request client call after Practicum and/or staff meeting to schedule with assigned therapist. (Give them a blank appointment card.)</td>
</tr>
<tr>
<td>Scheduling</td>
<td>7</td>
<td>Remind the client of his/her responsibility to schedule appointments.</td>
</tr>
<tr>
<td>&quot;No Show&quot; Policy</td>
<td>8</td>
<td>Alert the client that a &quot;No Show&quot; will result in a cancellation of any other scheduled appointments. Two consecutive &quot;No Shows&quot; may result in being placed on your therapists wait list or termination (Note: A &quot;No Show&quot; is not the same as cancellation or rescheduling.)</td>
</tr>
<tr>
<td>Information Release</td>
<td>9</td>
<td>Do you need to get an &quot;Information Release Form&quot; for the previous therapy or medical treatment?</td>
</tr>
</tbody>
</table>

After completing the intake, please provide a severity rating for the client with a GAF scale rating 1-100.  

**GAF Rating** as evidenced by (see back for criteria):

---

**Assignment Preferences:** (e.g., wants or doesn’t want a particular therapist, male or female, LDS or non-LDS, dual relationship issues, sexual orientation issues, etc.):

---

**Additional Staffing Recommendations:** (to be completed at Staff Meeting):

---

**STAFFED TO:** ___________________________
Appendix C:
Client Rights and Responsibilities
CLIENT RIGHTS/RESPONSIBILITIES
Utah State University Counseling Center

As a client of the USU Counseling Center, you have the right to:

1. Receive the best professional services within your personal belief and value system.
2. Ask any questions about the Counseling Center and its function or about the training, experience, therapeutic orientation, and personal values of your counselor.
3. Participate in the development of your individual treatment plan with your counselor or request alternative treatment.
4. Request a specific staff member or type of counselor (e.g., female vs. male).
5. Refuse services or terminate treatment at any time.
6. Review your own file, with your counselor present, within a reasonable time after making a written or verbal request. Parents/legal guardians also have the right to review, with the counselor, the file of their minor child (below age 18).
7. In general, written or verbal information will be kept confidential. In the event that confidential information has been requested by others, you will be informed of options available to you. No information will be communicated to other individuals or agencies unless authorized by your signature (or parents signature if you are under 18) on a release-of-information form. There are, however, certain limits to confidentiality; a counselor is legally and ethically required to disclose confidential information in the following instances:
   a. A clear emergency exists where there may be danger to you or others.
   b. Child, elderly or disabled adult abuse or neglect is suspected or reported.
   c. Under court order to surrender client records and/or give testimony
8. Contact the Counseling Center Director or Assistant Director to discuss concerns if you believe that your rights have not been attended to.

As a client of the USU Counseling Center, you have the responsibility to:

1. Make the most of your counseling by: coming prepared, completing assignments, and maintaining a commitment to learn about yourself.
2. Schedule and keep appointments. If you must cancel an appointment, please give 24 hours notice if possible so another person may have the opportunity to be seen.
3. Attend sessions consistently. If you miss 2 or more sessions your file may be terminated.
4. Speak with your counselor before requesting a change to another counselor or discontinuing treatment.

(over)
As a client of the USU Counseling Center, please be informed:

The Counseling Center reserves the right to verify your student status in order to ascertain current eligibility for services (minimum of six (6) credit hours is required).

- The Utah State University Counseling Center provides training for pre-doctoral Intern students and graduate students in the Pro-Sci Psychology Training Program. Services may be provided by advanced students who work at a level appropriate to their training and who are under supervision by Counseling Center Psychologists.

- Counseling Center policies relating to confidentiality are:
  
a. Counselors review individual cases with other Counseling Center staff, i.e. supervisors or review by the clinical team.
  
b. When a client is contacted at home (to reschedule an appointment, for example), communication is made by telephone, letter or e-mail. (If you’re opposed to either of these please inform front office staff).

- For purposes of training and supervision, the counselors on our staff and in our training program may at times audiotape or videotape counseling sessions. Sessions will not be taped without your knowledge. All such tapes are the property of the Counseling Center and no one but supervisory staff and counselors will have access to them. They will be erased after supervision is completed. Sessions may also be scheduled for live observation by the supervisor(s). Rules of strict confidentiality apply and will be respected.

- To better serve students, the Counseling Center collects research data from time to time. Participation is strictly voluntary and does not affect your right to receive services. All information is kept in strict confidence and will be coded so your identity remains anonymous. Interested individuals who provide the data may contact Counseling Center staff for a summary of results.

These policies are established with your welfare in mind. If you have any questions or reservations concerning these policies, please talk to your counselor. Please keep your copy of these rights and responsibilities for future reference.

I have read the above statement of client rights/responsibilities, have no questions about them, and give consent for treatment, and data collection as described.

Signature: ________________________________ Date: ________________________________

Witness: ________________________________

Rev. 06/06
CURRICULUM VITAE

ERI SUZUKI BENTLEY
Eri.Bentley@usu.edu

USU Counseling Center
0115 Old Main Hill
Logan, UT 84322

(435) 797-1012 (phone)
(435) 797-0855 (fax)

EDUCATION

Ph.D.
2009 (anticipated)
Utah State University
Logan, Utah
Combined Clinical/Counseling/School Psychology Program, APA-Accredited

Dissertation: An Evaluation of Referral Patterns and Therapy Outcomes at a University Counseling Center: Analysis of a Dialectical Behavior Therapy Skills Training Group

Chairs: Renee Galliher, PhD, Mary Doty, PhD
Pre-doctoral Internship: Washington State University Counseling and Testing Services--APA-Accredited

M.S. 2006
Utah State University
Logan, Utah
Counseling Psychology


Chair: Tamara Ferguson, PhD

B.A. 1999
Humboldt State University
Arcata, California

Major: Psychology

A.A. 1996
Orange Coast College
Costa Mesa, California

Major: Liberal Studies
CLINICAL EXPERIENCE

8/2008 - present  
Staff Therapist  
Utah State University Counseling Center; Logan, Utah  
Responsibilities: individual and group counseling services to university students; crisis intervention; intake interviews, testing (learning disabilities, ADHD, neuropsychological, personality); outreach and workshop to the university population; liaison to the disability resource center, the office of international students and scholars, the women’s center, the reentry student center, the veterans’ support services (in planning); individual supervision to undergraduate REACH Peers.  
Supervisors: Mary Doty, Ph.D; David Bush, Ph.D.

7/2007 - 6/2008  
Psychology Intern  
Washington State University Counseling and Testing Services – APA accredited pre-doctoral internship; Pullman, Washington  
Responsibilities: individual, couple’s and group counseling services to university students; crisis intervention; intake interviews; testing (personality, learning disabilities, ADHD); outreach and workshop to the university population; liaison to the international student office; group and individual supervision to masters level trainees in an APA accredited program; substance abuse/dependence assessment; stress management program; emergency on-call service for sexual assault and alcohol detoxification assessment; internship selection interview and committee.  
Minor rotations: alcohol and substance assessment and treatment; training/supervision.  
Major rotation: 4-week rotation in the adult inpatient unit at Eastern State Hospital.  
Supervisors: Barbara Hammond, Ph.D; Cassandra Nichols, Ph.D; Janice Kusch, Ph.D
Graduate Assistant Therapist  
Avalon Hills Residential Eating Disorders Program – Adolescent and adult treatment facilities, Petersboro, Utah (Adolescent), Paradise, Utah (Adult)  
*Responsibilities:* individual and family counseling services to adolescent and adult females; group therapy (interpersonal process, psychoeducation, DBT skills training, relapse prevention); experiential therapy (co-therapy); intake assessments; generating treatment plans; collaboration with multidisciplinary treatment team, including psychiatrist, physician, psychologists, nurse practitioners, dietitian, direct care personnel, and parent advocate; program development.  
*Supervisors:* Dave Christian, Ph.D; Jennifer Tolman, PhD; Benita Quakenbush-Roberts, PhD

Student Therapist (Specialty Trauma Practicum)  
Psychology Community Clinic; Utah State University  
*Responsibility:* individual therapy to female survivors of abuse and neglect.  
*Supervisor:* Carolyn Barcus, EdD

Graduate Assistant Therapist  
USU Counseling Center, Logan, Utah  
*Responsibilities:* individual counseling services to university students; group therapy (interpersonal process, DBT skills training; international students support/discussion); animal assisted therapy; outreach services; intake assessments; crisis consultations; staff training; liaison with the office of international students and scholars; supervision of undergraduate peer counselors.  
*Supervisors:* Mary Doty, PhD, David Bush, PhD, & Tom Berry, PhD

Graduate Assistant Therapist  
Child and Family Support Center, Logan, Utah  
*Responsibilities:* individual counseling to children and adults survivors of abuse and/or neglect; group therapy (self-esteem, sexual abuse survivors group); intake assessment.  
*Supervisors:* JaNae Sorensen, LSW & Gretchen Gimpel, PhD
**Mental Health Specialist**  
*Bear River Early Head Start, Logan, Utah*  
*Responsibilities:* individual therapy to children and parents; group therapy (parents support); parent training sessions; intake assessments; mental health screenings; staff trainings.  
*Supervisor:* David Stein, PhD

8/2002 - 7/2004  
**Student Therapist (Specialty Sexual Abuse Practicum)**  
*Psychology Community Clinic; Utah State University*  
*Responsibility:* group therapy for female survivors of trauma (co-therapy)  
*Supervisors:* Carolyn Barcus, EdD, & Susan Crowley, PhD

**Practicum Student Therapist (Clinical Psychology Practicum)**  
*Psychology Community Clinic; Utah State University*  
*Child and Family Support Center, Logan, Utah*  
*Responsibilities:* individual therapy to children and adolescents; parent training; intake interviews; psychological evaluations; group therapy for girls who were abuse victims  
*Supervisors:* Gretchen Gimpel Peacock, PhD, JaNae Sorensen, LSW

**Practicum Student Therapist (Counseling Psychology Practicum)**  
*USU Counseling Center*  
*Responsibilities:* individual and couple’s therapy; group therapy (interpersonal process); intake interviews; consultation and outreach service.  
*Supervisors:* Gwena Gouillard, PhD, David Bush, PhD, & Mark Nafziger, PhD

**Practicum Student Therapist (School Psychology Practicum)**  
*Center for Persons with Disabilities, Clinical Services Division*  
*Responsibilities:* psychological assessments as a member of a multidisciplinary team; administration and interpretation of cognitive and achievement tests and various symptom rating scales; writing comprehensive evaluation reports.  
*Supervisor:* Pat Truhn, PhD
1/2001 - 5/2001  Practicum Student Therapist (Introductory Practicum)  
Psychology Community Clinic; Utah State University  
*Responsibilities:* individual therapy to adults; intake interviews; psychological evaluations.  
*Supervisors:* Susan Crowley, PhD

**SUPERVISION EXPERIENCE**

WSU Counseling and Testing Services  
Co-facilitated group supervision of masters level trainees in an APA accredited program; Edited intake reports and other paperwork written by the trainees.

Supervision of trainees in beginning and advanced practicum in an APA accredited program; Edited intake reports and other paperwork written by the trainees.

**TEACHING EXPERIENCE**

8/2007 - 12/2007  Beginning Practicum  
Co-facilitated didactic training class for second-year clinical and counseling students in an APA accredited program.

Utah State University  
*Responsibilities:* Developing test questions; proctoring examinations; office hours to meet with students; some lectures and supplementary lab sessions.  
*Supervisors:* Tamara Ferguson, PhD (2001), Derek Borman, PhD (2001), & Brian Tschanz, PhD (2000)
RESEARCH EXPERIENCE

9/2001 - 5/2005  Graduate Research Assistant
ADHD Research Group; Psychology Department,
Utah State University, Logan, Utah
Investigated effectiveness of parent training combined with
stress management sessions with parents of children with
ADHD. Also investigated parents’ recall of information
provided during summary sessions for psychological
evaluations.
Supervisor: Gretchen Gimpel Peacock, PhD

5/2001 - 5/2003  Graduate Research Assistant
Psychology Department, Utah State University,
Logan, Utah
Involved in a long-term evaluation study of an arts program at
an elementary school. Also investigated children’s ability to
make inferences about people’ dispositions.
Supervisor: Tamara Ferguson, PhD

TECHNICAL REPORTS

Lake City, UT: Emma Eccles Jones Foundation.

Lake City, UT: Emma Eccles Jones Foundation.

PUBLICATION

counseling center: Application of dialectical behavior therapy. Manuscript
submitted for publication.
PROFESSIONAL PRESENTATIONS (NATIONAL AND STATE)


SELECTED PROFESSIONAL PRESENTATIONS (UNIVERSITY AND COMMUNITY)

3/2009  Working with Returning Veterans on a College Campus
Training seminar presented to practicum students in a PhD psychology program
11/2008  Student of Concerns
Outreach presented to USU faculty and staff in the Department
of Natural Resources

1/2008, 8/2007  Safe Drinking
Outreach presented to WSU international students

1/2008, 8/2007  Sexual Harassment
Outreach presented to WSU international students

10/2007  Debriefing for Sexual Assault
Co-facilitated a debriefing session for WSU sorority members

9/2007  Communication Skills
Outreach presented to mentors for WSU Multicultural Student
Center

8/2007  Dealing with Resident who Self-Harm
Outreach presented to USU resident assistants

4/2005  Animal Assisted Therapy
In-service for USU Counseling Center staff

3/2004  Reinforcing Children’s Positive Behaviors
In-service for staff at the Early Head Start Program

1/2004  Reinforcing Children’s Positive Behaviors
In-service for staff at the Early Head Start Program

10/2003  Childhood Psychological Disorders
In-service for child care providers in Logan, Utah

8/2003  Infant Mental Health
In-service for staff at the Early Head Start Program

4/2003  Stress Management Techniques
Guest lecture for USU undergraduate psychology course

10/2002  Psychological Disorders
Outreach presented to USU Housing Services

SELECTED UNIVERSITY AND COMMUNITY SERVICE

1/2009 - present  Utah Counseling Center Conference Planning Committee
Responsible for planning annual conference for counseling
centers in Utah.
8/2008 - present  USU Student Services Division Planning Committee for Veterans Services
Working to create a veterans support center for USU student veterans.

11/2007 - 2/2008  Pre-doctoral Internship Selection Committee
Participated in screening, interviewing, and ranking process of applicants for an APA accredited internship program.

7/2007 - 6/2008  Liaison for the Office of International Student
Facilitated support for WSU international students and collaboration with counseling services.

2/2004 - present  Allies on Campus
Support organization for USU GLBT students. Helped to promote diversity and respect toward individuals, with specific focus on GLBT students.

1/2002  American Red Cross
Participated in mental health services during the winter Olympics. Patrolled with disaster response teams

AWARDS AND SCHOLARSHIPS

2000  Utah State University
Recipient of the 2000 Vice President’s Research Fellowship ($12,000)

1997 - 1999  Humboldt State University
Deans List

1995 - 1997  Orange Coast College
Deans List

PROFESSIONAL AFFILIATIONS

1998 - 2008  American Psychological Association, Student Member

FOREIGN LANGUAGE
Japanese (first language)