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STOPPING SELF-HARM ONCE AND FOR ALL: RELAPSE PREVENTION IN DIALECTICAL BEHAVIOR THERAPY

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Behaviors that involve direct, deliberate self-harm recently have received increasing attention in the media and in research studies. Deliberate self-harm (DSH) involves the direct and intentional destruction or alteration of one's bodily tissue without the intent to die (Chapman, Gratz & Brown, 2006). Although previously considered a phenomenon characteristic only of particular subgroups of individuals (e.g., female adolescents, persons with cognitive or developmental disabilities; psychotic individuals; persons with borderline personality disorder), emerging research demonstrates a high prevalence of DSH in a variety of populations (in particular, female prisoners, college undergraduates, and high school students; see Chapman, Specht & Cellucci, 2005; Gratz, 2001; Zoroglu et al., 2003, respectively). However, rarely is DSH seen with the prevalence and frequency with which it occurs in individuals with borderline personality disorder (BPD).

BPD is characterized by “. . . a pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity beginning by early adulthood and present in a variety of contexts” (American Psychiatric Association, p. 650). Defining features involve instability in a variety of life domains, including interpersonal functioning, mood, identity, and cognition (APA, 1994). Although the prevalence of BPD is approximately 1 to 2 percent (Torgersen, Kringlen & Cramer, 2001), it is estimated that between 9 and 40 percent of high inpatient services utilizers have a diagnosis of BPD (Surber et al., 1987; Swigar, Astrachan, Levine, Mayfield & Radovich, 1991). This disproportionately high rate of mental healthcare utilization likely is due to an exceedingly high prevalence of suicide attempts and DSH.

Although relapse prevention generally is discussed with regard to addictive behaviors and substance abuse/dependence (Irvin et al., 1999), preventing relapse also is quite relevant to DSH and other related behaviors. Similar to addictive behaviors, emerging research (Haines et al., 1995; Shaw-Welch et al., 2003), and theories (e.g., Chapman, Gratz & Brown, 2006) on DSH suggest that this behavior reduces or eliminates unwanted or intolerable emotions, particularly in persons with BPD (Chapman, Specht & Cellucci, 2005). Clinically, we have observed that persons who engage in DSH have many of the experiences commonly encountered by individuals who abuse alcohol or drugs, including: (1) a build-up of cravings and urges to engage in DSH over time; (2) the presence of distressing emotions as triggers for DSH (see also Chapman & Dixon-Gordon, 2005 for research on the emotions that may trigger DSH); (3) idiosyncratic “high-risk situations” (Carroll, 1996; Witkiewitz & Marlatt, 2005) consisting of people, places, and events that make it difficult for the individual to refrain from DSH; and (4) an increased probability of “relapse” following DSH.

This chapter provides an overview of the issues and strategies associated with *preventing* the relapse of deliberate self-harm. We focus on treatment of DSH within BPD because there is currently little empirical evidence on treatments for DSH in other clinical populations (evidence is reviewed later). To date, Dialectical Behavior Therapy (DBT; Linehan, 1993) is the only psychosocial treatment for BPD that may be considered well-established, or *efficacious and specific* (Chambless & Ollendick, 2001). DBT consists of many interventions that aim to reduce DSH and other self-destructive behaviors, and to prevent the recurrence or relapse of these behaviors. As such, this chapter focuses on interventions in DBT that prevent relapse, providing a mix of research findings and practical clinical examples.

THE PROBLEM OF DELIBERATE SELF-HARM IN BORDERLINE PERSONALITY DISORDER

As defined in this chapter, and by others (e.g., Chapman et al., 2006; Gratz, 2001), DSH involves direct destruction or alteration of one’s body tissue with the

intent to cause harm, but without conscious intent to die. As such, DSH does not include suicide attempts, which involve the intent to die; other forms of behaviors that may cause harm, but are not intended directly to cause harm, such as most forms of tattooing or body piercing (when the intent is not to inflict harm), or excessive drug or alcohol use or cigarette smoking. DSH commonly involves behavior such as cutting or burning, banging or hitting oneself, but also may involve drug overdoses, self-poisoning, or other such behaviors, as long as there is direct intent to cause harm, but no intent to die.

DSH falls under the broader category of *parasuicide* (Kreitman, 1977), which involves any deliberate destruction of bodily tissue, with or without intent to die; hence, parasuicide may include DSH and/or suicide attempts. It is important to note that not everyone who engages in DSH is suicidal or has attempted suicide (Kessler, Borges & Walters, 1999; Velamoor & Cernovsky, 1992). In addition, emerging research has suggested important differences between DSH and suicide attempts (e.g., Brown, Comtois & Linehan, 2002; Chapman & Dixon-Gordon, 2006). Nonetheless, many individuals who engage in DSH also have concurrent suicide ideation and a history of suicidal behavior (Kessler et al., 1999; Velamoor & Cernovsky, 1992).

DSH is prevalent and chronic in persons with BPD. Although other diagnostic groups have comparable suicide rates, a larger proportion of persons with BPD *attempt* suicide, engage in DSH, and have repeated episodes over time (Langbehn & Pfohl, 1993; Linehan & Heard, 1997; Tanney, 1992). Lifetime prevalence rates of suicide attempts (75%), suicide completion (10%), and, in particular, DSH (69–80%) are exceptionally high (Clarkin, Widiger, Frances, Hurt & Gilmore, 1983; Stone, Hurt & Stone, 1987), compared with most clinical groups. This hardly is surprising, as parasuicidal behavior is a diagnostic criterion for BPD. However, BPD is associated with an elevated parasuicide risk even when the diagnosis is determined without the parasuicide criterion (Corbitt, Malone, Haas & Mann, 1996; Friedman, Aronoff, Clarkin, Corn & Hurt, 1983; Schaffer, Carroll & Abramowitz, 1982). Therefore, the question remains as to why persons with BPD tend to engage in DSH so frequently.

A couple of evidence-based theories have been proposed to explain DSH generally (the Experiential Avoidance Model, or EAM; Chapman, Gratz & Brown, 2006), and DSH as it specifically occurs in persons with BPD (Linehan, 1993). Linehan's *biosocial theory* proposes that the central underlying feature of BPD is pervasive "emotion dysregulation," which results from a combination of emotion vulnerability and difficulty regulating emotional experiences. According to the biosocial theory, emotion dysregulation in BPD develops from a transaction between an *invalidating rearing environment* and a biologically based vulnerability to quick, strong, and long-lasting emotional reactions (*emotion vulnerability*).

According to Linehan (1993), the individual with BPD is intensely emotional, but grows up in an environment in which he or she does not learn the skills required to regulate emotions. In addition, the invalidating environment often

involves various forms of abuse, or harsh criticism, punishment, or other dysfunctional reactions to the emotional child. Consequently, persons with BPD lack adaptive skills for regulating emotions, and end up with frequent and intense emotional experiences. Sometimes DSH functions to escape negative emotions, and at other times is an automatic mood-dependent response to emotions.

According to the Experiential Avoidance Model (EAM), DSH is maintained by negative reinforcement in the form of escape or avoidance of unwanted or intolerable emotional experiences. In particular, DSH appears to reduce emotional arousal, and persons who engage in DSH often report that they do so in order to escape emotions (for a review, see Chapman et al., 2006). As a result, the person with BPD is caught in a vicious cycle of intense emotions and self-destructive behavior, both of which are maintained by relief or escape from emotions. Based on this conceptualization of DSH and related problems in BPD, treatments tend to focus on ways to improve emotion regulation in BPD patients.

TREATMENT FOR DELIBERATE SELF-HARM: DIALECTICAL BEHAVIOR THERAPY

Dialectical behavior therapy (DBT) originally represented an attempt to apply established behavioral and cognitive therapy techniques to the treatment of individuals with chronic suicidal behaviors and self-injury (Linehan, 1993). Over time, Dr. Marsha Linehan discovered that many of the change-oriented CBT approaches that had garnered considerable empirical evidence in the treatment of other disorders were not acceptable to multiproblem, self-injurious BPD patients. Due to an almost exclusive focus on *changing* thoughts and behaviors, patients often felt invalidated and failed to comply with CBT. As a result, Linehan incorporated into DBT acceptance-based strategies from a variety of sources, including client-centered therapies and Zen practice, aimed at conveying acceptance of the patient, as well as helping the patient learn acceptance. With its focus on both accepting the patient and helping the patient to change self-destructive behaviors (such as DSH) and work toward a fulfilling life (i.e., a “life worth living”), DBT came to rest on a theoretical foundation of *dialectical philosophy*.

Dialectical philosophy views reality as consisting of a continual interplay of opposing forces (e.g., thesis and antithesis). According to the dialectical worldview, many positions (thesis) naturally pull for an opposite position (antithesis). Thesis and antithesis exist in a “dialectical tension” until they are brought together and synthesized into a more complete whole. For instance, the tendency of therapists to push their BPD patients to *change* their destructive behavior (thesis) often elicits an opposing force; namely, patients often insist that their therapists *accept* and understand them (antithesis). In contrast, when therapists rely solely on understanding and acceptance, BPD patients often increase their demands for

help (i.e., change). Either position, on its own, is incomplete—focusing only on acceptance is unlikely to stop DSH, and too much pushing for change could push the patient right out of therapy. Within this framework, DBT therapists balance a variety of interventions focused on acceptance (e.g., mindfulness skills, radical acceptance, and validation) and change (problem solving, exposure therapy, skills training, contingency management, and cognitive restructuring).

The acceptance and change-based interventions in DBT are the building blocks of a comprehensive treatment that aims to address several key functions. First, DBT involves a skills training (often delivered in a group format) designed to increase the skills and capabilities of patients with BPD. Second, standard DBT consists of weekly individual therapy sessions that focus on solving problems, improving the patient's motivation, reducing emotional reactivity, developing a life worth living, managing crises, and generalizing the patient's treatment gains to the natural environment. Third, DBT involves a treatment team (the DBT Consultation Team) that meets regularly to provide support and maintain therapists' skill and motivation, and to help structure the treatment in an effective manner. In addition, DBT may involve pharmacotherapy, case management and/or inpatient psychiatric treatment.

RESEARCH ON TREATMENTS FOR DELIBERATE SELF-HARM

Several well-controlled studies have indicated that DBT and other similar approaches reduce DSH and prevent relapse following treatment. In the first randomized controlled trial (RCT) of DBT for BPD (Linehan et al., 1987), more patients in DBT abstained from *parasuicide* during the one-year follow-up period, compared with patients in a control condition (74% vs. 40%) that involved treatment as it normally is conducted in the community (treatment-as-usual, or TAU). Although DSH outcomes were not analyzed separately from suicide attempts in this first study, a second study did make this distinction.

In the second study of DBT for BPD (Linehan et al., in press), most patients receiving either DBT (60%) or nonbehavioral treatment by experts (58%) abstained from DSH during the one-year follow-up, in contrast with the pretreatment year (12% vs. 18%, respectively). In addition, in three other RCTs, DBT was more effective than TAU at reducing DSH (Bohus, 2004; Van den Bosch, 2005; Verheul et al., 2003) and parasuicide (Koons et al., 2001) in BPD. However, none of these studies reported long-term relapse rates following treatment termination.

Additionally, there is evidence that other similar treatment approaches reduce DSH among BPD patients. For example, Dr. Kim Gratz developed a 14-week group treatment that involves strategies to improve emotion regulation and emotional acceptance/experiencing, increase behavioral activation, and block experiential avoidance behaviors (Gratz, in press). In a small clinical trial, this

intervention resulted in greater reductions in DSH, compared with a treatment-as-usual condition, but thus far, no follow-up data are available.

Although all the aforementioned studies evaluated DBT or similar treatments for DSH in persons with BPD, we believe that DBT-based interventions also may be efficacious for preventing the *relapse* of DSH in patients without BPD (e.g., those with post-traumatic stress disorder or dissociative disorders). However, we know of no published studies that have examined the efficacy of DBT for reducing DSH in populations other than BPD. Several other RCTs have shown that problem-solving therapies reduce *parasuicidal acts* more than nonproblem-solving treatments or no treatment controls, but these studies have not examined DSH outcomes in particular (versus suicide attempts), and follow-up data are not yet available (Turner et al., 2000; Hawton et al., 1998).

In sum, there is some evidence that DBT and similar treatments reduce DSH and may have lasting effects (i.e., in preventing relapse); however, more research is needed to examine the long-term effects of DBT and DBT-oriented interventions for preventing relapse in persons with BPD as well as those with other clinical problems. In addition, further work is needed to identify predictors of relapse and the best ways to prevent relapse. In the next section, we highlight several potentially important factors that may contribute to relapse specifically in self-harming individuals with BPD.

CHARACTERISTICS OF BORDERLINE PERSONALITY DISORDER THAT CONTRIBUTE TO DSH RELAPSE

Current data suggest that about half of BPD individuals treated for DSH engage in at least one additional DSH act after treatment ends (Linehan et al., in press). From the perspective of Linehan's (1993) biosocial theory, several key characteristics, behaviors, and environmental events typical of persons with BPD may contribute to relapse of DSH. Although numerous factors contribute to relapse, in this section we focus primarily on those factors that may be specific to persons with BPD, based on the *biosocial theory* of BPD and the *experiential avoidance model* of DSH. These factors include emotion vulnerability, chaotic and adverse life events, and crisis generating behaviors.

EMOTION VULNERABILITY AND AVOIDANCE

According to the biosocial theory, persons with BPD are characterized by a vulnerability to emotional reactions that are easily elicited (i.e., do not require intense stimuli), intense, and long lasting. This emotional reactivity is also pervasive in that a broad range of stimuli and situations elicit a broad range of emotions. Emerging evidence from brain imaging research (Herpertz et al., 2001)

and self-report studies (Stiglmayr, Grathwol, Linehan, Ihorst, Fahrenberg & Bohus, 2005) suggests that persons with BPD are emotionally vulnerable.

On the other hand, the biosocial theory states that BPD individuals also have the tendency to inhibit and avoid the experience and expression of emotions (which Linehan terms “inhibited grieving” and “apparent competence”). Indeed, studies of BPD have failed to consistently demonstrate excessive physiological responses to emotional stimuli (e.g., Herpertz, 1999; 2000). Similarly, individuals who engage in DSH tend to experience dissociative states during episodes of emotional arousal (Bohus et al., 2000; Russ et al., 1993), and BPD features are related to the tendency to avoid and escape unwanted emotions or thoughts (Chapman et al., 2005).

Although many DBT interventions target emotion vulnerability and regulation, vulnerability to emotions may persist beyond the end of treatment and continue to place persons with BPD at risk for relapse. According to the biosocial theory, emotion vulnerability is partly a biologically “hard-wired” temperament feature, and therefore, reactivity to certain stimuli may be particularly difficult to change. Furthermore, the inhibition, suppression, and escape from emotions likely interfere with the emotional processing that is necessary for therapy to reduce emotional reactivity (Foa & Kozak, 1986). Dissociation has a similar detrimental effect.

Research suggests that negative emotion is one of the key factors contributing to relapse for both substance abuse (Greeley & Oei, 1999) and DSH (Brown, 2002). Several studies have suggested that people tend to engage in DSH when they are emotionally distressed (Brown, Comtois & Linehan, 2002; Chapman & Dixon-Gordon, 2006), and with the intent to escape or modify their emotional experiences (Brown et al., 2002). Thus, even after successfully reducing DSH, persons with BPD may be vulnerable to relapse due to the continued experience of frequent, intense negative emotions.

CHAOTIC AND ADVERSE LIFE EVENTS

Additionally, the tendency of persons with BPD to encounter stressful life events (Linehan, 1993) may further increase relapse risk. In treating self-harming patients with BPD, the authors have observed an overwhelmingly large number of unpleasant, stressful, and adverse events and daily hassles in the lives of these individuals. It is not uncommon to see a BPD patient, who, in the space of one week, has quit his or her job, experienced a death in the family, gotten into a serious car accident, been abandoned by an intimate partner, tripped and fallen down the stairs, experienced public humiliation, and so on. In particular, interpersonal conflict is common among persons with BPD, and is one of the most common triggers of DSH and chronic suicidal behavior (Welch & Linehan, 2002). Linehan’s (1993) term for this tendency to encounter frequent stressors is *unrelenting crisis*, related to a variety of factors, including adverse environments, poor judgment, and *crisis-generating behaviors*, which we focus on in this section.

CRISIS-GENERATING BEHAVIORS

Many of the frequent adverse events result from behaviors of the BPD individual, a pattern that Linehan terms crisis-generating behavior (Linehan, 1993). Persons with BPD tend to engage in two different types of crisis-generating behaviors: crisis-generating interpersonal behaviors and avoidant problem solving.

Persons with BPD engage in a variety of interpersonal behaviors that frustrate or burn out friends, family members, or therapists (cf. Potthoff, Holahan & Joiner, 1995). For instance, people who engage in DSH often lack interpersonal problem-solving skills and tend to use passive strategies to solve their problems (Kehrer & Linehan, 1996; Linehan et al., 1987). At the same time, they can be quite active in getting others to solve their problems, a phenomenon referred to as *active passivity* (Linehan, 1993). In addition, other individuals may actually reinforce DSH by increasing support or practical assistance. Over the long-term, however, active passivity and other dysfunctional interpersonal behaviors lead to conflict, crisis, and abandonment, which often are potent triggers for DSH.

As described by Linehan (1993), self-harming individuals with BPD also tend to use *avoidant* problem-solving strategies, which ultimately backfire and result in increased environmental stressors. Similarly, the *experiential avoidance model* (EAM; Chapman et al., 2006) proposes that persons who engage in DSH tend to engage in a variety of behaviors that help them avoid or escape from unwanted emotions, thoughts, or problems. For example, a patient expecting a difficult day at work may fail to show up for work, or a patient feeling overwhelmed by financial problems may fail to open his or her mail. These avoidance behaviors may allow the individual to avoid stress in the short-term, but ultimately perpetuate long-term stressful events (cf. Jacobson, Martell & Dimidjian, 2001). Long after BPD patients stop self-harm, they may still face negative events that result from previous maladaptive behaviors (e.g., large financial debts or arrests for prior crimes) and could trigger further DSH.

TRANSACTIONAL MODEL OF RELAPSE

The enduring tendencies of BPD individuals to encounter stressful life events, experience heightened negative emotionality, and engage in crisis-generating and avoidant behaviors, are interrelated processes that increase risk of relapse following periods of abstinence from DSH. The tendency to encounter and generate stressors leads to a potent mix of diverse triggers for DSH. Once a patient with BPD experiences emotional arousal, he or she may act in ways that further exacerbate an already stressful situation. Although some crisis-generating behaviors, such as avoidance behaviors, may produce short-term relief, they often worsen stressful events. Furthermore, forcefully suppressing unwanted thoughts and feelings can paradoxically intensify them (Purdon, 1999). This confluence of

factors can result in a broad array of internal (emotions) and external triggers for urges to engage in DSH, perhaps a greater variety than in less severe patients.

As an example, one of the authors had a patient (“Wendy”), who frequently struggled with strong urges to engage in DSH, even though she had stopped harming herself several months ago. This particular patient struggled with obesity and chronic knee and back pain, which flared up episodically in concert with increased physical activity at work. During a particularly difficult week, she was experiencing intense, prolonged pain in her knees and a related increase in her feelings of agitation and frustration (emotion vulnerability) in response to stressful interactions with a coworker (stressful, adverse events).

Instead of actively seeking to solve the problem with the coworker, she avoided this individual and vacillated between ruminating about the situation and suppressing her emotions. Eventually, she was so distressed about the work situation that she took three days off, but when she returned, she was overwhelmed with work that had piled up during her absence, and the situation with the coworker remained unresolved (crisis-generating behaviors). She became increasingly hostile toward the coworker and others (crisis-generating behaviors), and eventually, her supervisor provided some critical feedback about her behavior. In response, she felt intense shame, along with urges to cut herself. Unfortunately, the patient acted on these urges and cut herself. The interplay between these key factors (emotion vulnerability, adverse/stressful events, emotion suppression, and crisis-generating behaviors) produced intense shame, which was a key internal conditioned stimulus (CS) for urges to engage in DSH for this patient.

CHARACTERISTICS OF TREATMENT THAT CONTRIBUTE TO RELAPSE OF DSH

There are many reasons why therapy might fail to prevent DSH relapse. For instance, therapy sometimes fails to change some key factors leading to DSH. For example, we believe that many therapists get DSH to stop by getting the patient to commit to not engaging in self-harm and helping the patient reduce stressful events and DSH triggers and opportunities. It is likely that such a patient would still be highly emotionally reactive and unprepared to effectively handle triggering events that would eventually occur despite his or her best problem solving. An additional key treatment component, therefore, is teaching patients skills for regulating emotions triggered by high-risk situations. Although reducing emotional arousal is an essential skill, these patients sometimes have great difficulty reducing arousal in exceptionally challenging situations, particularly when emotional arousal quickly becomes intense and intolerable. Therefore, when therapy focuses solely on regulating emotions, the therapist might fail to help the patient reduce reactivity to, increase tolerance of, overwhelming emotions and emotion triggers.

A second treatment failure occurs when treatment gains fail to generalize to new contexts. To the extent that the therapy context is different from the patient's normal life, therapy gains may not generalize to the natural environment. Also, new emotional responses to conditioned stimuli may be strongly evident in some settings, but then the new learning often does not extend to new contexts or even to the same context at a different time (e.g., Bouton, 1988; 2002).

In considering the relapse of the patient "Wendy," it was clear that during her abstinence, she generally did not experience intense shame, but the occurrence of the previous shame triggers in a novel context (at work while interacting with the supervisor) resulted in a *renewal* of intense shame and DSH urges. The following is an extended case example designed to illustrate the phenomenon of DSH in BPD and the factors that might contribute to relapse.

CLINICAL CASE ILLUSTRATION

This case illustration depicts some of the key factors that might contribute to relapse of DSH in persons with BPD. We note that this is not a specific case, but rather, a hypothetical amalgam of typical BPD cases designed to represent treatment with a self-harming BPD patient.

PATIENT PRESENTATION

Jody was a 29-year-old single, Caucasian female who initially presented for help after having spent a few days in an inpatient psychiatric clinic (following a serious episode of self-injury) and being referred to our DBT treatment program. Jody noted that she would like to "get her life together" and stop harming herself. Jody presented as a warm, congenial individual, but also frequently switched topics during her initial interview and, on several occasions, expressed intense sadness and anger.

ASSESSMENT

Throughout the initial diagnostic and psychosocial assessment, it was apparent that Jody met criteria for BPD. For instance, on both the Structured Clinical Interview for DSM-IV Personality Disorders (First, Spitzer, Gibbons, Williams & Benjamin, 1996) and the Personality Disorder Examination (Loranger, 1995), Jody met six out of the nine BPD criteria; five criteria are required for the diagnosis. Her most notable difficulties included (1) intense interpersonal discord and chaos, characterized by repeated conflicts with intimate others and friends; (2) impulsive, self-damaging behavior, in the form of periodic mood-driven binge eating, reckless driving, and binge drinking; (3) chronic feelings of emptiness and an unstable sense of direction in life (she would jump from job to job, often

changing career directions and interests); and (4) repeated deliberate self-harm (DSH), along with a history of two serious suicide attempts, both of which occurred more than five years ago.

To assess Jody's suicide attempts and DSH episodes, her therapist administered the Suicide Attempt and Self-Injury Interview, which collects information on topography, intent, medical severity, social context, high risk situations, and function (Linehan, Comtois, Brown, Heard & Wagner, in press).

CASE CONCEPTUALIZATION

With regard to DSH, Jody reported that she began burning herself when she was 15 years old, initially as a "dare" by friends, but she noticed that the burning tended to "release steam," and led to a sense of calmness. She continued burning periodically (twice a week), most often following interpersonal conflicts or when she was overwhelmed with work or other obligations. Typically, she burned herself with cigarettes, but after she quit smoking, she cut herself with razors. Eventually, the cutting behavior increased in frequency (3–4 times per week), with periodic flare-ups (6–7 times per week) following break-ups with boyfriends or difficult interactions with others at work. Jody most commonly cut herself when she experienced shame or intense anger, and she reported that she "doesn't know what else to do to get rid of the feelings."

In terms of *emotion vulnerability*, Jody reported intense, rapidly shifting emotional states throughout the day, along with difficulty regulating her emotional reactions. Specifically, she reported intense shame, both about being a person who engages in DSH, and about many of the crisis-generating behaviors that have alienated her from her family and friends (e.g., stealing, verbal abuse). She also reported frequent sadness and anger, and indicated that these emotions tend to occur very quickly, become unmanageably intense, and take several hours to diminish. Having considerable difficulty regulating her emotions, Jody tended to "freeze" and was unable to problem solve or think about adaptive coping strategies, and she often ruminated about upsetting events, which served to continually rekindle her distress.

As a result of her difficulty thinking and regulating her behavior when she was upset, Jody often engaged in crisis-generating behaviors that burned out her social network and exacerbated her already stressful life. For instance, when her boyfriend (with whom she lived) suggested that she get a job, she felt intense shame about her lack of employment, and instead of communicating effectively with him, she would become angry and critical. Her boyfriend would criticize her in return. These conflicts often ended with Jody cutting herself, followed by her boyfriend making up with her and/or being more supportive (i.e., *positive reinforcement* for self-harm). Jody's difficulty regulating her emotion vulnerability also led to stress at work, as she often would avoid stressful tasks and procrastinate to the point that she was faced with overwhelming deadlines. This interplay between emotion vulnerability, crisis-generating behaviors, and adverse,

stressful life events led to a variety of triggers and cues for the very emotions related to DSH urges (e.g., shame and anger, particularly).

TREATMENT: DIALECTICAL BEHAVIOR THERAPY

Treatment with Jody involved 12 months of standard outpatient Dialectical Behavior Therapy (DBT). Jody attended a weekly individual therapy session, as well as a group skills training session. Individual therapy initially focused on reducing life threatening and out-of-control behaviors, such as DSH and suicidal ideation. One of the hallmarks of DBT is its use of a target hierarchy to guide the therapist's prioritization of treatment targets in each session. The most important item on the hierarchy is life-threatening behavior, which consists of behaviors such as suicidal crises, suicide attempts, serious suicidal ideation, self-harm ideation and urges, and self-harm, among other behaviors that imminently threaten the patient's life. As such, many of the first several sessions focused largely on repeated DSH, as Jody's suicidal ideation tended to be episodic, mild, and not linked with strong intent or a plan to attempt suicide. The following section illustrates the aspects of DBT that specifically work to prevent relapse, and we provide exemplars of how these interventions were used in the case of Jody.

STOPPING SELF-HARM ONCE AND FOR ALL: RELAPSE PREVENTION IN DBT

Although many DBT strategies may help patients to stop engaging in DSH during therapy, several strategies are particularly important in preventing the *relapse* of DSH, either following a period of abstinence during therapy, or following the termination of therapy. Largely, these strategies target the key factors highlighted earlier as contributing to relapse (emotion vulnerability, adverse life events, crisis-generating behaviors, and failure to generalize treatment gains). As such, these interventions include the following: (1) strategies to reduce emotional sensitivity and reactivity, (2) strategies to prevent or modify high-risk situations, (3) strategies to reduce dysfunctional or crisis-generating behaviors, and (4) strategies to promote the generalization of treatment gains.

REDUCING VULNERABILITY TO HIGH-RISK SITUATIONS THROUGH EXPOSURE-BASED INTERVENTIONS

To reduce the probability of DSH relapse, DBT involves specific strategies to reduce the likelihood that environmental events will trigger problematic emotions. Thus, one major goal is to change conditioned associations of environmen-

tal cues with intense, intolerable emotional responses. Because many aspects of emotion vulnerability in BPD may be based on temperament and long-standing biology, persons with BPD may always be more emotionally intense than others, but we would argue that some strategies can decrease reactivity to many high-risk environmental events. These strategies include exposure and response prevention and opposite action.

EXPOSURE AND RESPONSE PREVENTION

Based on classical conditioning, exposure and response prevention primarily is used to decrease the likelihood that particular environmental cues will trigger unwanted or dysfunctional emotional responses. Exposure-based treatments have proven effective for a wide range of anxiety disorders, such as post-traumatic stress disorder (Foa & Kozak, 1986), obsessive-compulsive disorder (Franklin, Abramowitz, Kozak, Levitt & Foa, 2000), and panic disorder (Barlow, 1988). Similarly, some research suggests that exposure therapy is effective for other emotions, such as anger (Grodnitzky & Tafrate, 2000; Tafrate & Kassino, 1998).

The basic procedure of exposure and response-prevention involves exposing the patient to stimuli that elicit emotional responses and blocking behaviors that function to escape from those stimuli. For example, Jody's therapist employed exposure and response prevention to reduce her fear of social performance situations. Exposure and response prevention initially involved *imaginal exposure*, by having Jody imagine anxiety-provoking performance situations, while blocking any avoidance behaviors, such as self-harm (or related, less severe behaviors, such as picking her skin), distraction, or escape. As treatment progressed, the therapist had Jody try *in vivo exposure* assignments, involving exposing herself to actual performance situations in real life, while blocking all avoidance or escape behaviors.

The theory behind exposure and response prevention is that exposure to a conditioned stimulus (CS) that elicits a conditioned emotional response (CR) will eventually result in the extinction of the emotion, as long as the feared event (in Jody's case, being publicly ridiculed) never occurs. In Jody's case, after several trials of exposure and response prevention, her fear about social performance situations reduced from 80/100 (where 100 = maximum fear) to about 30/100, a more tolerable level of fear that did not trigger urges to engage in DSH.

DBT also involves a variety of interventions that encourage *interoceptive exposure* to avoided or feared internal experiences. The experiential avoidance model (Chapman et al., 2006) suggests that DSH is often an escape from intolerable emotions and thoughts. Similarly, Linehan (1993) has described BPD patients as "emotion phobic" in the sense that they tend to react to their emotions with fear, shame, and anger (secondary reactions). Thus, interoceptive exposure involves exposure to the physical sensations of emotion as well as to unwanted thoughts and images, without struggling with or escaping these experiences. The

therapist does this by eliciting feared internal experiences in sessions, or by encouraging patients to observe their thoughts and emotional experiences without acting on them or getting rid of them (i.e., mindfulness).

To help Jody reduce her fear of social performance situations, her therapist had her repeatedly imagine others rejecting her for performing poorly. Jody ended up feeling more confident that she could effectively deal with rejection if it were to occur. Also, when Jody reported that she felt ashamed of feeling sad, the therapist had her practice mindfully experiencing sadness rather than avoiding it. By repeatedly talking in detail about what made her feel sad, her shame response diminished considerably. Over time, Jody's reactivity to these unwanted internal experiences diminished, and her urge to engage in DSH extinguished.

Certainly, in any type of exposure with self-harming BPD patients, it is absolutely essential to block self-harm behavior. There is clear evidence that DSH effectively relieves unpleasant emotions such as fear and anger. Thus, if the patient escaped emotional reactions by engaging in DSH, the conditioned emotional responses would never weaken. DBT therapists teach patients several practical ways to block and prevent DSH, such as reviewing negative consequences of DSH, reducing the availability of self-harm implements, and distress tolerance skills, among other strategies (Linehan, 1993a; 1993b).

OPPOSITE ACTION

Opposite action is another exposure-oriented intervention in DBT. In contrast with standard applications of exposure and response prevention, which tend to focus primarily on *fear*, opposite action in DBT applies to the whole gamut of emotional experiences. In addition, opposite action involves not only the extinction of certain emotional responses, but also the active learning of more effective responses to emotions.

When using opposite action, the therapist exposes the patient (or ideally, has the patient do this him- or herself) to the situation that elicits the emotion, blocks any actions that are consistent with the action-urge associated with the emotion, and has the patient engage in behaviors that are *opposite* to the action urge associated with the emotion. The theory is that acting in a manner that is congruent with the action urge/emotion will strengthen the emotion; in contrast, acting opposite to the action urge/emotion will weaken the emotional response and strengthen more effective responses to the situation (e.g., acting nonfearful in safe situations). As with standard exposure and response prevention, it is essential that the exposure be *nonreinforced*; that is, the feared event or "catastrophe" (e.g., public humiliation in the case of Jody's social anxiety; being assaulted in the case of PTSD; being attacked in the case of someone who feels intense anger; being ostracized in the case of someone who experiences intense shame) must not occur.

For Jody, one of the key emotional triggers for DSH was intense shame and an urge to punish herself. Her shame, however, often was out of proportion to

the situation, in that people were unlikely to reject or ostracize her for the personal characteristics or behaviors of which she felt ashamed. For example, she often felt intense shame about her appearance, yet, she actually was moderately attractive. Often, when she felt ashamed of her appearance, Jody would feel the urge to hide her body with unflattering clothing, or to avoid social situations. Many of Jody's normal behaviors (including thinking about her behaviors) frequently elicited shame, thinking that she was "bad" and deserving of pain and punishment; this reaction was even more intense when others communicated even slight disapproval, which led to her incorrectly assume they were angry and judgmental of her. Her urges were to punish herself by inflicting pain in various ways and to deprive herself of pleasurable activities.

Opposite action involved having Jody actively enter into social situations without avoiding, escaping, or hiding her body. In fact, as treatment progressed, Jody's therapist encouraged her to seek out situations in which she could publicly reveal (clothed, of course) aspects of appearance of which she felt ashamed (called "all-the-way" opposite action). Other opposite action strategies involved repeatedly acting contrary to her shame by doing many nice things for herself despite thinking she "deserves" to suffer. In addition, when Jody experienced unjustified shame in therapy sessions, her therapist would identify the trigger, and repeat it until the emotion diminished, encouraging Jody to act in ways that are inconsistent with shame (e.g., direct eye contact while nonjudgmentally describing, in a confident voice, the facts about her perceived bad qualities and behaviors).

REDUCING EMOTION VULNERABILITY THROUGH SELF-CARE AND POSITIVE ACTIVITIES

Another way to reduce the likelihood that high-risk situations will trigger negative emotions is to enhance self-care and increase the frequency of positive life events. DBT skills training involves teaching patients ways to improve sleep, physical exercise, and nutrition, as well to as avoid mood-altering drugs and alcohol, and take care of physical illnesses. Similar to cognitive therapy for depression (Young, Weinberger & Beck, 2001), treatment involves accumulating positive life events and getting involved in activities that trigger positive emotions and a sense of competence and mastery. For example, Jody's therapist noticed that she was taking her prescribed antidepressants irregularly, and that she had frequent insomnia and was not eating consistently. Any one of these factors may have made her more vulnerable to negative emotions. As a result, he taught Jody sleep hygiene and stimulus control strategies to improve sleep; helped her monitor and keep her medication regimen more regular, and assisted her in developing healthier eating habits.

PROBLEM SOLVING TO PREVENT AND MODIFY HIGH-RISK SITUATIONS

DBT fundamentally is a problem-solving based treatment, and as such, there are several interventions aimed at avoiding, preventing, or modifying high-risk situations. For many patients, their environments need a major overhaul in order to reduce chaos and stressful events. In doing so, DBT therapists commonly employ standard problem solving procedures, such as (1) identifying the problem, (2) identifying a goal for the situation, (3) brainstorming possible solutions, (4) entertaining the pros and cons of each solution, (5) implementing the solution, and (6) evaluating the effectiveness of the solution (Goldfried & Davison, 1994). In addition, the therapist often models effective coping or problem solving by disclosing ways in which he or she prevented or modified problems in life.

A common obstacle to problem solving is that BPD patients often avoid talking about or working on their problems, due to intense shame or feeling overwhelmed. Jody illustrates this problem well. She was extremely reluctant to talk about her problems. Whenever problem solving came up, she felt intense shame and often diverted her attention, shut down the conversation, or left the room. The therapist prompted Jody to “act opposite” by actively engaging in problem discussions.

The hope is that, with practice, the patient will develop the ability to employ problem-solving strategies ahead of time to prevent high-risk situations, and thus, to prevent the relapse of DSH. Therefore, DBT therapists help their patients “cope ahead” by coming up with effective plans to cope with, modify, or avoid future stressors. Along these lines, one useful strategy is imaginal practice. For instance, Jody’s therapist often guided her through imaginal scenes in which she must speak in front of others at work, or cope with insulting comments from her boyfriend, and coached her through effective problem solving or emotion regulation coping strategies. This approach is similar to *stress inoculation training*, described by Meichenbaum and Jaremko (1983). In terms of relapse prevention, it is essential that coping ahead involves a large variety of situations, in order to promote the generalization of skillful behavior to the plethora of life situations related to self-harm.

REDUCING CRISIS-GENERATING BEHAVIORS AND SELF-HARM THROUGH EMOTION REGULATION

Because DSH and other crisis-generating behaviors are usually dysfunctional responses to emotional distress, teaching patients alternative ways to alter or respond to their emotional experiences can prevent these behaviors. DBT involves a variety of emotion regulation skills that patients can use in high-risk situations

to reduce their emotional arousal and to control their behavior when emotionally aroused.

Consistent with the focus on balancing acceptance and change in DBT, some of the emotion regulation strategies involve changing emotions, and others involve accepting and experiencing emotions as they are. The acronym TIP describes the newest skills for reducing emotional arousal. The TIP skills involve activities that reduce emotional arousal by changing body physiology through changing temperature (T), intense exercise (I), and progressive muscle relaxation (P). One such skill that was particularly effective for Jody involved immersing her face for 30 seconds in a bowl of ice water. Studies have suggested that doing so activates the “dive reflex” and stimulates the parasympathetic nervous system to reduce aspects of emotional arousal (e.g., heart rate) (Marsh et al., 1995).

In terms of acceptance-based emotion regulation skills, mindfulness is a way to accept and observe current internal experiences to prevent dysfunctional emotion avoidance behaviors. Thus, a goal of mindfulness training in DBT is to reduce reactivity to emotional arousal and emotional thinking. Patients are taught to step back, observe, and get “unstuck” from ruminative thinking, emotions, and urges, without having to change or act upon them, which interrupts patients’ habitual and automatic responses to distress. Accepting and tolerating emotions also promotes emotion regulation by preventing the usual paradoxical rebound effects that occur when people forcefully suppress unwanted thoughts and feelings (Purdon, 1999). This mindfulness strategy resembles the “urge surfing” skill taught to prevent alcohol and drug relapse (Witkiewitz, Marlatt & Walker, 2005). In Jody’s case, the therapist targeted shame and urges to self-harm by teaching her to step back and observe her shame-related thoughts (such as “I’m bad”), nonjudgmentally describe the relevant facts, not take certain thoughts literally (e.g., “I deserve to be punished”), and to step back and observe the urge to punish and harm herself.

INTERVENTIONS TO PREVENT RELAPSE BY IMPROVING GENERALIZATION

Many patients, we believe, stop DSH by reducing their emotion vulnerability and improving their abilities to solve problems and regulate their emotions. Relapse can occur when these improvements do not generalize to the variety of situations that occur in their natural environments. We believe that generalization failures occur when new learning has not occurred in enough relevant contexts. There is considerable evidence that both respondent extinction and skills acquisition are quite context-specific (Bouton, 1988; 2002). New learning may be strongly evident in a particular setting, but then the new learning often does not extend to new contexts or even to the same context at a different time (Bouton, 1988; 2002). A patient can have all the relapse prevention skills in the world but still not use them in critical situations.

GENERALIZATION OF SKILLS

DBT therapists have several methods to ensure that patients can effectively implement skillful responses learned in therapy when they face high-risk situations in their natural environments without the help of a therapist. For instance, one strategy involves conducting a chain analysis after each occurrence of the problem behavior (in this case, DSH). Essentially, a chain analysis is a micro-level, moment-to-moment examination of the events that led up to DSH, the instance of DSH itself, and the consequences and events that followed DSH. Over time, these chain analyses may actually increase the likelihood that patients will remember skillful responses when confronted with high-risk situations (Lynch et al., 2006).

Another strategy involves having patients practice their skills frequently and in a variety of contexts. In therapy sessions, DBT therapists “drag out” and reinforce skillful behaviors through role-plays and other activities. Most importantly, the therapist looks for dysfunctional behaviors in-session that resemble the problems patients experience in their daily lives (e.g., sensitivity to criticism) and has the patient actively practice skills. Skillful behavior practiced during naturalistic therapy situations is more likely to generalize to patients’ daily lives than contrived role-play practice.

Additionally, if therapy elicits problematic emotions that occur in the patient’s natural environment, and the patient learns to respond skillfully while emotionally aroused, then the skillful responses are more likely to generalize to similar high-risk situations (Samoilov & Goldfried, 2000). The principles of state-dependent learning, whereby a person is more likely to exhibit learned behavior in states that are similar to those in which he or she learned the behavior, may explain this generalization effect (Matt, Vasquez & Campbell, 1992). Thus, the therapist may elicit negative emotions by simulating a problem situation (i.e., using imaginal or *in vivo* exposure) and then have the patient practice implementing skillful behavior.

Relapse can occur when neither the therapist nor the patient have anticipated certain situations in which skills are needed. Thus, the therapist encourages the patient to practice new skills frequently and in as many contexts as possible, in order to maintain abstinence from DSH even when he or she faces new and challenging situations. The therapist also provides telephone skills coaching to help guide the patient through difficult, high-risk situations. In this way, the therapist reduces relapse risk by bringing therapy (and quite literally, him or herself) into the patient’s natural environment (Lynch et al., 2006). In order to maintain abstinence even after therapy termination, the therapist may reduce the frequency or length of telephone calls in order to encourage the patient to continue skillful behavior in the absence of the therapist.

In the situation with her boss described earlier, Jody had been through the DBT emotion regulation skills twice and was even coaching and helping some of the other patients with the skills. However, her emotions were so overwhelming that

she could not even think about which skills to use at that time. In order to prevent further relapses, therapy with Jody involved coping ahead and imagining using emotion regulation skills in very difficult or overwhelming situations, and stimulus control strategies, involving having Jody carry around a “coping card” that reminded her of important skills to use when she is emotionally overwhelmed.

GENERALIZATION OF EXTINCTION

Both respondent and operant extinction effects are context specific, that is, extinction does not generalize well to new settings. Therefore, DBT therapists try to help the patient get exposure to emotion triggers across multiple contexts, and maximize the match between therapy exposure contexts and naturalistic settings. One way to do this is to encourage the patient to implement exposure homework assignments in her natural environment via audiotapes of sessions, or to provide *in vivo* coaching over the telephone.

The use of extinction reminders is another method to maximize the match between therapy exposure contexts and naturalistic settings. Extinction is more likely to generalize to new contexts when a cue that was present during extinction is presented again later (Bouton, 1988; Brooks & Bouton, 1993). The therapist’s voice (via phone calls or audio recordings) and reminder cards may serve as extinction reminders.

To promote generalization of extinction, Jody’s therapist implemented exposure strategies in naturalistic therapy situations. Specifically, he did not treat her as fragile by avoiding sensitive topics or direct feedback about problematic behaviors (including those that occur in sessions) even though she often responded with shame or anger. When these problematic emotions got elicited in session her therapist tried, in a collaborative manner, to identify the precise triggers and repeat them until the emotion diminished, while prompting the patient to engage in opposite action. Her therapist also avoided reinforcing behaviors consistent with shame (such as self-criticism and hiding) or anger (such as yelling or insults) by compassionately plowing forward with therapy and not backing off when these behaviors occurred.

SUMMARY AND CONCLUSION

Although relapse prevention normally is discussed with regard to substance use behaviors (e.g., Marlatt & Gordon, 1985; Witkiewitz & Marlatt, 2004), preventing relapse is a key feature in the treatment of deliberate self-harm (DSH) and other dysfunctional emotion regulation behaviors. Thus far, the treatment with the most empirical support for reducing DSH is DBT (Linehan, 1993), typically applied to patients with borderline personality disorder (BPD).

Based on the difficulties encountered by BPD patients, we have proposed a model of relapse that involves the interplay between emotion vulnerability, high-

risk situations, and crisis-generating behaviors. As a relatively static factor that increases vulnerability to high-risk situations, *emotion vulnerability* is similar to the “tonic” risk factors proposed by Witkiewitz and Marlatt (2004) for alcohol relapse. In contrast, crisis-generating behaviors are similar to the phasic factors (factors that lead to sudden changes in the likelihood of DSH) proposed by Witkiewitz and Marlatt (2004). Whereas emotion vulnerability and high-risk situations may bring the patient to the edge of the cliff, crisis-generating behaviors and failure to regulate emotions get the patient to jump.

Treatment in DBT has many features that target these processes. For instance, exposure-based methods aim to reduce emotional reactivity to high-risk situations, when that reactivity is unwarranted by the situation (as in the case of feeling ashamed in the absence of risk for rejection). Problem-solving involves changing or avoiding high-risk situations. In addition, both emotion-regulation skills and problem-solving skills reduce the likelihood of crisis-generating behaviors. As we propose that relapse largely represents a failure to generalize treatment gains, a variety of strategies in DBT encourage the patient to transfer new skills from therapy to his or her natural environment. Although many of these relapse issues pertain to BPD, we believe the relapse prevention strategies discussed here apply to other clinical populations who engage in DSH, as well as to other disorders involving difficulties with emotion regulation.

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INTERNET RESOURCES ON DIALECTICAL BEHAVIOR THERAPY AND BORDERLINE PERSONALITY DISORDER

- <http://www.brtc.psych.washington.edu>
Research Web page of Marsha Linehan
- <http://faculty.washington.edu/linehan>
Faculty Web page of Marsha Linehan
- <http://www.behavioraltech.com>
Behavioral Tech
- <http://www.tara4bpd.org>
National Education Alliance for Borderline Personality Disorder
- <http://www.borderlinepersonalitydisorder.com>
Treatment and Research Advancements Association for Personality Disorder (TARA)

