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Linehan's Theory of Suicidal Behavior:
Theory, Research, and Dialectical Behavior Therapy
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Linehan's biosocial theory (1981, 1988, 1993a) states that suicidal behavior is a learned method for coping with acute emotional suffering. Suicidal behavior is viewed as a skill deficit; i.e., people are thought to seek death as the solution for their intense suffering because they can think of no other effective options. The theory has roots in social-behaviorism (Staats, 1975) and radical behaviorism (Skinner, 1957) and has been further shaped by emerging research.

Linehan's work through the years has focused prominently (though not exclusively) on borderline personality disorder (BPD). Suicidal ideation and behavior are often chronic in individuals with BPD, including recurrent suicide attempts and various forms of self-injury. Although Linehan's theory was originally developed to explain chronic suicidal behavior, it is also useful for understanding other dysfunctional behaviors in borderline personality disorder (BPD), including nonsuicidal self-injury (e.g., Linehan, 1993a). However, unique aspects of BPD and nonsuicidal self-injury will not be reviewed here; the reader is referred to other sources that cover these topics more thoroughly (Brown, Linehan, & Comtois, 2002; Brown, 2003; Linehan, 1993a). This chapter begins with a detailed description of Linehan's theory of suicide and discusses research relevant to the theory. Next, treatment strategies used in Dialectical Behavior Therapy (DBT), which developed out of Linehan's theory of suicidal behavior, are discussed.

The Causes of Suicidal Behavior

According to behavioral theory, there are numerous causal pathways to dysfunctional behaviors. A behavioral analysis (i.e., functional analysis) is required to discover the specific controlling variables for specific suicidal acts for specific individuals. In this analysis, the causal variables to be considered include: cognition, emotions, environmental factors, and overt behaviors. In some cases, cognition is a primary cause of suicidal behavior, and at other times it has a minimal role. Situational factors are seen as having a prominent role in most cases even when cognitions and emotions are identified as important. It is not sufficient to explain dysfunctional behaviors simply in terms of internal experiences, because the origin of these experiences also must be explained (Baum & Heath, 1992). An exclusive focus on dysfunction inside the person risks ignoring a wide range of potentially important contextual factors in the onset and maintenance of suicidality. Cognition is symbolic activity that regulates behavior, not in an absolute way, but only in certain contexts. Therefore, it is crucial to understand the context in which thinking leads to problematic emotions and overt behaviors (Wilson, Hayes, & Gifford, 1996). Important environmental cues often trigger problematic cognitions, emotions, and behaviors. Like all other forms of human activity, cognitions are "not initiating causes," though they participate in overall causal relations. From a dialectical framework, events, including private and overt behaviors, can both be the cause and outcome of multiple complex events (Linehan, 1993a).

Environmental causes

Environmental events are important distal causes of suicidal behaviors. For example, from adverse childhood circumstances, individuals can acquire emotional responses,

dysfunctional thought patterns, and dysfunctional behavioral repertoires (e.g., through classical conditioning, observational learning, and reinforcement). The suicidal person is the product of a biological vulnerability to emotion dysregulation and harmful childhood environments.

Environmental events are also the first proximal cause in a chain of events, including dysfunctional thoughts, emotions, and behaviors that result in specific suicidal actions.

Neuropsychological evidence indicates that some stimulus events can activate emotions and emotional behaviors through pathways that bypass brain structures responsible for cognition (Gross, 1999). Conditioned emotions and overt behaviors can be elicited without awareness of the triggers (Bargh & Chartrand, 1999). Emotion-congruent cognition often follows emotional activation and behaviors that may be cued by the environment (Gilligan & Bower, 1984).

Adverse Events. Stressful life events lead to distressing emotions, depression (Jacobson et al., 2001), and suicidal behavior (Baumeister, 1990; Heikkinen, Aro, & Lonnqvist, 1993; Linehan & Shearin, 1988). Suicidal behaviors are associated with decreased socioeconomic status and high levels of interpersonal loss, conflict, separation, and divorce (Chiles et al., 1986; Baumeister, 1990; Linehan et al., 1986; Maris, 1981; Rothberg & Jones, 1987; Welch & Linehan, 2002). Because chronically suicidal individuals both create and are controlled by aversive environments, they are often in a state of perpetual, unrelenting crisis. Lacking interpersonal and problem-solving skills, they are often passive about solving problems on their own and instead actively try to get others to solve their problems or regulate their emotions (Kehrer & Linehan, 1996; Linehan et al., 1987; Pollock & Williams, 1998; Schotte & Clum, 1987). In addition, many suicidal people have strong fears of abandonment and seek excessive reassurance from others, and these same individuals sometimes seek excessive *negative* feedback from others (Joiner, 1995). These behaviors can frustrate or burnout friends, family, and therapists (Potthoff, Holahan, & Joiner, 1995). Furthermore, when suicidal individuals act in a hostile manner, others will likely respond by treating them in an unsupportive and hostile manner (e.g., Farberow et al., 1970).

Lack of Social Support. An absence of social support is associated with suicidality (Clum & Febraro, 1994; Heikkinen et al., 1993; Linehan, 1988). Social support may be important in all types of suicidal behavior for several reasons. With an inattentive, hostile, or invalidating social network, or the absence of a social network, a person's crisis may not be recognized, especially if the person does not clearly communicate his or her needs. Emotional support during the crisis, active assistance in reducing the stress, and suggestions of possible alternatives for solving the person's problems will consequently not be available (Wagner, 1997). Also, suicidal individuals often experience themselves as "outsiders" and feel hopeless about securing satisfying relationships.

Some suicidal individuals fail to get adequate support or help from others because they consistently fail to communicate their emotional vulnerability clearly to others, including their therapists. This "apparent competence" probably results from individuals inhibiting their emotional experiences and expressions, even when such emotional expression is appropriate and expected, because during childhood their emotional displays, even when they were normal reactions, were punished and invalidated. Thus, the person may be experiencing inner turmoil while at the same time communicating (through words or manner, or both) apparent calmness and control.

Models for Suicidal Behavior. There is considerable evidence that suicidal behavior is prompted by awareness of the suicidal behavior of others. Observational learning can lead to the acquisition or strengthening of a wide range of dysfunctional and antisocial behaviors (Bandura,

1977). Exposure to suicidal models may be important in terms of acquisition of the suicidal response and development of outcome expectations. Suicidal models may have the greatest influence when a person is ambivalent about living. Media coverage of suicides, especially those of highly attractive or famous people, increases the probability of suicidal behavior of others (reviewed in Williams, 1997). Suicidal persons, more often than nonsuicidal persons, are linked socially with significant other persons who had previously been suicidal (Kreitman et al., 1970).

The role of emotional dysregulation

The final common pathway in nearly all suicidal behavior is acute emotional suffering—what Shneidman (1993) refers to as internal perturbation or “psychache”. Suicidal behavior is a solution for intolerable emotions when individuals know of no other effective options for coping. Numerous *escape theories* of suicide have been offered (e.g., Shneidman, 1992, 1993; Maris, 1992; Baumeister, 1990), most of which explain suicide as escape from depressive affect. Some theorists have also described avoidance and escape behaviors as important *causes* of depression (Jacobson et al., 2001). Suicide is the ultimate escape from problems in life, and suicide attempters expect death to bring relief from their painful emotions. Escape theories of suicide are compatible with radical behavioral theory, which explains suicidal behavior as resulting from rule-governed behavior when death is equated with relief from suffering (Hayes, 1992). In addition, nonfatal suicidal behavior relieves negative emotions for some individuals. For some, substance use (and overdose) becomes a way to “self-medicate” emotions and lower self-awareness. Some individuals experience relief when their suicidal behavior is effective at getting others to stop making demands (or stop other aversive behaviors) or getting them a reprieve from their stressful environments (e.g., when they are hospitalized). Very often these individuals do not have a clear conscious intent to “manipulate” others and genuinely accept death as a way to end their pain, or they have both motives simultaneously, or they are willing to have either solution. In any case, the relief of aversive emotions after suicidal behavior keeps the probability high that suicidal behavior will occur in the future as a coping response in similar situations.

Emotion dysregulation comprises several closely linked components: physiological activation, subjective experience (including valence and action urges), cognition, overt verbal and nonverbal expressions, and tendencies for dysfunctional overt action (Ekman & Davidson, 1994). Individuals who are highly sensitive or reactive to emotional stimuli and also unable to regulate emotions (e.g., distract or soothe) experience emotions that are intense, frequent, and prolonged. This emotion dysregulation is often pervasive across multiple emotions and across a wide range of situations, and impulsive and maladaptive behaviors (including suicidal behaviors and nonsuicidal self-injury) often occur in response to these emotions. Sometimes these behaviors are maladaptive attempts to change emotions, and at other times are automatic mood-dependent responses to emotions. Although suicidal behaviors are not logically inevitable outcomes, paradigms of escape conditioning suggest that escape behaviors can become so well learned that they are automatic for some individuals when faced with extreme and uncontrollable emotional pain. Data support the idea that unconscious procedural knowledge and conscious processing occur in separate brain systems (e.g., Eichenbaum, 2003).

Emotion dysregulation may be particularly problematic for suicidal individuals because they have difficulty tolerating emotions. Linehan (1986, 1993) has speculated that chronically suicidal individuals, including those diagnosed with BPD, are “emotion-phobic” and chronically emotionally dysregulated—a difficult combination. They have low emotion tolerance because they have an exceptionally reactive physiological response system, they have inadequate skills

for coping with emotional pain, and they often actively invalidate their emotions. They often feel ashamed to experience basic emotions like sadness or anger. Because they invalidate and suppress their emotions, chronically dysregulated individuals vacillate between extremes of emotional experiencing and inhibition. By avoiding experiencing their emotions, they fail to learn that they can tolerate the emotions and that punishment will not follow their expression.

Suicidal individuals have typically experienced numerous childhood adversities, including harsh parenting, neglect, major losses, and other traumatic experiences (Twomey, Kaslow, & Croft, 2000; Wagner, 1997). However, many persistently avoid grieving over these unfortunate circumstances. They become grief-phobic and seem unable to tolerate normal grieving, fearing that if they ever do cry, they will never stop. Their pathological grieving involves avoiding cues and reminders of the loss (Callahan & Burnette, 1989; Gauthier & Marshall, 1977). One study found that pathological grieving was associated with a high likelihood of suicidal ideation independently of depression (Prigerson et al., 1999). This process of inhibited grieving overlaps considerably with posttraumatic stress disorder (PTSD).

According to Linehan's theory, intolerance of negative emotion among chronically suicidal individuals is partly due to being raised in environments in which emotional displays were punished, trivialized, and treated as pathological. In these invalidating environments they learn that they should not cry or show anger or fear. In cases of sexual abuse, an adult may threaten punishment if the child becomes upset. They learn to react to their emotions as others did—with criticism, contempt, anger, and sometimes physical violence. As an adult, when the person feels emotional, they get upset for being upset, which results in a rapid escalation of emotion. Their attempts to suppress the emotion cycle are ultimately ineffective (Wegner, 1994).

Evidence for emotion dysregulation. A variety of studies provide empirical support for the hypothesis that negative emotion is a primary factor in suicidal behaviors. Suicidal individuals report highly distressing life events and high levels of aversive internal states both before suicidal behavior and in general (e.g., Rothberg & Jones, 1987). Suicide attempts and other forms of self-injury are often described as intentional efforts to escape distressing circumstances or to feel better (Bancroft, Skrimshire, & Simkins, 1976; Favazza & Conterio, 1989; Hawton et al., 1982; Kienhorst et al., 1995; Parker, 1981; Williams, 1986; Smith & Bloom, 1985). Analysis of the reasons given by suicidal BPD individuals suggested that, overall, the intent of suicide attempts is to regulate emotions (Brown, Comtois, Linehan, 2002). Two psychophysiology studies support the claim that suicide is motivated by the expectation of emotion relief (Doron et al., 1998; Welch, 2003).

Evidence for emotion dysregulation comes from the vast literature showing that depression increases the risk of suicide ideation, attempted suicide, and completed suicide (e.g., Lewinsohn, Rohde, & Seeley, 1994). Depression comprises several primary emotions, such as sadness, shame, anxiety, irritability, and anger, all of which may drive suicidal behavior. This research has been reviewed elsewhere (Brown, 2003). There is evidence that depressed mood and anxiety temporarily improve after a suicide attempt (Jones et al., 1979; van Praag, 1985). Some individuals report feeling more calm and less depressed after their *decision* to commit suicide and before their attempt (e.g., Kienhorst et al., 1995; Shneidman, 1973, pp. 34-35).

Suicidal individuals often meet criteria for both anxiety disorders and clinical depression, both of which predict suicide attempts (e.g., Kessler et al., 1999). Severe anxiety, agitation, and panic are common in the days and months before suicide (Busch et al., 1993; Fawcett et al., 1990; Noyes, 1991; Warshaw et al., 2000). Individuals with comorbid anxiety and depressive disorders report more suicide ideation and behavior than those with depression or anxiety alone

(Bakish, 1999; Noyes, 1991). However, a 20-year prospective study of 6,891 outpatients found that depression, but not anxiety, predicted eventual suicide (Brown et al., 2000).

Although anger is associated with suicide (Farmer & Creed, 1986; Romanov et al., 1994), anger towards others is not likely a primary cause of suicide in most cases. Linehan (1981) suggested that suicidal individuals pass through stages. The ambivalent suicide attempter (early stage) often is angry and depressed, whereas a person is more likely to be apathetic and depressed soon before committing suicide. Empirical evidence suggests that hostility toward others is not associated with suicide intent (Farmer & Creed, 1986) or that higher anger is associated with less suicide intent (Brown, Comtois, & Linehan, 2002; Linehan, 1986). Two studies have found that chronically suicidal BPD individuals with *less* anger engage in *more* suicidal and self-injurious behaviors (Heard & Linehan, 1991; Brown, 2002).

There is considerable evidence of biological anomalies that correspond to emotion dysregulation and suicidal behavior; this topic is beyond the scope of this chapter and is discussed elsewhere (Williams, 1997; Beauchaine, 2001; Gross, 1999).

Hopeless Thinking

The process of escaping emotional suffering with suicide involves hopeless thinking. According to hopelessness theory (Abramson, Metalsky, & Alloy, 1989), depression leads to suicidality because of extreme hopeless thinking. When individuals expect that intolerable emotions (and the situations that elicit them) will not ameliorate, they become depressed and view suicide as the only way to prevent further suffering. Measures of hopelessness have been found to strongly predict suicidal behavior (e.g., Brown et al., 2000), and hopelessness may account for the correlation between depression and suicidal behavior (e.g., Cole, 1988). It is important to know, however, which aspects of hopelessness are linked with suicidal behavior. Studies have found that suicide attempters do not excessively anticipate negative events in the future; rather, they anticipate few positive events and think of few reasons for living (MacLeod, Rose, Williams, 1993; MacLeod & Tarbuck, 1994). Believing there are fewer reasons for living is associated with increased hopelessness and suicidality, and reasons for living may predict suicidality more strongly than global negative expectancies (Dean, Range, & Goggin, 1996; Strosahl, Chiles, & Linehan, 1992). In addition, the hopeless thinking of suicidal individuals may be based on their expected inability to tolerate future negative events rather than on expecting a high likelihood of negative events. One study found that emotional suffering predicted suicidal intent, planning, and action more strongly than hopelessness (Holden & Kroner, 2003). This hopeless and passive/withdrawn behavior may result from learned helplessness when emotional suffering persists despite one's best efforts (Abramson, Seligman, & Teasdale, 1978). In contrast, individuals strongly believe that suicide will effectively solve their problems in life.

Hopeless and all-or-nothing thinking is likely related to ineffective problem solving. Accumulating life stressors (including failure to obtain positive events) that fail to get solved increase hopeless thinking; and hopeless thinking, in turn, can lead the individual to give up attempting to solve-problems as they become increasingly overwhelmed.

Self-invalidation and Shame

Linehan's biosocial theory states that emotion dysregulation and self-invalidation are inter-related problems that together lead to suicidal behavior. Self-invalidation involves experiences such as negative self-judgments, shame, self-contempt, self-directed anger, and low self-esteem. Suicidal individuals invalidate themselves when they blame and judge themselves

harshly for their lack of control of behavior and emotions, and when they treat their normal responses as invalid. Self-invalidation also involves denying one's emotional vulnerability, and in doing so, individuals set unrealistically high or perfectionistic expectations and minimize the difficulty of solving problems. The inevitable failure that follows leads to more self-hatred and shame.

Suicidal individuals inhibit primary emotions that they experience as aversive and treat as invalid. In a similar way, shame may provide a motivation for suicide by invoking an urge to hide or escape from aversive self-awareness (cf. Baumeister, 1990). Suicide may be sought as the most complete and permanent way to hide from the shameful scrutiny of self and others, especially when individuals feel hopeless about changing their shameful qualities. Suicidal behavior and self-injury can also function as self-punishment—a form of self-invalidation. The person seeks to harm the self as one might desire to harm any hated person. Viewed as self-punishment, suicidal behavior can be understood as functioning to verify the strong belief that one is bad and deserves punishment. At a minimum, suicide becomes an acceptable option when believing one doesn't deserve to live.

Self-punishment may be understood in terms of self-verification theory (Swann, 1990). This theory states that individuals feel an aversive state of tension (or “disintegration anxiety”) when fundamental beliefs about themselves or the world lack sufficient confirmation because humans have a basic need to make sense of the world. Similarly, cognitive dissonance theory postulates that inconsistencies between important cognitions (e.g., “I deserve to be punished” and “I have not been punished”) create aversive affect, or *dissonance* (Festinger, 1957). Individuals take various habitual actions to restore their sense predictability, familiarity, and control. Anxiety is expected to diminish when these basic beliefs get confirmed (e.g., after “deserved” punishment). Thus, individuals act consistent with their basic beliefs about themselves, or self-concept (Aronson & Mettee, 1968). This theory also explains why people with negative self-concept seek and solicit negative feedback from others—to confirm their perceived negative qualities (Joiner, 1995).

Several converging lines of evidence show an association of negative self-conscious emotions to suicidal behavior. One study found that proneness to shame predicted suicide ideation independently from guilt-proneness (Hastings, Northman, & Tangney, 2000). Another study found that higher shame is associated with higher current and past suicide ideation when statistically controlling for age, gender, and current depression severity, but that guilt shows almost no correlation with current suicide ideation (Lester, 1998). Strong negative self-perceptions have been linked to a history of suicidal behavior and suicide ideation (e.g., Crook, Raskin, & Davis, 1975). The suicide intent and lethality of suicidal behaviors have been found to correlate with self-criticism more strongly than depression (Fazaa & Page, 2003). Suicide attempters frequently feel like they are rejected, worthless, and failures (Hassan, 1995; Bancroft et al., 1976; Hawton et al., 1982; Bulik et al., 1990). Perfectionism predicts suicidality above and beyond depression and hopelessness (Baumeister, 1990; Dean, Range, & Goggin, 1996).

Among BPD individuals who attempt suicide and engage in nonsuicidal self-injury, self-punishment was a common reason reported for doing both types of behaviors (51% vs. 59%, respectively); self-punishment was reported *less* often by those who only attempted suicide, and *more* often by those who only engaged in nonsuicidal self-injury (Brown, Comtois, & Linehan, 2002). Suicidal individuals report high hostility toward themselves and others (Brittlebank et al., 1990; Vinoda, 1966; Ross & Heath, 2003), but most attribute their suicidal and self-injurious behavior to anger at self rather than anger at others (Bennum & Phil, 1983; Roy, 1978). Self-

punishment may more often explain the suicidal behavior of chronically suicidal individuals (or those who meet criteria for BPD) than it explains the suicidal behavior of other individuals.

Several prospective studies suggest a link of negative self-concept to suicidal ideation (Kaplan & Pokorny, 1976) and suicide attempts (Lewinsohn et al., 1994). Negative self-concept predicted, independently of depression, both suicide attempts (Lewinsohn et al., 1994) and suicide (Beck, and Stewart, 1989, cited in Weishaar and Beck, 1992). One prospective study of a BPD sample found that shame (self-report and nonverbal behaviors), more than other emotions, predicted subsequent suicide ideation and overt suicidal and nonsuicidal self-injury (Brown, 2002). Similarly, hostility toward oneself is positively associated with suicide ideation (Goldney et al., 1997) and the suicide intent of overdose (Farmer & Creed, 1986).

Problem Avoidance and Impaired Emotional Processing

Anger, contempt, and shame interfere with various ways in which suicidality might be resolved. High emotional dysregulation interferes with problem solving through cognitive dysregulation and problem avoidance. Shame, in particular, motivates concealing problems from therapists. Anger can interfere with the collaboration necessary for effective treatment. Anger, contempt, and shame may also interfere with emotional processing of fear and sadness and when individuals avoid fear and sadness cues. The biosocial theory proposes inhibition of grieving as a fundamental process contributing to the maintenance of suicidal behaviors in BPD. One study suggests that anger and contempt interfere with recovery from grieving (Bonanno & Keltner, 1997). Similarly, contempt can interfere with improvement in major depression (Ekman, Matsumoto, & Friesen, 1997). High levels of anger can also interfere with the treatment of post-traumatic stress disorder by interfering with the processing of fear (Foa, Riggs, Massie, & Yarczower, 1995). In previous maladaptive environments, individuals have learned to cut off or invalidate their own primary emotional responses (often with other emotions modeled in the environment) as a means to regulate these emotions that they experience as intolerable. These individuals, however, continue to re-experience precipitating events that elicit similar emotional responses since they have not learned to effectively process the emotional material.

The Distal Causes of Suicidal Behaviors: Biological-Environmental Transactions

Linehan (1993a) explains the emergence of extreme emotionality, self-invalidation, and suicidal behavior according to learning principles, biological predispositions, and reciprocal influences between individuals and their environments over time. Initial biological vulnerabilities, based on genetics, intrauterine development, or brain trauma, can make individuals prone to emotional reactions that are easily elicited, highly intense, and long-lasting. This high emotionality increases vulnerability to stressful life events, which can increase the risk of suicide by increasing emotionality further. Biologically based behavioral predispositions (e.g., temperament) can also lead to negative emotionality and suicidality through more indirect paths. These negative behavioral patterns can evoke negative reactions from others that in turn worsen the individual's problems regulating their emotions and behaviors; or they can cause the individual to enter dysfunctional situations (Scarr & McCartney, 1983). Within social learning theory, this is the principle of "reciprocal determinism": The environment and the individual adapt to and influence each other in a transactional process. Similarly, individuals may be adversely affected when their temperament is a "poor fit" with their environment (Chess & Thomas, 1986).

Some genetic influences can be powerful enough to overwhelm a benign environment, and some powerful environmental events can create dysfunction in most individuals despite large, pre-existing individual personality differences. Generally, individuals who are more severely and chronically suicidal grew up in environments that were more severely and pervasively traumatic or invalidating. There is evidence that traumatic events and extreme environmental conditions can modify neural structures such as the limbic system, thus increasing emotion vulnerability (Dennenberg, 1981; Greenough, Black, & Wallace, 1987). When the limbic system gets overwhelmed through chronic and intense activation, individuals become sensitized to react intensely to emotional stimuli (i.e., "kindling"). This increased emotional vulnerability can increase the probability of future trauma and also further strain interpersonal relationships, in a perpetual cycle.

The Invalidating Environment

Linehan explains suicidal behaviors according to principles of social learning theory (cf., Lester, 1987). Self-invalidation develops when individuals learn to disregard, criticize, and punish themselves (and their emotions) from observing others who have invalidated them in these ways (Bandura & Kupers, 1964; Herbert, Gelfand, & Hartmann, 1969). Chronically suicidal individuals typically report chronic and pervasive invalidation from others during childhood, often involving communications that the individual's emotions and behaviors are invalid and that the individual is invalid as a person (i.e., rejection). The accuracy of an individual's communication of private experiences is rejected and many behaviors are attributed to negative characteristics such as manipulative intent, lack of motivation, negative attitude, or paranoia. Many normal behaviors or emotional responses are treated as trivial or pathological. Abuse is often the most damaging form of invalidation, especially when individuals are blamed for the abuse they receive (Wagner, 1997).

Invalidating families often expect behaviors beyond the child's capabilities, without helping the child learn new behaviors, and excessively punish negative behaviors. Excessive punishment creates an aversive environment for the child, which increases negative emotional behaviors and family conflict, in a vicious cycle. Abusive environments also create self-hatred. Experiments demonstrate that innocent victims are often devalued and rejected, perhaps because we learn that people generally get what they deserve and that evil is punished (Lerner & Miller, 1978). Many studies find that suicide attempters report high rates of sexual, physical, and emotional abuse during childhood and adulthood (e.g., Twomey, Kaslow, & Croft, 2000; Wagner, 1997), but data on other forms of invalidation are lacking.

Social Reinforcement of Dysfunctional Behaviors

Self-invalidation, self-punishment, suicidal behaviors, and self-injury are a class of behaviors that get reinforced by the reactions of other people (Bandura, 1977, pg. 150). Suicide attempts (and communication) appear to be followed by large changes in the environment (often in ways desired by the suicidal person), which can reinforce suicidal behavior and create positive expectancies. Others may help the suicidal person or stop making demands (or stop other aversive behaviors). Abusive family members are less likely to deprecate or punish individuals (or are likely to stop such behaviors) when those individuals preemptively deprecate or punish themselves (e.g., "Since I'm going to hurt anyway; let me take control of it and get it over with"). When punishment from others seems inevitable, self-punishment may be the lesser of two evils.

Empirical investigations have shown that people generally reduce aversive behavior or increase affiliative behavior (e.g., reassurance) toward people who act ashamed or deprecate

themselves (at least in the short-term) (Keltner & Harker, 1998; Powers & Zuroff, 1988). In the long-term, intense self-deprecation becomes aversive to others, and could reinforce others' negative views about the person, justifying further abuse or rejection (Strack & Coyne, 1983). Individuals further self-deprecate or self-punish to stop the ensuing abuse or rejection, thus creating a vicious cycle. Such extreme reactions may be especially likely to develop when individuals have few other effective ways to influence their harsh or unresponsive environments. These behaviors may become exceptionally strong when others intermittently respond positively (or less negatively). Almost half of BPD suicide attempters report they intend to influence others by attempting suicide and injuring themselves (Brown, Comtois, & Linehan, 2002).

Similarly, invalidating environments reinforce the escalation of other emotional behaviors. Coercive, hostile, and aggressive behaviors often function to end punishment or demands from others, usually by creating such aversive consequences for the caregivers persisting (Snyder et al., 1994). At the same time, caregivers are not responsive to moderate expressive behaviors, which reinforces the extreme emotional behaviors.

According to social learning theory, self-punishment and self-destructive behaviors are maintained by their acquired capacity to alleviate thought-produced distress and to lessen external punishment (Bandura, 1977, pg. 151). When people fail to meet their standards they tend to engage in distressing self-critical thinking that often persists until reprimanded or punished. The punished person feels better because punishment from others tends to restore their favor. During the course of socialization, the sequence of transgression, distress, punishment, relief is repeatedly experienced and strengthened. Self-punishment and restitution have a similar function to restore relationships, reduce further threat, and relieve distress. Studies have shown how self-punitive behavior can develop by its self-protective and stress-reducing value (Stone & Hokanson, 1969). When adults could avoid painful shocks by giving themselves less intense shocks, they increased self-punitive responses and became less emotionally distressed. Through a process of escape conditioning, self-punishment that has been successful in averting anticipated threats can persist long after the threats have ceased to exist. Studies with animals document the persistence of anticipatory self-punishment (cited in Bandura, 1977, pg. 151).

Application of Linehan's Suicide Theory: Dialectical Behavior Therapy

DBT is a comprehensive, multi-modal treatment that balances change strategies with acceptance strategies. This balance is achieved by integrating cognitive-behavioral therapy (CBT) strategies with validation and mindfulness approaches within a dialectical framework. Linehan developed DBT after finding that standard CBT often was not effective with the chronically suicidal women she treated. Therefore, Linehan added acceptance strategies (validation and mindfulness) to the treatment along with dialectical strategies to help integrate these apparently opposing core strategies. DBT later evolved into a treatment for suicidal behavior (and intentional self-injury) in BPD.

As its name suggests, dialectical philosophy is central to DBT. Within a dialectical framework reality is seen as continuous, dynamic and holistic. Reality, from this perspective, is simultaneously both whole and consisting of bipolar opposites. Dialectical truth emerges by the process of combination (or *synthesis*) of elements from both opposing positions (the *thesis* and *antithesis*). The primary dialectic in DBT is that of acceptance and change. A therapist may validate patients' perceptions that they are working as hard as they can, and yet stress that at the same time they must work even harder in order to move past their suffering. The acceptance-change balance is modeled both in the treatment strategies of DBT as well as the behavioral skills taught in DBT, with change-based skills such as emotion regulation and interpersonal

effectiveness being balanced by more acceptance-based skills such as mindfulness and distress tolerance. From a dialectical perspective, learning to accept, is a change in itself, and working to change includes an acceptance of current capabilities.

The therapeutic relationship itself frequently involves the therapist and the patient on opposite poles of a dialectic, with the goal being to synthesize the opposing views. For example, a therapist's position may be that the patient's suicidal behavior is the problem, whereas the patient's position may be that this behavior is the solution. A potential synthesis of these positions may be that suicidal behavior is an effective short-term solution to a life of constant suffering. They can then work on learning more adaptive coping methods to promote a life worth living. Dialectics also involves increasing flexible thinking in place of extreme all-or-nothing thinking and behavior.

Structure and Stages of Treatment

DBT is a multi-modal treatment consisting of individual behavior therapy, skills training, as-needed phone consultation, and a therapist consultation team. Individual therapy focuses primarily on managing crises, strengthening and generalization of skills, increasing motivation to act skillfully while decreasing the motivation for dysfunctional behaviors and overall treatment coordination and planning. Skills training focuses primarily on the acquisition of DBT skills; phone consultation primarily targets short-term crisis management, generalization of skills and repair of egregious breaks in the therapeutic relationship between sessions; and the case consultation team functions to maintain therapist motivation and effectiveness. DBT is a team-based approach that emphasizes assisting and supporting therapists in treating this population.

DBT delineates treatment stages that correspond to stages of disorder; each one associated with its own targets and goals. Individuals in Stage I have multiple pervasive and serious problems and out-of-control behaviors. The goals of treatment in Stage I are primarily to help the patient achieve stability and behavioral control, especially stop suicidal and self-injurious behaviors; to reduce severe obstacles to a reasonable quality of life (e.g., homelessness and disabling Axis I disorders) and to acquire the necessary capabilities to achieve these goals.

Early in Stage I, it is important to assess for history of suicidal behavior and nonsuicidal self-injury, current suicide ideation and behavior, and the risk factors for suicidality (mentioned above). Environmental risk factors to assess are recent stressful events (especially interpersonal stressors), history of abuse and trauma, current social support, suicide models, and reinforcement for suicidal behavior. Cognitive risk factors to assess include suicide ideation, hopelessness, knowledge of how to effectively solve problems and influence others, rigid all-or-nothing thinking, perceived self-efficacy, and negative self-concept. Overt behavioral risk factors include social isolation, passivity, and substance use. Demographic suicide risk factors include age, sex, and race.

Individuals enter Stage II when they have stopped major dysfunctional behaviors, and the main goals of treatment are to reduce the effects of early trauma, and to increase patients' capabilities to effectively experience emotions. In Stage III, treatment focuses on the resolution of residual problematic behaviors that interfere with achieving other personal goals. Self-respect and self-trust become the central focus.

Overview of Treatment Strategies

DBT treatment strategies fall into six broad categories: (1) Problem solving, (2) Validation, (3) Dialectical strategies, (4) General change procedures, (5) Communication strategies, and (5) Case Management strategies. In addition, DBT includes a number of specific

behavioral treatment protocols covering suicidal behavior, crisis management, therapy interfering behavior, relationship problem-solving, and ancillary treatment issues.

Core strategies consist of the balanced use of validation and problem-solving strategies. Validation strategies require the therapist recognize and communicate how the patient's responses make sense. Validation in DBT involves communicating explicitly (i.e., verbally) that patients' current responses make sense as well as acting as if the person makes sense (i.e., implicit validation). Problem-solving strategies consist of behavioral analysis, followed by the generation of solutions for crucial dysfunctional thoughts, emotions, and behaviors identified for specific suicidal acts.

The change procedures in DBT are designed to address problems that arise in implementing the new behavioral responses (i.e., the solutions) required to solve problems previously identified in the behavioral analysis. These strategies are primarily adaptations of cognitive-behavioral techniques that emphasize an emotion-focus. The four formal change procedures are contingency management, cognitive restructuring, exposure-based strategies and skills training. Two primary communication styles are used in DBT. The most common style is reciprocal, that is, being warm and responsive to the patient. Reciprocal communication is balanced by irreverent communication style, which involves a matter-of-fact manner, or humorous or "off-the-wall" comments, to get the patient's attention or get them "unstuck."

Finally, there are three Case Management strategies in DBT. First, DBT requires that therapists meet regularly with a consultation team, as severely suicidal or out of control patients are rarely treated effectively alone. DBT also places emphasis on the therapist as a consultant-to-the-patient. This strategy stems from the view that the therapist's role is primarily to teach the patient how to interact effectively with the environment, rather than to teach the environment how to interact effectively with the patient. However, the DBT therapist enters and directly intervenes in the patient's environment when necessary to protect the patient's life, modify a situation beyond the patient's control, or when it is simply the humane thing to do.

Dialectical strategies are woven into all therapy interactions. They include attending to the balance between acceptance and change throughout therapy and in every therapeutic exchange, and increasing flexibility in patients' thinking (i.e., dialectical thinking). Therapists target rigid thinking by highlighting the opposing sides to each issue while providing opportunities for reconciling the apparent contradictions. This is done with stories, metaphors, paradox, ambiguity (when therapeutic), and by drawing attention to natural change.

Modifying emotions, cognitions, and behavior

In Stage I of DBT, changing overt behaviors is the top target, and behavior change is expected to lead to cognitive and emotional change. In contrast to other models of treatment, it is not assumed that negative thoughts or behaviors must change in order for patients to stop suicidal behavior. DBT therapists target suicidal and self-injurious behaviors during the first session, and work hard to elicit a commitment from the patient to stop engaging in these behaviors. For many patients, behavioral stability (which marks the end of Stage I treatment) is achieved by distress tolerance and self-management; their "quiet desperation" becomes a primary Stage II target.

The choice of treatment strategies is guided by behavioral analyses conducted on specific instances of suicidal urges or actions (called chain analyses). These analyses identify the "links" in the chain of events that lead to suicidality for particular patients in specific situations. These links may include environmental events (and contextual factors), thinking, emotions, action tendencies, and overt behaviors, as well as the function, or consequences, of the suicidal

behavior. DBT therapists use Linehan's theory of suicidal behavior as hypotheses to guide the behavioral analyses. Specifically, they assess for emotion dysregulation, self-invalidation and shame, inhibited grieving (and other forms of emotion inhibition), crisis generating behaviors, active passivity, and apparent competence. These behavioral analyses also allow the therapist to determine the role of cognitive factors in maintaining a patient's suicidal behavior. Since emotion dysregulation is a systemic response comprising closely linked subjective feelings, cognition, expressive and action tendencies, working on dysfunctional emotions also often involves working on dysfunctional thinking. For example, a therapist working on dysfunctional shame would also likely be working on self-invalidating thoughts (e.g., self-judgments and "shoulds") and hopeless thinking (e.g., of never being accepted by others).

There are a variety of cognitive-behavioral strategies that can be used to modify the dysfunctional links that are identified for suicidal behavior. The selection of treatment strategies is primarily determined by what is pragmatic for particular targeted links. If suicidal responses stem from a problem in the environment, the therapist may teach the patient problem-solving skills and coach him or her in resolving the situation in a non-suicidal fashion. For other patients, formal or informal cognitive restructuring may be the most effective path for changing dysfunctional emotions and suicidal behaviors. Linehan believes that cognitive restructuring works primarily by teaching or motivating patients to initiate new overt behaviors from which they learn new (more functional) emotional and cognitive responses.

In DBT, cognitive restructuring often involves getting patients to generate opposite-to-emotion thoughts (to replace ineffective thoughts) without necessarily disputing dysfunctional thoughts head on. DBT therapists may also challenge cognitions directly (e.g., raise doubts that suicide will solve the patient's problems, maintaining that there is no evidence that things will be better for the patient after death). DBT therapists also decatastrophize fear/worry thoughts by modeling a "so what?" or accepting attitude, rather than working on verbally correcting estimates of the probabilities of feared events. In this way, cognitive restructuring in DBT is more similar to Ellis than to Beck as the aim is to "weave a web of logic" from which the patient cannot escape. DBT therapists also have patients vividly imagine their ultimate feared outcomes to rehearse how they would cope with such outcomes and desensitize to the images (cf. Borkovec, Alcaine, & Behar, 2004; Foa, Wilson, & Wilson, 1995).

In DBT, cognitive modification of hopeless thinking involves inspiring hope through verbal cheerleading, generating/highlighting reasons for living, and believing wholeheartedly in patients' ultimate capabilities to succeed. Given that self-invalidation often maintains suicidal behavior, another commonly used cognitive intervention for suicidal behavior in DBT is teaching and reinforcing the patient's use of self-validation. The therapist teaches self-validation by communicating to the patient how her behaviors make sense in terms of her past, her biology, her current beliefs or feelings, or her current situations (how her behaviors are effective in some way, or that they are normal responses to current events). The therapist then instructs the patient to actively counteract negative judgments and unrealistic standards of acceptable behavior (i.e., perfectionistic "shoulds") by rehearsing self-validating statements (both in and out of sessions).

Another cognitive strategy used in DBT is contingency clarification. The therapist clarifies the effects of the patient's suicidal behavior on other people (including the therapist) and on reaching personal goals. By teaching the patient to notice the natural "if-then" relationships operating in the patient's life, the therapist hopes to increase the probability of adaptive behavior. The key idea is to motivate patients to block dysfunctional behaviors, including suicidal behaviors, and to instead engage in new more adaptive behaviors. This "pros and cons" analysis

can be applied in a crisis or to increase the odds the patient will adopt a non-suicidal approach to solving problems in future crises.

Methods for addressing cognition (and corresponding emotions and suicidal behaviors) more unique to DBT include mindfulness and opposite action. DBT therapists sometimes try to get their patients to relate to their thinking differently or focus attention away from dysfunctional thoughts, rather than change the content of thoughts. Mindfulness practice teaches patients to “step back” from and observe their thoughts (i.e., “thought defusion”), and acknowledge them as simply “thoughts passing through my mind” (i.e., “deliteralization”) that do not need to be changed or acted upon (cf. Hayes, Strosahl, & Wilson, 1999). Patients learn to discriminate facts/events from inferences and judgments. Therapists sometimes label hopeless or suicidal thoughts that arise in sessions as ineffective “avoidance thoughts” that are habit-responses to stress. In these situations, therapists highlight the thoughts and instruct the patient to refocus on the current therapy tasks and accompanying emotion rather than avoid a difficult discussion in therapy, which could reinforce the patient’s hopeless/suicidal thinking. Mindfulness of negative judgments such as “I’m bad” can involve observing the thoughts or describing instead of judging (i.e., just sticking to the facts). Many patients who have chronic worry are emotion-phobic and avoid experiencing the physical sensations associated with emotion (Borkovec, Alcaine, & Behar, 2004). A helpful intervention for emotion-phobic patients is to have them focus away from negative thoughts and instead focus on the physical sensations of emotions that they avoid (this strategy provides non-reinforced exposure to emotions).

Opposite action can involve engaging in opposite thinking (as noted above) or acting as if the opposite thoughts are true. It involves assessing the action urges (i.e., what dysfunctional behaviors do they feel like doing when they experience the thought/emotion?) and acting opposite to them. Key assessment questions are: “What does the patient not do because of their dysfunctional thoughts/emotions?” and “What would the patient do if they didn’t have these dysfunctional thoughts/emotions?” For example, patients working on shame who feel like using judgmental language and hiding can act as if they are not ashamed by not hiding (direct eye contact, assertive body language, clear matter-of-fact voice) while they describe (rather than judge) the things they feel ashamed of (i.e., those things that generate thoughts that they are “bad”) and self-validate. The therapist’s continued positive regard changes the patient’s experience of being “bad” by disconfirming the patient’s fears of rejection (Jacobson, 1989). It is important, however, to monitor and block subtle forms of avoidance during opposite action.

Patients can also practice doing things that they think they “don’t deserve” to do. Patients working on perfectionism can practice intentionally doing things “half-way” or “good enough” and accepting doing an imperfect job. Patients who are ashamed of feeling emotions like anger or sadness can practice mindfully experiencing their sadness or anger rather than avoiding them. DBT therapists place a high value on “dragging out new behavior” in therapy sessions, including emotional experiencing, when dysfunctional thoughts/emotions arise.

Opposite action is similar to behavioral experiments used in cognitive therapy, except that in DBT the opposite behaviors are repeated (e.g., the person stays in the feared situation) until distress diminishes. Insight, which may occur after a brief or single opposite action, is not seen as sufficient in most cases. Opposite action typically involves exposure to emotion cues and blocking of avoidance. Thus, when a dysfunctional cognition is identified, one option is that the therapist can determine the cue that triggered the thought/emotion and expose the patient to the cue until their distress is reduced. Barlow (1988) theorizes that exposure therapy is so effective because it reverses emotion action tendencies. Decades of research in social psychology on

cognitive dissonance induction has shown that getting people to act opposite to their attitudes (as long as they believe they have freely chosen the behavior) is a powerful way to change beliefs and attitudes (e.g., Zimbardo & Leippe, 1991).

Opposite action (i.e., exposure therapy) is only used when the thoughts, emotions, and action urges are dysfunctional. For example, patients are not encouraged to act opposite to shame (i.e., engage in the behaviors they fear will get them rejected by others) if they are likely to actually get rejected by others whom they care about. Opposite action is not encouraged if an ultimate feared catastrophe is actually likely to be true.

There is emerging evidence from treatment outcome studies that opposite action and exposure are some of the most powerful change strategies. They appear to be as effective as cognitive restructuring (CR) for treating depression, social phobia, and panic, and changing negative cognitions (Jacobson et al., 1996; Gortner, Gollan, Dobson, & Jacobson, 1998; Hope et al., 1995; Williams & Falbo, 1996). This finding fits with other studies showing that adding CR to behavioral interventions does not improve outcomes (Latimer & Sweet, 1986; Borkovec et al., 2002). Similarly, a review by Foa and colleagues (2003) found that the exposure therapy for PTSD is often more effective than CR at treatment follow-up, and that its effectiveness can be diminished when CR is added.

Conclusion

Linehan's biosocial theory offers clinicians and researchers a model for understanding the onset and maintenance of suicidal behaviors. In turn, this model informs treatment. It is also useful for understanding characteristics of chronically suicidal individuals such as those meeting criteria for BPD. More data is clearly needed to test elements of the theory (e.g., emotion intolerance). Linehan adapts the theory and the treatment to fit emerging empirical findings on suicidality, emotion dysregulation, and mechanisms of change. Promising research methodologies are being developed to facilitate this evolution.

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