

Quieting the Affective Storm of Borderline Personality Disorder

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Case Presentation

"V" was a 22-year-old single Caucasian woman who responded to a newspaper advertisement recruiting personality disorder research subjects. She reported over 10 years of moodiness, anger dyscontrol, and periodic suicidal preoccupation.

History

Family. V was the older of two children. She described her mother as a controlling person with whom she battled constantly. Her father was more engaging and relaxed, and they enjoyed closeness during her early years. When V was 12, it was discovered that her father was having an extramarital affair. Despite V's efforts to convince him to remain with their family, her father left when V was 13 to live with his girlfriend. This disruption greatly affected V, who was forced to relocate with her mother and brother to the Midwest, where she had difficulty adjusting and meeting new peers. Her mother became clinically depressed and was unable to parent effectively, creating the sense that V had lost both parents. Her father remained on the East Coast and their contact was limited to occasional phone calls until her return East for college several years later.

Developmental. As a child V was precocious but moody and unusually sensitive to physical experiences such as hair brushing and to challenges to her autonomy, responding with anger and near hysteria, at times losing appreciation of her surroundings. These episodes occurred 3–4 times a week, but otherwise she was a well-adjusted, energetic, curious child. However, after the breakup of her family at age 13, her baseline emotional state was characterized by misery, despair, and inner tur-

moil, and her behavioral dyscontrol intensified. During her mother's depression, she felt alone, with no expectations placed upon her and no consequences for her behavior. She describes the resulting lack of boundaries as "reckless." During that time, she experienced intense suicidal ideation, lying in bed for hours crying and thinking about ways to die, and developed ways to seek others' attention. By age 15, she had started cutting her arms, primarily to demonstrate to others her inner pain. By age 16, her behaviors had escalated to truancy and physical altercations with the police. In college, she continued self-injurious behaviors as both self-punishment and a means to communicate her distress. Emptiness pervaded her "80%" of the time. Though highly intelligent, she underwent periods of confusion and inability to think clearly, particularly when she was emotionally upset and physically exhausted, which interfered with her ability to complete school assignments. She remained distant from peers and was not involved in any romantic relationships. Despite these difficulties, she was able to graduate from college, complete her internship, and be hired for a job.

Psychiatric. Despite frequent anger outbursts, cutting episodes, and pleas for help, psychiatric intervention was not obtained until age 15 when her high school, which had had to call the police at least 10 times concerning V, mandated an evaluation. Ultimately V, who was increasingly isolated and sleeping 14–16 hours a day, was diagnosed with major depression. During her late adolescence, she underwent two trials of antidepressant medication but was nonadherent. At no point in her life has she met criteria for mania or hypomania.

V's treatment history included seeing eight different therapists, with treatment durations ranging from two sessions to 13 months. Her most successful psychotherapy trial was a once-weekly supportive therapy during college with a female therapist whom she liked. However, the therapy was disrupted several times by V fleeing and then returning. V believed she was "too overwhelming" to sustain a relationship with any of her providers.

Just prior to her joining the Mount Sinai Mood and Personality Disorders Research Program, she was hospitalized after ingesting 12 paroxetine tablets during an intake appointment at a community clinic. She later described this as a purely communicative action intended to convey the urgency of her need for therapy.

"It is the extreme sensitivity to context that generates the...dynamic that provides the unique psychological signature for borderline personality disorder familiar to most clinicians."

This article is discussed in an editorial by Dr. Oldham (p. 509).

Rather than speeding up the intake process, she was hospitalized briefly.

Medical. V denied any significant medical conditions and was not taking any psychoactive medication.

Trauma. While V denied any clear incidents of childhood trauma, she did describe an “inappropriate physical altercation” with her father at age 17. After V had made a disrespectful comment to him, he slapped her face, at which point she pushed him. The fighting escalated until both were on the floor. Additionally, as a child, her mother responded to her tirades by throwing water in her face. On the Childhood Trauma Questionnaire, she endorsed elevated levels of both emotional neglect and abuse and childhood physical abuse (Table 1).

Treatment Course

V entered a 1-year dialectical behavior therapy research protocol studying the neurobiology of treatment response. Because subjects remain off all psychiatric medications during the study, the Mount Sinai School of Medicine and James J. Peters VA Medical Center institutional review boards require regular consultation and reviews by an outside physician to determine if psychiatric medication is indicated.

At the outset of treatment, V endorsed dramatic mood shifts, verbally explosive behavior, and awakening with suicidal ideation 3–4 days per week. She expressed hatred of her body and felt unattractive to men. She was starting her first professional job and was nervous about her ability to perform and interact with colleagues. She dreaded being alone and was particularly debilitated on weekends. She noted that she had not cut herself in over a year but was plagued by feelings of emptiness and questions pertaining to her sense of self.

The first 2 months of treatment focused on orientation to the dialectical behavior therapy method and fostering a therapeutic alliance. The study therapist was a seasoned psychologist with years of experience with personality disorder patients who is herself blind. The therapist's blindness had previously not interfered with her treatment of other patients but proved problematic with V. Within the first few weeks, V was endorsing deliberate self-harm on several occasions, but refusing to show the cut marks to the research staff and leaving sessions when confronted. The study psychologist felt the inability to “see” V was becoming an obstacle.

At the 3-month mark, V was transferred to the study principal investigator (M.G.) for the duration of the trial. Months 3–5 were notable for continued suicidality, complaints that she “was dying,” and a determination to communicate through action the degree of her distress. She purchased psychiatric medications online in a plan to overdose but relinquished her “stash” to her therapist. On another occasion, hospital security intervened when V abruptly left a session after refusing to discuss her suicidality. Discussion in our weekly dialectical behavior therapy consultation group led to plans to transfer V out of the research study into our outpatient clinic for pharmacologic stabilization. This process became entangled with V's fears of abandonment and the belief that she was “too overwhelming” for others to handle. Consultation by an outside psychiatrist, as stipulated by our institutional review boards, was performed. The consultant supported her remaining in the

TABLE 1. Assessments of Anger, Aggression, Impulsivity, and Childhood Trauma in the Case Subject

Assessment	Case Subject Score ^a	Normal Value
Barratt Impulsivity Scale	61.31	61.15 (SD=12.23)
Buss Perry Aggression Questionnaire	84.12	68.2 (SD= 17.0)
Childhood Trauma Questionnaire		
Total score	77	
Emotional abuse	21	
Physical abuse	18	
Sexual abuse	5	
Emotional neglect	18	
Physical neglect	8	
State-Trait Anger Expression Inventory		
Trait	33	17.9 (SD=4.9)
State	13	17.9 (SD= 5.3)
Expression	55	32.0 (SD= 13.6)
Overt Aggression Scale, aggression subscale	17.5	2.02 (SD= 3.75)

^a Elevated values are in bold.

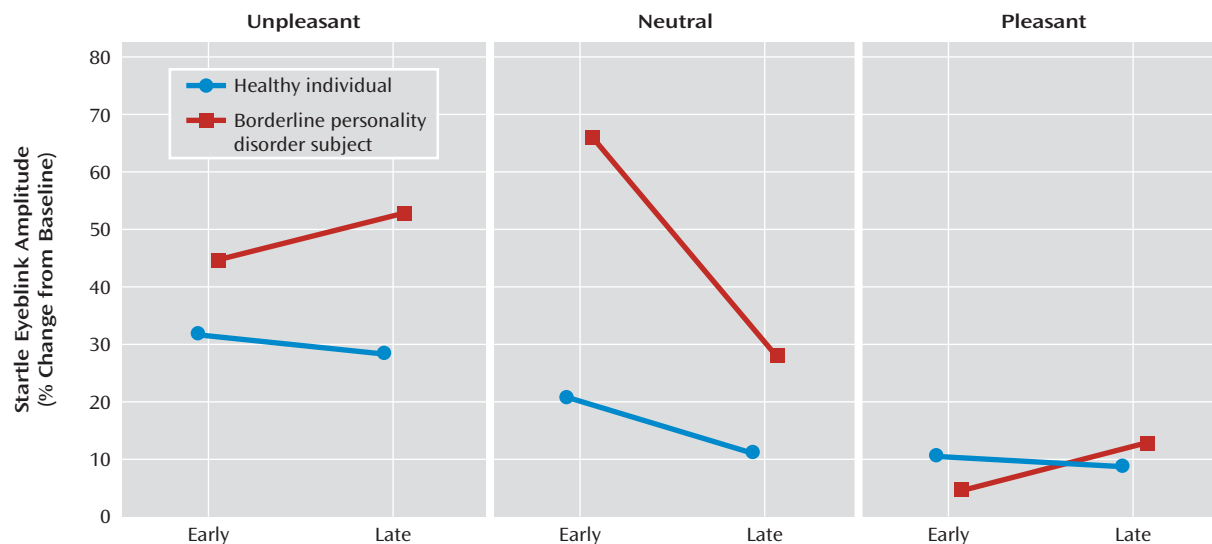
research program which resulted in a temporary symptomatic improvement.

Over the Christmas season, treatment progress was lost due to disruption of the dialectical behavior therapy schedule. Coupled with the interruption of V's work routine, her sense of abandonment escalated, and her intolerance of being alone resulted in a fugue-like state in which she walked alone late at night in dangerous neighborhoods. Police were alerted and she was involuntarily hospitalized for 5 days and medicated with high-dose antipsychotics, which left her sedated and dysarthric. Upon discharge, she stopped her medications, returned to work, and negotiated her way back into the treatment study after outside consultation was again obtained.

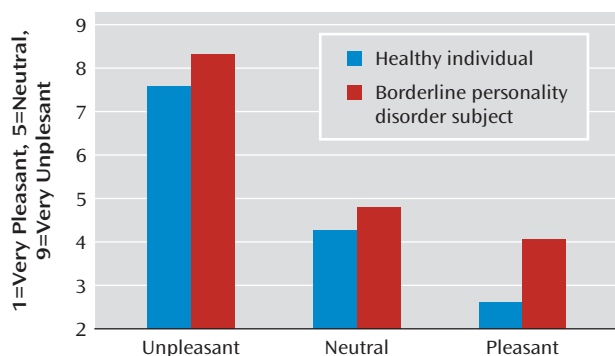
Months 6–9 were marked by the beginnings of productive discussions about psychological triggers and strategies for improved emotion regulation and building a more fulfilling life. She began to employ more effective strategies at work and with her roommate and family members. Despite this progress, copious session time was spent addressing treatment-interfering behaviors, including protracted silences, storming out of the office, and threats of quitting.

The last 3 months of the treatment were consumed by the emotional reactions and practical decisions required after her mother became critically ill and almost died. Behavioral analyses of targets including increased anxiety reactions, newly reported binge eating episodes, and excessive lethargy revealed distorted cognitive beliefs about her neediness, fears of abandonment, and guilty feelings of how her emotional sensitivity as a child affected the family and overwhelmed her mother's ability to cope. She questioned how she might handle her mother's illness and whether she was capable of caring for anyone else, believing she never received adequate nurturance as a child.

A hiatus in the therapy occurred when V traveled to help her mother's convalescence, which resulted in an opportunity to renegotiate their relationship and mend past misunderstandings. She returned more hopeful, less steeped in the past, and with a diminished need to communicate through acting out. During

FIGURE 1. Affective Startle Modification During Picture Processing^a

^a Mean startle eyblink amplitude (calculated as % change from baseline) shown for the borderline personality disorder patient and an age- and sex-matched comparison subject. The experiment was divided into early and late trials to examine habituation effects.

FIGURE 2. Subjective Ratings of Unpleasant, Neutral, and Pleasant Pictures^a

^a The borderline personality disorder patient rated all three picture types as slightly more unpleasant than the healthy comparison subject.

this time, she also started and nurtured a romantic relationship and secured a better job placement. However, productive gains triggered abandonment anxieties, stemming from a belief that people will leave her if she “becomes too healthy.” She responded to these fears by threats or actual engagement in self-destructive behaviors. While the termination process was difficult and old behavioral patterns reemerged briefly, she was able to transition to a new treatment team and to articulate the numerous gains of her year of dialectical behavior therapy.

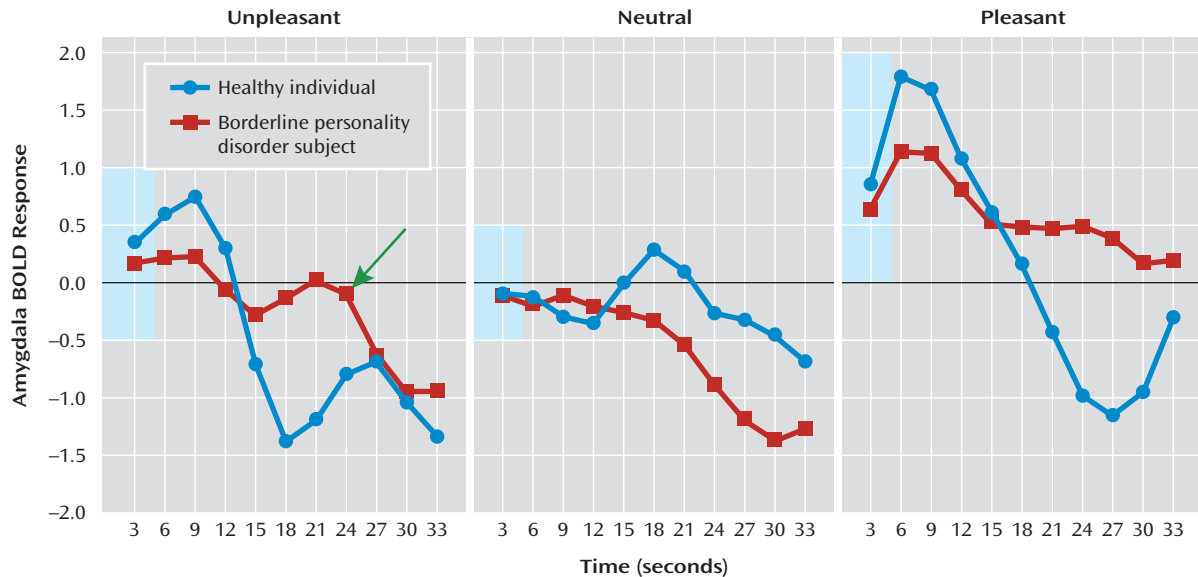
Research Data

Structured clinical interviews for axis I and II disorders yielded the following: borderline personality disorder, past major depressive disorder, and verbal intermittent explosive disorder.

A battery of self-report symptom measures was administered yielding elevated levels of negative affect, aggression, and anger expression (Table 1).

The patient participated in a study examining the neural circuitry of emotion-processing deficits in borderline personality disorder. This study involves measuring startle eyblink and fMRI (separate sessions) while viewing a series of photographic images that vary in affective valence (unpleasant, neutral, and pleasant). The patient's results were contrasted with those of a female healthy comparison subject. These data are anecdotal and meant to be illustrative given that a large sample size and statistical analysis is necessary in order to draw meaningful scientific conclusions.

Affective startle is a reliable nonverbal psychophysiological method that is useful for objectively quantifying the waxing and waning of emotional processing. The acoustic startle eyblink response is a component of the whole-body startle reflex which occurs when a brief startling stimulus (white noise burst, 105 db, 50-msec duration) is presented through headphones. The amplitude of the startle eyblink response can be measured from electromyographic activity using miniature electrodes placed around the eye. Unpleasant, neutral, and pleasant pictures are presented for 6 seconds and the startle stimulus is presented 4–5 seconds after picture onset on some trials. Numerous studies (e.g., reviewed by Lang et al. [1]) have shown that in healthy individuals, the unpleasant pictures (e.g., a man hitting a woman) prompt larger startle eyblink amplitude than pleasant (e.g., smiling baby), while startle amplitude during neutral pictures is intermediate (e.g., neutral face). Figure 1 shows the healthy comparison subject exhibited the normal affective startle pattern of larger startle eyblink response amplitude during unpleasant pictures and smaller amplitude during pleas-

FIGURE 3. Amygdala BOLD Activation During Presentation of Unpleasant, Neutral, and Pleasant Pictures^a

^a Each picture was viewed for 5 seconds (represented by the light blue box). We traced the amygdala on structural MRI (blind to diagnosis) and co-registered the structural MRI to the functional MRI to examine the BOLD response curve in the amygdala. The comparison subject showed an early response to both unpleasant and pleasant images which attenuated rapidly, whereas the borderline personality disorder patient showed a smaller amplitude but more sustained (green arrow) BOLD response during the two emotional picture conditions (unpleasant and pleasant). The total area under the curve is higher for the borderline personality disorder patient than the comparison subject for positive and negative valence.

ant pictures. In contrast, V showed an augmented startle response during unpleasant pictures compared with the healthy subject, as well as an augmented response during neutral pictures. Furthermore, over time (from early to later trials within the experiment), V showed an increase in startle eyeblink amplitude during the unpleasant pictures, whereas the comparison participant showed a slightly decreased response indicating habituation. The absence of habituation to the unpleasant pictures may reflect a failure of automatic emotion regulation.

Each picture was rated for valence using a 9-point Likert scale. As expected, the healthy participant rated the unpleasant pictures as more unpleasant than neutral and the pleasant as more pleasant than neutral. V showed a similar pattern but overall rated the pictures more negatively than the healthy participant (Figure 2). This pattern of subjective rating is somewhat atypical of our borderline personality disorder patients, given that we previously reported that they showed a blunted response (i.e., rated unpleasant stimuli as less unpleasant) relative to healthy comparison subjects (2).

In addition to the affective startle session, V also had an fMRI scan while viewing affective pictures. Figure 3 shows the event-related BOLD response curves for the amygdala. The comparison subject showed an initial amygdala response to unpleasant and pleasant pictures which habituated rapidly. This pattern is expected given that the amygdala is important in affective valence and typically shows activation during both positive and negative emotional stimuli. V showed a smaller initial amygdala response to the unpleasant and pleasant pictures than the

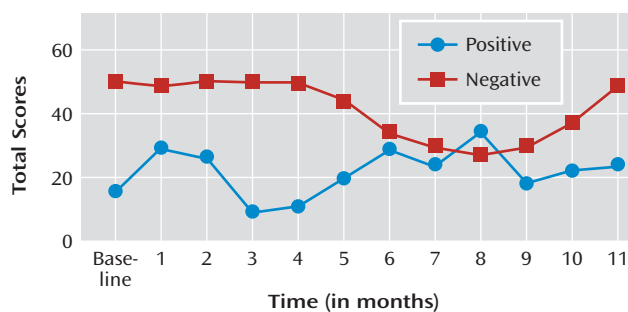
healthy subject but her response was much more sustained across time. This is consistent with a habituation deficit and again suggests the possibility that we are observing impairment in automatic emotional modulation.

Longitudinal ratings were performed monthly during the course of the dialectical behavior therapy treatment for measures of anger, aggression, and negative affect with notable improvement in the negative subscale of the Positive and Negative Affect Schedule (up until month 10 when termination issues dominated the treatment) and State-Trait Anger Expression Inventory expression scale (Figure 4 and Figure 5).

Discussion

Overview (Dr. Siever)

The borderline personality disorder diagnosis engenders skepticism in many clinicians and investigators, and feelings of frustration in clinicians who work with such patients. The diagnosis has been challenged with the notion that it can be explained by other comorbid conditions, or as a variant of axis I disorders such as mood or impulse control disorders. Yet, increasing evidence points to borderline personality disorder as a valid diagnosis with relatively specific genetic antecedents, biologic susceptibilities, psychosocial antecedents, treatment response, and characteristic outcomes. The signature of borderline personality disorder is the exquisite sensitivity to the vicissitudes of interpersonal relationships, including profound feelings of abandonment upon disruption of these relationships.

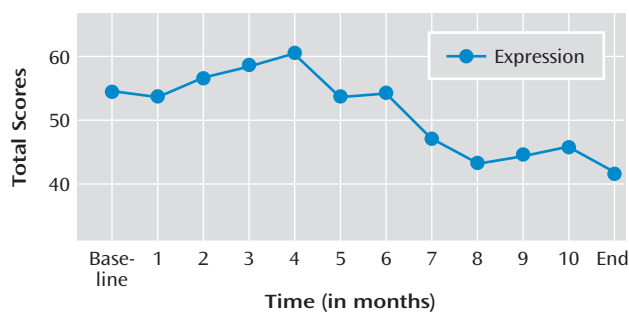
FIGURE 4. Positive and Negative Affect Schedule Ratings Over the Course of Dialectical Behavior Therapy^a

^a The patient demonstrated improvement in negative affect up until month 10, when termination issues surfaced. There was little change in positive affect.

The history and presentation of “V” illustrate many of the central features of borderline personality disorder, including marked affective lability, sensitivity to rejection, impulsive and often manipulative behaviors to capture the attention of important others, and frequent angry outbursts. These behaviors compromised her personal relationships and relationships with past and present therapists.

Many clinicians would focus on her mood symptoms. She did meet criteria for depressive disorder in adolescence and had frequent affective shifts, which might prompt a bipolar II or rapid cycling bipolar diagnosis by some clinicians. Indeed, it has been proposed that borderline personality disorder is a variant of bipolar disorder (3). However, she specifically denied hypomanic symptoms; also, the affective shifts in borderline personality disorder, unlike bipolar II, oscillate between anger and dysphoria rather than from depression to elation and tend to be reactive to interpersonal context rather than endogenously driven (4, 5). Borderline personality disorder has also been conceived of as an impulse control disorder (6). While impulsive-aggression is an essential criterion for this disorder and appears to have specific genetic underpinnings (7) and associated candidate genes (8), the characteristic presentation of impulsive-aggression in borderline personality disorder arises in an interpersonal context accompanied by a sense of abandonment or anger, as occurred in V in relation to her mother and later to her therapist.

V’s affective disturbance is grounded in sensitivity to negative interactions, replicated in the laboratory by her heightened responsiveness to negative stimuli in our startle paradigm and by increased reactivity of the amygdala on functional neuroimaging (9). This hyperemotional responsiveness particularly to negative stimuli is characteristic of the long-term functioning of borderline personality disorder patients and is not confined to discrete mood episodes. These negative affective states in conjunction with impulsivity can drive the patient to relieve internal stress by behaving in maladaptive ways, such as emotional catharsis through angry outbursts, self-destructive behaviors, and substance abuse. While providing temporary re-

FIGURE 5. State-Trait Anger Expression Inventory Ratings Over the Course of Dialectical Behavior Therapy^a

^a Results are notable for improvements in anger expression.

lief, these patterns are ultimately maladaptive to the person with borderline personality disorder and those around them.

Thus, emerging neurobiologic data suggest that there are specific susceptibilities to borderline personality disorder that may overlap with susceptibilities to axis I disorders. However, it is the extreme sensitivity to context that generates the unique dynamic of borderline personality disorder, as seen in V’s conflicted relationships. This sensitivity generated feelings of abandonment that drove the patient to attention-seeking behavior, rageful outbursts, and/or self-injurious behaviors. It is this dynamic that provides the unique psychological signature for borderline personality disorder familiar to most clinicians. Susceptibilities to the affective and impulse dysregulation are clearly shaped and ultimately consolidated in the context of repetitive interpersonal interactions with caretakers, in this case the mother, who cannot empathically engage the emotionally sensitive developing child, in part because of the mother’s depression and her separation from the father, ultimately leaving the patient feeling misunderstood and invalidated.

Neurobiology of Affective Dysregulation (Drs. New and Hazlett)

In our previous work, we showed exaggerated startle in individuals with borderline personality disorder while viewing and thinking about unpleasant borderline-salient (e.g., suicidal), but not neutral (e.g., coin), words compared with healthy subjects (2). However, the exaggerated physiological responses were not matched by exaggerated subjective ratings of the emotional stimuli, which were actually blunted. Our interpretation of the discordance in borderline personality disorder between physiologic responsiveness and subjective rating of affective experience is that this may represent empirical evidence of “alexithymia” in borderline personality disorder. The robust physiological responsiveness in borderline personality disorder is consistent with the intense emotional “resonance” in borderline personality disorder, and is illustrated by V’s intense emotional responses especially to perceived rejection. However, this intense emotional reactivity is paired with a relatively numb subjective evaluation of emotional stimuli. We view this as an impairment in mentalization in

borderline personality disorder, which is interesting since the best studied psychotherapeutic treatments for borderline personality disorder involve teaching mentalization skills (10, 11).

V's affective startle and fMRI data can be summarized as showing a heightened and more sustained response to unpleasant stimuli than seen in the comparison participant. V also showed a slight negative bias in her rating of images, regardless of whether they were unpleasant, pleasant, or neutral. Thus in V, we do not see a blunting of subjective rating, although we do see a disproportionate physiologic hyper-responsiveness that is not matched by a large subjective hyperresponsiveness. This is interesting since V's subjective sense is that she feels empty "80%" of the time. The absence of clear blunting of subjective rating of emotional responses raises the possibility that her capacity to mentalize may be more intact than most individuals with borderline personality disorder that we study, and perhaps it is that ability to reflect on emotions that has permitted her to be so successful in dialectical behavior therapy treatment.

Psychotherapy Treatment (Dr. Koenigsberg)

A turning point in this dialectical behavior therapy treatment appears to have occurred about 9 months into the treatment, following the onset of the mother's critical illness. At this point V used the therapy sessions to explore her negative feelings toward her mother and to recognize how her own emotional sensitivity as a child and adolescent affected her parents. This work made it possible for the patient to return home to be with her mother during her illness and assist in her convalescence. This manifestly altruistic act in turn provided an opportunity for the patient and her mother to heal their misunderstandings and to begin to forge a new relationship. When V returned from the stay with her mother she appeared more stable than before. This was reflected in important facets of her current functioning beyond the relationship with her mother: she was able to move to a more desirable work situation and entered into a stable romantic relationship with a suitable partner. The year of dialectical behavior therapy treatment ended on a positive note with encouraging signs of progress. We should not, however, be surprised by setbacks in the future, since the course of psychotherapy in borderline personality disorder is typically marked by periods of regression along the way to overall improvement.

A central question in understanding the patient's progress in this treatment is what permitted a woman, who had characteristically handled emotional stress through acting out (particularly dramatic self-destructive acting out), to engage with her therapist in a productive verbal exploration of her feelings? While it is impossible to know for certain, the confluence of a number of factors may have made this possible. First, a good deal of the work in the initial phases of dialectical behavior therapy focuses upon the development of "core mindfulness skills" and emotion regulation skills (10). The former includes the development of the capacity to describe interpersonal expe-

Patient Perspective

V: I knew from a very early age that something seemed very wrong with me. I used much of my teenagehood attempting to prove to someone that the way that I appeared outwardly in no way matched the way that I felt and was functioning inwardly. I failed many times in trying to verbalize and painstakingly act outwardly to show the vitriolic emotion that clouded and eroded my body and mind.

I arrived at the research program in the poorest condition I had yet experienced. Moving to a highly reactive city with no friends or family, working in a new job, and attempting to embrace adulthood had pushed any symptomatology that I had always experienced to the maximum. Any anxiety, depression, or suicidality that I was usually able to push away had begun to surface and became unbearable. I was tentative about any mental health clinicians being proactive and helpful, however DBT was different because all of the behaviors that I exhibited were dealt with in a way that was proactive, meaningful, and positive. I was taught real and concrete ways of taking care of vulnerabilities and my acute sensitivity. The clinicians always responded to me in a way that safeguarded both of us from harm but never demeaned my behavior. By reverting back to a skill that I could practice when I was not able to tolerate deeply emotional experiences in or out of therapy, I was able, at times, to avoid overstimulation and a return to baseline more quickly, which was when therapy could then continue. I truly believe that during this highly difficult and trying time in my life, it was the DBT skills that were the pathway to learning how to embrace my high sensitivity and empower critical changes with regard to interpersonal chaos that I was experiencing that impeded any attempt at therapy.

riences and personal reactions in words and the latter to tolerate distress, reduce the judgmental overlay of secondary emotions like shame and guilt, and to employ cognitive processes to modulate emotions. Dialectical behavior therapy teaches these skills via individual sessions, skills training group, and homework. By the ninth month of treatment V had acquired skills to enable her to tolerate the intense emotions arising in response to her mother's critical illness and to talk about them with her therapist.

An important dialectical behavior therapy strategy is behavioral analysis. This entails teaching the patient to analyze the chain of events leading up to an emotionally salient situation. These events include both the external, such as assessing others' behavior and feelings, as well as the internal, such as the patient's own thoughts, feelings, expectations, assumptions, and impulses in response to successive events. When crisis moments (e.g., a threat of suicide) occur during a session, the therapist conducts a brief chain analysis of the related in-session behavior. The facilitation of such a capacity to mentalize is common to dialectical behavior therapy, transference-focused psy-

chotherapy, and mentalization-based treatment for borderline personality disorder (12), all empirically supported treatments for borderline personality disorder (11, 13, 14). Thus, the emergence of a capacity to mentalize by the time her mother became ill may have also contributed to V's ability to productively examine mental representations of herself in relation to her mother.

A third factor helping V to remain in treatment may have been the availability of an outside consultant and additional members of the dialectical behavior therapy treatment team. At one point when the patient's suicidality escalated and her in-session acting out became quite dramatic, a consultant was asked to assess the safety of her remaining in the research study. The need for consultation made the patient fear that she was too much to handle and intensified her abandonment fears. However, the consultant interviewed the patient and treatment team and concluded that the treatment in the research program should continue, a recommendation he directly conveyed to the patient. She subsequently was able to engage more actively in the treatment. One way to interpret this is that V may have been compelled to "test" her therapist to see if the therapist was overwhelmed by her, pushing the limits in the hope of disconfirming her belief that she was too much to handle. The intervention of the consultant conveyed two helpful messages: 1) that V was not too much to handle and 2) that remaining close to her therapist was not an act of disloyalty to the father. The consultative structure along with the additional supports inherent in being a participant in a research protocol may have enabled this patient, who had prematurely left eight previous therapists, to remain in this treatment for its full duration.

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