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Psychological Assessment of Patients with Dissociative Identity Disorder

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This article discusses how psychologic assessment can assist in the diagnosis of dissociative identity disorder (DID) and in planning treatment for patients who are dissociative. A battery of tests that can assess the extent of dissociation is outlined, the research on dissociation on various psychologic tests is reviewed, and new Rorschach data on severely dissociative patients that can be useful in planning treatment is presented.

Diagnosing DID is a complex process and requires assessors to have knowledge of the assessment and treatment literature on posttraumatic stress disorder (PTSD), dissociative disorders, and personality disorders. The literature provides excellent reviews of assessment of posttraumatic states [1–4]. In addition to the complexity of assessing PTSD itself, assessment of DID requires the patient to reveal what is often a private, hidden world to a powerful stranger [5]. These challenges may be further compounded because many of the measures, particularly the projective tests, can open up emotional wounds and stir potentially painful memories, triggering dissociation and switching among dissociated states during the testing itself [5,6]. Clinicians must develop a collaborative relationship with patients who have DID before beginning the assessment to make the experience therapeutic rather than retraumatizing. A collaborative relationship will also help yield meaningful, rather than defended, test results.

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The assessment battery

People who have PTSD can present in testing as flooded with intense affect or emotionally numb and constricted [1,2,4]. DID is even more variable and complex, partially because PTSD is almost always a comorbid condition, and partially because of the complexity found in patients who have severe dissociative psychopathologies [7–9]. No specific recipe for "smoking out" DID exists, although a consistent finding across tests and researchers is that many individuals who have DID experience a wide variety of severe symptoms. Researchers believe this is because of disturbances in many different dimensions of functioning, including problems with affect tolerance (eg, severe anxiety and mood and state instability); dissociativity; interpersonal difficulties; impaired self functions such as an inability to self-soothe; disturbances of body image and somatization; and posttraumatic cognitive distortions [10]. In addition, individuals who have DID often experience various comorbid conditions, including mood disorders; PTSD and other anxiety disorders; eating disorders; substance abuse disorders; and personality disorders [7,11]. These fluctuating comorbid conditions, compounded by the shifting personality states found in DID, ensure that no one set of signs will be found for all individuals who have DID. Armstrong [12] suggests that the ability to dissociate during sustained childhood maltreatment allows for an atypical developmental pathway, a pathway in which contradictions and complexities can coexist. This pathway helps the person preserve intellectual skills and emotions, such as humor, hope, and joy, and maintain the capacity for attachment despite the abuse. The following review of the literature shows that the dissociative developmental pathway results in personality strengths and weaknesses that are important considerations in planning treatment.

The authors typically use a battery of tests tailored to the individual, designed to capture developmental strengths and weaknesses. Assessment usually begins with a phase of rapport-building and a thorough psychosocial history, including a trauma history. This step is followed by a cognitive test, a structured and objective personality test with validity scales (eg, the Minnesota Multiphasic Personality Inventory [MMPI]-2), projective personality tests, a self-report measure of dissociation, and a structured interview for dissociation. The authors then review the findings regarding dissociation for each of these types of tests, with emphasis placed on those considered most useful. However, limited research exists on DID patients on many measures.

Cognitive assessment

Cognitive testing is useful because it often provides important information about differential diagnosis. Intelligence tests such as the Wechsler Adult Intelligence Scale-III (WAIS-III) can clarify if a patient who hears voices is psychotic, or if their psychotic-like phenomena are actually of

a dissociative nature. In contrast to a patient who is thought-disordered, the results of an intelligence quotient (IQ) test of a patient who is DID should not show signs of psychotically illogical thinking or impaired reality [13].

Although popular books about DID suggest that these patients are unusually bright, their IQ results are, in fact, "remarkably unremarkable" [5]. In a sample of 100 patients who had DID and dissociative disorder not otherwise specified (DDNOS), Armstrong [5] found that the average IQ in the sample was 100, with a range from mildly retarded to superior. No subtest or ability exists that seems particularly strong or weak for this group. Dissociation may, however, lead to a puzzling pattern of inconsistent performance within subtests. For example, a client may give some very concrete and some abstract responses within a single item or a subtest, which may reflect learning deficits in areas such as social skills or switching among different personalities.

Another potential benefit of cognitive testing is that it can provide information about seemingly conflict-free cues that may briefly evoke cognitive disorganization in an individual patient. For example, one patient became fearful and somewhat disoriented when asked to complete arithmetic problems. After the patient completed the subtest, the assessor asked her to share her experience. The patient reported being terrified by numbers. She connected this to having been ridiculed and sometimes beaten by her father when she was not able to complete her math assignments during grade school. After she began to break the unspoken bond between numbers and humiliation, she showed no subsequent lapses in attention on the WAIS-III, which clarified that she did not have attention deficit disorder.

Structured personality tests

Personality tests that have a true/false format are termed *objective* or *structured* personality tests. They often assess various domains and include validity scales that are useful in detecting response sets, such as exaggerating or minimizing symptoms. Broadband measures of psychopathology, such as the MMPI, the Millon Clinical Multiaxial Inventory (MCMI), and the Rorschach, can provide information about the personality context in which dissociation occurs, thus providing valuable insight regarding treatment recommendations [3]. New research indicates that many individuals who have DID give technically invalid profiles on various personality tests, and may be labeled as *feigning* by clinical and forensic interviews [14,15]. These findings show that to provide valid and ethical assessment, assessors must be well-informed about the impact of dissociation and severe trauma on testing.

Multiphasic Minnesota Personality Inventory-2

The MMPI-2 yields 10 clinical scales, including schizophrenia, depression, paranoia, four validity scales, and numerous subscales. It consists of

567 true/false questions, often making it a challenging test for patients who have DID to complete. Many patients who have DID report strong internal conflict about how to answer the questions because different aspects of their personalities can feel, think, and behave differently. If the assessor allows them to answer what is mostly true most of the time and not deliberate for too long about any one item, most of these patients can tolerate the MMPI-2. This direction does not deviate from the standard administration. Assessors must interpret the MMPI-2 carefully for their clients who are traumatized and dissociative because the computerized scoring programs for the MMPI-2 typically do not incorporate information about trauma, although trauma and dissociation have a large bearing on a patient's profile.

Probably the most consistent and important finding for people who are traumatized, and in particular those who have DID, is the elevation in the F scale [2]. The F scale is a validity scale that is traditionally interpreted as the *fake bad*, or exaggeration of symptoms scale. It includes items that patients who are dissociative might endorse because they experience voices of dissociated alters and severe family conflict. Many researchers have found that trauma exposure results in an elevated F scale and elevations in several clinical scales [2].

Research on MMPI-2 profiles of patients who have DID has not found a single diagnostic pattern, although numerous elevations have been described among validity and clinical scales [11,16]. The most common findings are elevations on F and 8 (Schizophrenia [Sc]) scales, which contain many trauma- and dissociation-linked items. Patients who are DID typically endorse so many items on the F scale that their profiles are often technically invalid [17]. The F(p) scale, which was created to remove the influence of trauma from the F scale, is not typically highly elevated in patients who have DID [18]. Clinicians should consider other MMPI validity scales, especially F(p) (Infrequency Psychopathology Scale); other test results; and the context of the testing to clarify whether the results are indicative of extreme distress, a cry for help, exaggeration, or malingering. Only a few items on scale 8 (Sc) are indicative of hallucinations and delusions. Many of the items reflect difficulties with attention and memory; negative attitudes toward oneself; feelings of alienation from and being unloved by others; dysphoria; and unusual sensorimotor experiences, including feeling unreal, being frightened by family members, and amnesia for one's behaviors. Such experiences are commonplace for most patients who have DID because of their traumatic and disorganizing childhood experiences [8,19]. Thus, the elevation on scale 8 is not surprising. Whether the elevation on scale 8 is caused by psychosis rather than trauma can often be clarified by questions about critical items. For example, a patient who is dissociative might endorse seeing visions, yet later report that the visions are of herself as a young child being molested by her father.

Scales 4 (Psychopathic Deviate [Pd]), 2 (Depression [D]), 6, (Paranoia [Pa]), 7 (Psychasthenia [Pt]), and 1 (Hypochondriasis [Hs]) are also often elevated among individuals who have DID [16,20]. These elevations on DID

profiles are consistent with 30 years of research on the MMPI profiles of sexual abuse survivors, which have found elevations on scales 4 (Pd) and 8 (Sc) often with associated lesser elevations on 2 (D), 7 (Pt), or 6 (Pa) [2]. Although a traditional interpretation of this profile might be that the client has sociopathic or schizophrenic traits, subscale analysis can clarify the nature of these elevations. Individuals who are dissociative tend to be elevated on subscales, indicating family discord (Pd1), social alienation (Pd4), and a lack of self-awareness (Pd5), rather than having authority problems (Pd2) or bizarre sensory experiences (Sc6). However, even the bizarre sensory experiences subscale contains items that may reflect dissociative rather than truly psychotic experiences (eg, engagement in activities without recall), so item analysis is also helpful in clarifying the nature of elevations.

Like other psychologic tests, the MMPI-2 cannot yield a diagnosis of DID. Three attempts have been made to create a dissociative index based on its items [21], but none of these scales have sufficient sensitivity or specificity to justify their use.

Millon Clinical Multiaxial Inventory-II

Assessing personality disorders among people who are traumatized is difficult because highly emotional and dramatic, and emotionally restricted and avoidant presentations can result from PTSD and dissociation, rather than borderline, histrionic, or obsessive personality traits. However, the presence of PTSD or DID does not preclude a coexisting personality disorder [1,2]. Some researchers have proposed alternative classifications to account for long-term personality maladaptations to trauma, or have described a mixed personality disorder subsequent to early maltreatment that might be termed *posttraumatic personality disorder* [22,23]. In the last decade, the authors have seen a rise in cases of true co-morbid, severe personality disorders in dissociative patients brought for assessment. Although the projective tests, especially the Rorschach, have been most useful in clarifying the presence of a personality disorder (see later discussion), the MCMI-II can also provide helpful information [24]. (Researchers have yet to study patients who have DID using the MCMI-III.)

Research on the MCMI-II has shown that patients who have DID experience elevations on Axis I scales, including anxiety, depression, somatoform disorders, substance abuse, and personality disorders, with avoidant, self-defeating, and borderline personality disorders being the most severe [7,25]. Although similarities exist between individuals who have borderline personality disorder and DID on the MCMI-II, patients who had DID were more than 200 base rate points higher than Millon's borderline norms on schizoid, avoidant, and schizotypal scales [7]. In contrast to general adult psychiatric outpatients, patients who have DID have been found to be higher on all scales except compulsive, narcissistic, and histrionic [7]. These findings are consistent with Rorschach studies (see later discussion) that

demonstrate that individuals who have DID are not histrionic; instead, they tend to avoid emotion and use an intellectualized coping style coupled with a traumatic thought disorder [26].

Dissociation specific measures

The two tests of dissociation that the authors use most are the Dissociative Experiences Scale (DES) and the Structured Clinical Interview for DSM-IV Dissociative Disorders–Revised (SCID-D-R) [27,28]. Several other useful self-report measures of dissociation now exist, including the Multidimensional Inventory of Dissociation (see the article by Dell elsewhere in this issue), which contains validity scales, and the Dissociative Disorders Interview Schedule, which is another structured interview for dissociation [29]. Because there are extensive reviews of the DES and SCID-D-R, the role of these measures is only briefly described [14,15]. As noted by Briere and Armstrong [3], testing is most helpful when it clarifies not only whether patients dissociate, "but also *how* they dissociate."

The DES is the most used, but probably also the most misunderstood, self-report measure of dissociation. Patients can easily complete the 28-item measure in a few minutes. The items are rated according to the frequency with which they are experienced, from 0% to 100%. The total score is the average item score. A multicenter study of the DES found that a cutoff score of 30 correctly identified 74% of individuals who had DID and 80% of those who did not have DID [30]. The DES assesses amnestic dissociation; depersonalization and derealization; and absorption. This test is popular because it is brief and easy to score. However, it is also easy to misuse. Because it is a screening test and not a diagnostic inventory, a high score does not mean that a person necessarily has DID. A score above the cutoff may raise the index of suspicion for a dissociative disorder. Further clinical or psychologic assessment is required to make a diagnosis, regardless of the DES score. For example, items that are endorsed can serve as a starting point for the interviewer to request concrete examples related to these items. The authors have found that patients who are nondissociative and questioned about their responses had not been thinking of truly dissociative experiences or had overrated the frequency with which they occur. This finding is important because the authors have seen many cases where clinicians erroneously assumed that a very high DES score meant that the person had DID. On the other hand, some patients who are truly dissociative may minimize responses on the DES, and on the clinical interview may describe far more frequent and profound dissociative experiences. In summary, the DES is best used as an initial screen for dissociation, which then may lead to further interviewing and possibly administration of a more rigorous measure, such as the SCID-D-R.

Current research suggests that dissociation is not unidimensional, and therefore the assessment of dissociation should be multidimensional [3].

Treatment recommendations will likely be different according to the type and severity of dissociation experienced. The SCID-D-R is recognized as the most useful of the structured interviews for dissociative disorders because it is the only one to provide exact diagnoses from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) and because of its semistructured format [2,28]. Furthermore, it assesses five domains of pathologic dissociation: amnesia, depersonalization, derealization, identity confusion, and identity alteration. It is generally considered the gold standard measure for diagnosing dissociative disorders, partially because it has good interrater reliability and has shown promise in differentiating between factitious and malingered cases of DID [20,31]. The SCID-D-R is limited because there are few data on its sensitivity, specificity, or discriminative validity, and it does not have validity scales to measure defensiveness or malingering [3]. Although it can take more than 90 minutes to administer the more than 250-item interview, the authors have found it extremely useful in complicated diagnostic cases. Because the interviewer asks for concrete, detailed examples of each symptom, and must be convinced that these experiences are dissociative in nature, the interview provides some protection against overdiagnosing DID. Furthermore, interviewers observe carefully for dissociative behaviors to this anxiety-provoking interview, such as ongoing amnesia for test questions and eye rolls (often associated with entering a hypnotic state or change in dissociative state). Most patients who have genuine DID will feel ambivalent about reporting their symptoms on the SCID-D-R, so outward signs of internal conflict are also common, such as giving contradictory answers or briefly spacing out.

Projective tests

The authors have found that projective tests are particularly useful in assessing severe dissociative disorders because the ambiguity of the tests requires that individuals project their own ways of organizing reality onto the tests. Only the projective tests that have well-validated, reliable scoring systems are reviewed. The projective tests' validated scoring systems numerically capture the areas of a person's narrative that are disrupted or preserved by dissociation. These tests are not used to establish the diagnosis of DID; instead, they can confirm it and give a great deal of information about the person's conflicts; views of themselves and others; and personality strengths and weaknesses. Armstrong and Kaser-Boyd [1] review the findings regarding trauma and projective tests in detail. They identify an important role of projectives: that people who are traumatized sometimes convey information about their trauma on the projectives that they do not talk about directly.

Thematic Apperception Test

The Thematic Apperception Test (TAT) consists of 20 black-and-white drawings that depict people and scenes. Individuals are asked to tell stories

that describe the characters' thoughts and feelings. The TAT particularly provides a method for describing how clients expect people to interact—internally in their alter world and externally in the social world [5]. Individuals who are severely traumatized and have DID typically tell stories with themes of danger, trauma, refuge, and dissociation. For example, using Westen and colleagues' [32] object relations scoring method, the Social Cognition and Object Relations Scale, adolescents who are traumatized have been found to tell TAT stories that are characterized by negative affect, have characters who are malevolent and self-centered, and have themes of violence [1]. Similar results were found with a small sample of adult patients who had DID [33]. However, the stories of participants who had DID had fewer extremely self-absorbed characters than did those of girls who were sexually abused [34]. This finding may reflect aspects of the alternative path of development that dissociation provides to those who are abused early in life. Individuals who have DID are able to compartmentalize some of their memories of traumatic life events or aspects of caregivers' malevolent behavior. Accordingly, despite experiences in which important people gratified themselves at the expense of the dissociative person's well-being, these patients are able to retain some aspects of self that can still view relationships as potentially supportive [12]. The ability of dissociative individuals to see others as supportive is consistent with the authors' DID Rorschach findings.

The Rorschach

People who are highly dissociative chronically avoid painful feelings and recollections. The Rorschach is particularly useful with them because it requires that they "delve into their internal store of associations, the very thing that dissociation has been helping them avoid" [26]. Another benefit of the Rorschach is that it can be helpful when someone endorses so many symptoms on the self-report measures that the validity of their profile is questionable [14,15]. It is not obvious what a "pathological" response would be on the Rorschach, so people who are attempting to exaggerate symptoms often do not know how to look extremely ill. The Rorschach is also helpful in clarifying the extent of difficulties with perception and thinking. For example, a client may respond to the MMPI-2 and MCMI-II in a way that suggests a thought disorder. If a person's reality testing is basically intact until they begin to report traumatic stimuli on the Rorschach, and only then do they respond with distorted, inaccurate perceptions that distort the blot or involve illogical combinations of ideas, they may have a traumatic thought disorder rather than a psychotic disorder [26]. The Rorschach is also useful because it provides a broad view of a person's cognition and problem solving; affective style; and representation of self and others, including what stimuli precipitate cognitive and emotional breakdown and how, if at all, the person can recover. The complexities, strengths,

and vulnerabilities that result from these individuals developing along an atypical pathway are most clearly seen on the Rorschach.

The following interpretations are based on Exner's Rorschach scoring system (see Appendix A for an alphabetical listing of Rorschach variables) [35,36]. A recent review of trauma and the Rorschach concluded that individuals who are traumatized may show signs of avoidance (low R, pure form R, low Afr, low blends, low EB), flooding of intense and painful affect (CF + C > FC), high traumatic content, high shading (especially Y and V), hyperarousal (high m and positive HVI), and impaired reality testing (low X+, high Xu, high WSum6) [1].

Earlier studies of dissociative patients used small samples and often different scoring systems [13,37–39]. Despite these weaknesses, studies have shown that patients who have DID consistently exhibit a complexity of internal experiences that are unique, and a tendency to be flooded by traumatic material while paradoxically having defenses that permit distancing and detachment from their experience.

Rorschach profiles of 100 inpatients who are severely dissociative

The authors conducted the first study of a large group of patients who had dissociative disorders (DDs) and compared the results with published data of clinical and nonclinical groups to highlight issues of differential diagnosis and the strengths and weaknesses these patients. The authors collected Rorschachs on 100 inpatients (78 DID and 22 DDNOS) at Sheppard Pratt Health System. The patients who were DD were mostly young adult to middle-aged Caucasian women with some college education (see Table 1 for demographics). No significant differences between the DDNOS and DID groups were found on 17 important Rorschach variables, so the groups were collapsed. The patients were diagnosed as having a severe DD by senior psychiatrists and psychologists who were experienced in the assessment and treatment of patients who are dissociative. All participants met *Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition* (DSM-III-R) or DSM-IV diagnostic criteria for PTSD. Assessment included review of medical and psychiatric records, DES scores, and a detailed semistructured interview that assessed the presence or absence of dissociative amnesia, autohypnotic symptoms, somatoform symptoms, PTSD symptoms, mood disorder symptoms, and dissociative process symptoms such as the presence of alter self-states, passive influence, inner voices, and switching phenomena [19].

The authors make comparisons between their sample of 100 inpatients who had DD and published norms for 41 inpatient Vietnam veteran men who had chronic PTSD [40], 30 non–treatment seeking Desert Storm veterans who exhibited acute stress caused by recent exposure to war [41], 193 depressed inpatients [35], and 175 nonpatient adults (''normals'') [42]. Most of the DD group was hospitalized because of an acute exacerbation

of a combination of disorders, including DD, PTSD, and mood disorders. The clinical groups were chosen to contrast patients whose primary disorder was depression, acute stress, or chronic PTSD to patients who had DID/DDNOS comorbid with PTSD and mood disorders. Highlighting the commonalities and differences between the groups helps clarify the unique role that dissociation plays.

Two masters-level psychology technicians who worked as full-time assessors in the psychology department of the hospital administered and scored the Rorschachs. The technicians were trained in administration and scoring of the Rorschach by the second author. Of the protocols, 30 were randomly selected and scored by the second assessor to evaluate reliability. The agreement between the two assessors was acceptable and ranged from 82% to 100%, with an average agreement of 94.4%.

The Rorschach is generally the most challenging but most informative test used with this population because it opens up intense emotions and conflicts that patients who have DD habitually "turn off." As a result, patients who have DD often become flooded with emotions and bothersome percepts while completing the Rorschach. They sometimes become frightened of the cards, literally pushing them away as if they could be harmful. Sometimes the cards trigger switching of alters or intrusive PTSD symptoms such as flashbacks. Within the Exner Rorschach scoring system, patients must give at least 14 responses for the interpretations to be considered valid. It is commonplace for patients who have DD to give fewer responses than other patients. In this sample, 43 of the 100 patients gave fewer than 14 responses, which is also commonplace in the authors' clinical experience. The authors interpret this response as the patient's attempt to limit and escape painful associations. Because low responses are so common, the authors chose not to discard these low response profiles, believing that accurately summarizing a large sample of patients who have DD is more likely to help clinicians who are attempting to interpret brief protocols from these patients. Furthermore, Exner and Weiner (personal communication, 1993), advised that brief records may be potentially useful if they do not have signs of defensiveness (eg, high Lambda, high X+, low blends, brief responses) [43]. The authors' sample did not show these signs of defensiveness. In fact, the responses tended to be lengthy because of a high number of blends and special scores. Nonetheless, the following interpretations must be made cautiously because of the potential decreased validity of the 43 brief protocols.

Descriptive statistics were calculated for each variable in Exner's "structural summary" (see Tables 1 and 2 for a complete listing of these variables) [35,36]. Appendix B provides the percentages, means, and standard deviations for important structural variables for the DD group. The horizontal bars in Figs. 1 through 3 represent the 95% CI computed around each group's mean score. The vertical line within each bar indicates the group's mean score. If a sample's CI overlaps another sample's by less than a fourth of the length of the line, the samples are statistically different ($p < .05$).

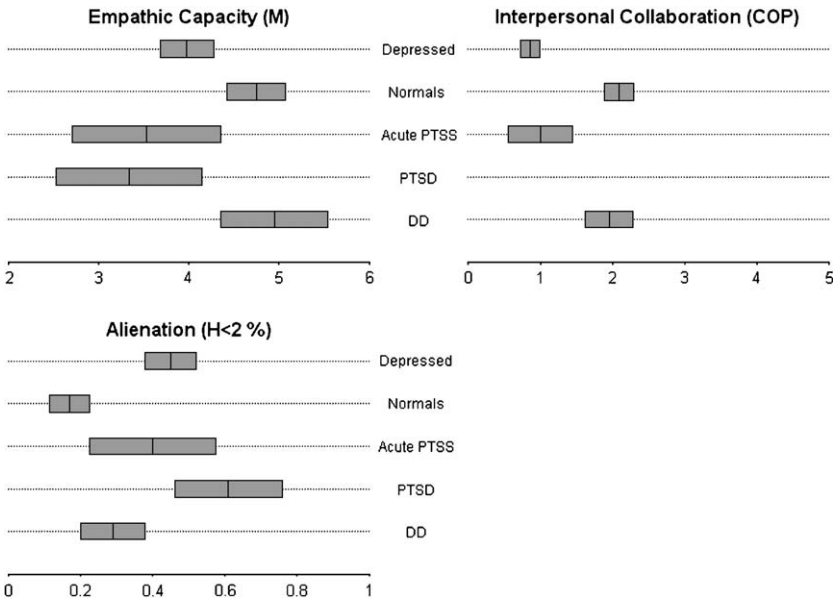

Fig. 1. Confidence intervals by group related to capacity for therapeutic alliance. "Depressed" from N = 193 depressed inpatients [26]; "Normals" from N = 175 nonpatient adults [27]; "Acute PTSS" from N = 30 non–treatment seeking Desert Storm veterans who have acute posttraumatic stress symptoms [46]; "PTSD" from N = 41 inpatient male Vietnam veterans who have chronic PTSD [33]; "DD" from N = 100 DDNOS/DID inpatients.

Capacity for therapeutic alliance

For patients who have DD, the dissociative pathway appears to provide some, yet not total, protection to their views of others. On the positive side, the DD group displayed an ability for collaborative give-and-take in relationships that was comparable to the normals, and greater capacity for collaboration than did patients who were depressed and veterans who had acute stress (eg, COP = 1.95 for DD versus 1.0 in veterans who had acute stress [41]) (see Fig. 1). (COP scores were not available in the report by Hartman and colleagues [40].) The DD group showed as much interest in others as the normals, and considerably less alienation (ie, lower percentages of H <2; see Fig. 1) than the patient groups. The DD group also showed a trend toward desiring more closeness to others than the chronic and acute PTSD groups ($T > 1$).

Many studies find that DID protocols tend to have a high number of total movement responses, which reflects a heightened ability to fantasize [38,44]. When human movement responses are not distorted, they also suggest empathic capacity. Unlike the acute and chronic PTSD and depressed groups, which showed reduced human movement (M), the patients who had DD were able to use imagination and show empathic capacity at a level comparable to normals (see Fig. 1). The ability to dissociate may have

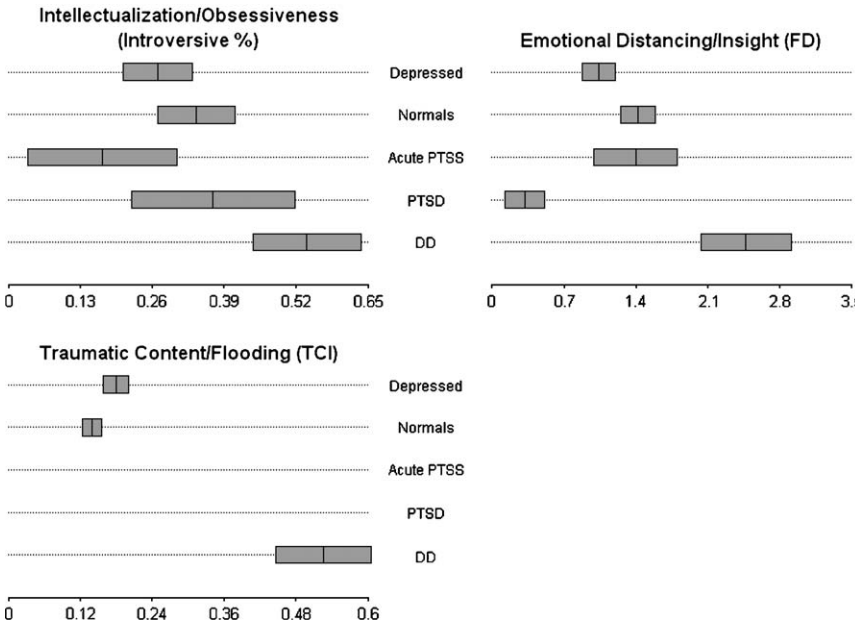

Fig. 2. Confidence intervals by group related to dissociative distancing. "Depressed" from N = 193 depressed inpatients [26]; "Normals" from N = 175 nonpatient adults [27]; "Acute PTSS" from N = 30 non–treatment seeking Desert Storm veterans who have acute posttraumatic stress symptoms [46]; "PTSD" from N = 41 inpatient male Vietnam veterans who have chronic PTSD [33]; "DD" from N = 100 DDNOS/DID inpatients.

allowed the DD group to develop a normal capacity for fantasy and empathy despite early, chronic trauma. Again, this hypothesis suggests a developmentally protective, preservative role of dissociation.

However, in contrast to these positive findings, except for patients who had chronic PTSD, patients who had DD also had more distorted views of others (M-; see below and Fig. 3) than the patient groups and normals. That the patients who had DD wanted to be close to others and could be collaborative indicates a resiliency, especially in light of the withdrawal from others that the individuals who were nondissociative and traumatized exhibited. These findings help explain why patients who have DD can often develop a working alliance with therapists, despite their frequently distorted views of others. Their social misperception paired with their elevated FD scores (see later discussion) speaks to the uncanny clinical experience that patients who have DD may seem to simultaneously misperceive and accurately perceive the intentions of others, depending on the alter that is accessed and the intensity of posttraumatic reactivity at a given time.

Dissociative distancing

The DD group showed a highly ideational, obsessive style of managing stress (ie, "introversive" or "highly introversive"; see Fig. 2) that is

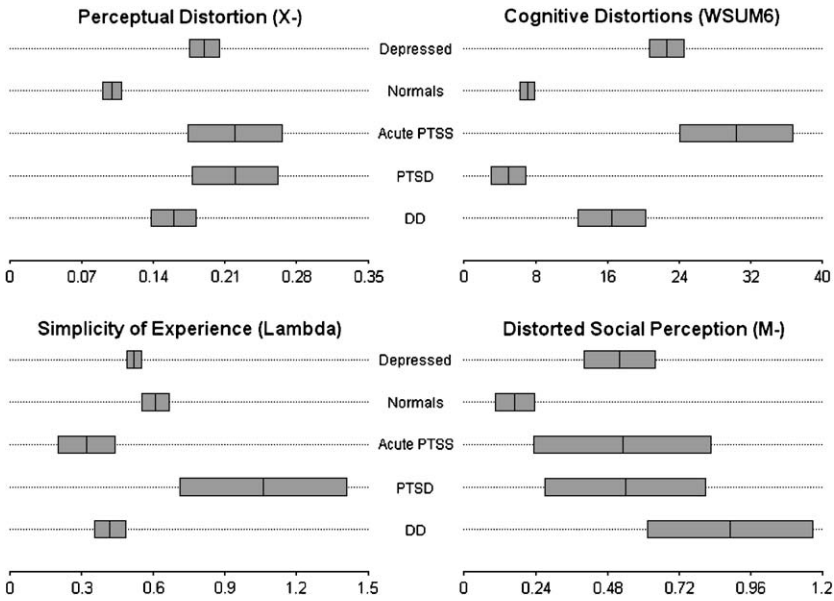

Fig. 3. Confidence intervals by group related to cognitive disorganization. "Depressed" from N = 193 depressed inpatients [26]; "Normals" from N = 175 nonpatient adults [27]; "Acute PTSS" from N = 30 non–treatment seeking Desert Storm veterans who have acute posttraumatic stress symptoms [46]; "PTSD" from N = 41 inpatient male Vietnam veterans who have chronic PTSD [33]; "DD" from N = 100 DDNOS/DID inpatients.

consistent with other research [13,37]. The DD group was significantly more introversive than the patient and normal groups. Because this style of coping is not common among individuals who have nondissociative PTSD, this intellectualized style may be directly related to dissociation. It may reflect the ability to disconnect from painful experiences by using fantasy and thinking. The introversive style of patients who have DD also differentiates them from people who have borderline personality disorder (BPD) who show a highly emotional style of coping (ie, "extratensive" [45]), and from hysterics who have more dramatic, yet fleeting and shallow, emotional displays [43].

Patients who have DD showed greater capacity for emotional distance and insight (high FD) compared with the other four groups (see Fig. 2). High FD suggests an ability to use insight-oriented psychotherapies because of the ability to be introspective [13]. BPDs do not show a similar elevation on scores, indicating the capacity for detached self-reflection [44]. Additionally, the DD group avoided emotional experiences (low Afr) as much as the three patient groups and more than the normals. The heightened unemotional self-introspection (elevated FD) combined with affective numbing (low Afr) allows the patient who has DD to avoid emotional pain.

The authors' DD group was not elevated on situational helplessness (high m), which contradicts the consistent finding of high m among patients

Table 1
Frequencies for 36 variables for adult DID/DDNOS inpatients (N = 100)

Demography variables								
Marital status			Age			Race		
Single	38	37%	18–25	19	19%	White	91	91%
Lives w/SO	3	3%	26–35	39	39%	Black	9	9%
Married	36	36%	36–45	33	33%	Hispanic	0	0%
Separated	13	13%	46–55	6	6%	Asian	0	0%
Divorced	7	7%	56–65	0	0%	Other	0	0%
Widowed	3	3%	Over 65	0	0%			
			Education					
Sex			Under 12	5	5%			
Male	3	3%	12 y	23	22%			
Female	97	97%	13–15 y	45	45%			
			16+ y	29	29%			

Ratios, percentages and special indices						
EB style			Form quality deviations			
Introversive	54	54%	X+ % > 0.89	1	1%	
Super-introversive	33	33%	X+ % < 0.70	96	96%	
Ambitent	37	37%	X+ % < 0.61	88	88%	
Extratensive	9	9%	X+ % < 0.50	63	63%	
Super-extratensive	3	3%	F+ % < 0.70	82	82%	
EA - es differences: D-scores			Xu% > 0.20	91	91%	
D score > 0	13	13%	X-% > 0.15	41	41%	
D score = 0	38	38%	X-% > 0.20	28	28%	
D score < 0	49	49%	X-% > 0.30	11	11%	
D score < −1	26	26%	FC: CF + C Ratio			
Adj D score > 0	19	19%	FC > (CF + C) + 2	12	12%	
Adj D score = 0	52	52%	FC > (CF + C) + 1	27	27%	
Adj D score < 0	29	29%	(CF + C) > FC + 1	26	26%	
Adj D score < −1	9	9%	(CF + C) > FC + 2	11	11%	
Zd > + 3.0 (Overincorp)	37	37%	S-constellation positive	19	19%	
Zd < −3.0 (Underincorp)	12	12%	HVI positive	13	13%	
			OBS positive	1	1%	
SCZI = 6 9 9%	DEPI = 7 7 7%		CDI = 5	3	3%	
SCZI = 5 2 2%	DEPI = 6 19 19%		CDI = 4	15	15%	
SCZI = 4 7 7%	DEPI = 5 25 25%					

Miscellaneous variables					
Lambda > 0.99	7	7%	(2AB + Art + Ay) > 5	15	15%
Dd > 3	39	39%	Populars < 4	30	30%
DQv + DQv/+ > 2	9	9%	Populars > 7	4	4%
S > 2	32	32%	COP = 0	22	22%
Sum T = 0	52	52%	COP > 2	29	29%
Sum T > 1	17	17%	AG = 0	35	35%
3r + (2)/R < 0.33	29	29%	AG > 2	23	23%
3r + (2)/R > 0.44	45	45%	MOR > 2	62	62%
Fr + rF > 0	25	25%	Level 2 Sp. Sc. > 0	62	62%
PureC > 0	27	27%	Sum 6 Sp. Sc. > 6	20	20%
PureC > 1	13	13%	Pure H < 2	29	29%
Afr < 0.40	43	43%	Pure H = 0	6	6%
Afr < 0.50	69	69%	p > a + 1	11	11%
(FM + m) < sum shading	47	47%	Mp > Ma	14	14%

Abbreviations: SO, significant other, (Also, see Appendix A).

who were nondissociative and traumatized [1]. Given how little control the patients who were hospitalized with DD had over many aspects of their immediate life (eg, not being able to control basics, such as when to go outside, eat, and smoke) and their life in general (eg, involvement in problematic relationships, financial struggles), one would expect a good deal of situational helplessness, even without exposure to chronic trauma. These patients' lack of helplessness about their external life may have been caused by dissociation, which involves focusing attention to one's inner world and an increased absorption in fantasy (high Ms and being introversive). Perhaps the DD group focused more on their internal world, specifically their distressing trauma-related intrusions (see later discussion) and their imaginative world of dissociative self states. In doing so, they may have become so enveloped in their inner world that they were less aware of their outer world. This response may be protective during abuse and allow for resiliency. However, it may leave the patient who is dissociative detached from the apperception of outer danger and at risk for re-victimization [46].

Despite their ability to distance themselves from emotions, the DD group showed signs of traumatic flooding. Armstrong's Traumatic Content Index (TCI) [37] is the sum of all sex, blood, anatomy, aggression, and morbid responses, divided by the number of responses. Four studies, including the present one, have found that DD protocols are very high on the TCI [13,37,44]. In the authors' DD sample, the average score on TCI was 0.50. Elevations on these variables suggest intense somatic preoccupation, a sense of being damaged, and a concern about physical integrity. The DD group was higher on TCI than the normal and depressed groups (see Fig. 2; data was not available for the TCI from either trauma sample). Another way that trauma may intrude into a Rorschach protocol is through biphasic responses within the content of responses themselves. For example, a woman who had DID who reported a history of severe early sexual abuse saw "a bloody vagina" on card 2, which made her extremely anxious. Immediately afterwards, she reported a dissociative-sounding percept of a "far away castle, surrounded by clouds." She disconnected from the discomfort aroused by a traumatic intrusion by immediately switching to a pleasant, fanciful image of a place of refuge, which is a classic example of the defensive role of dissociation. After she completed the Rorschach and the results were processed, she realized that she had switched alters after seeing the sexual image, illustrating that dissociation protected her from fully knowing and feeling the impact of trauma.

Cognitive disorganization

Patients who had DD and veterans who had acute stress showed thinking that was complex (high blends) and overly involved in the nuances and complexities of experience (low L). Consistent with other research, the DD group was lower on L than the normals and the patient groups, except

Table 2
Descriptive statistics for inpatient DID/DDNOS patients (N = 100)

Variable	Mean	SD	Minimum	Maximum	Frequency	Median	Mode	SK	KU
Age	32.77	8.23	15.00	54.00	100	33.00	25.00	0.11	−0.26
Years education	6.77	7.35	0.00	19.00	47	0.00	0.00	0.22	−1.85
R	17.47	7.52	10.00	40.00	100	15.00	10.00	1.02	—
W	8.81	3.81	1.00	23.00	100	8.00	6.00	1.06	2.12
D	5.44	5.19	0.00	21.00	89	4.00	1.00	1.22	0.73
Dd	3.22	[3.60]	0.00	17.00	73	2.00	0.00	1.52	2.32
S	2.27	[2.27]	0.00	10.00	80	2.00	1.00	1.37	1.47
DQ+	6.61	3.35	1.00	17.00	100	6.00	5.00	0.93	0.69
DQo	9.98	6.59	2.00	31.00	100	8.00	8.00	1.14	0.70
DQv	0.73	[0.87]	0.00	3.00	48	0.00	0.00	0.83	−0.45
DQv/ +	0.15	[0.44]	0.00	2.00	12	0.00	0.00	3.02	8.84
FQx+	0.41	0.87	0.00	4.00	25	0.00	0.00	2.52	6.40
FQxo	6.87	3.39	1.00	18.00	100	6.00	4.00	0.87	0.59
FQxu	7.05	4.24	1.00	20.00	100	6.00	6.00	1.05	0.74
FQx-	2.83	2.43	0.00	12.00	88	2.00	1.00	1.27	1.79
FQxNone	0.31	[0.58]	0.00	2.00	25	0.00	0.00	1.73	2.00
MQ+	0.25	0.58	0.00	3.00	19	0.00	0.00	2.53	6.66
MQo	1.80	1.50	0.00	6.00	84	1.00	1.00	1.12	1.02
MQu	1.96	1.60	0.00	8.00	84	2.00	1.00	1.24	2.23
MQ-	0.89	[1.39]	0.00	7.00	45	0.00	0.00	2.13	5.10
MQNone	0.05	[0.22]	0.00	1.00	5	0.00	0.00	4.19	15.90
SQual-	0.87	[1.28]	0.00	6.00	48	0.00	0.00	1.94	3.81
M	4.95	2.99	0.00	15.00	99	4.00	3.00	1.05	1.09
FM	2.73	1.74	0.00	8.00	93	3.00	2.00	0.69	0.33
m	2.20	1.77	0.00	8.00	84	2.00	2.00	1.00	1.06
FC	1.78	1.55	0.00	6.00	72	2.00	0.00	0.60	−0.30
CF	1.36	1.24	0.00	6.00	72	1.00	1.00	1.01	1.35
C	0.42	[0.77]	0.00	3.00	27	0.00	0.00	1.70	1.88
Cn	0.01	[0.10]	0.00	1.00	1	0.00	0.00	10.00	100.00
Sum Color	3.57	2.19	0.00	10.00	94	3.00	2.00	0.69	0.42
WSumC	2.88	1.92	0.00	7.50	94	2.50	2.00	0.75	0.01
Sum C'	1.99	[2.21]	0.00	12.00	71	1.00	0.00	1.88	4.81
Sum T	0.79	[1.09]	0.00	5.00	48	0.00	0.00	1.70	2.81
Sum V	0.91	[1.28]	0.00	8.00	51	1.00	0.00	2.41	8.98
Sum Y	2.40	[2.82]	0.00	22.00	83	2.00	1.00	3.89	23.49
Sum Shading	6.09	5.29	0.00	35.00	98	4.00	3.00	2.26	8.27
Fr+rF	0.40	[0.83]	0.00	5.00	25	0.00	0.00	2.71	9.56
FD	2.47	[2.21]	0.00	14.00	85	2.00	1.00	1.91	6.73
F	4.87	3.46	0.00	17.00	97	4.00	3.00	1.28	1.43
(2)	6.46	3.85	0.00	17.00	99	6.00	6.00	0.77	0.05
Lambda	0.42	0.32	0.00	2.00	97	0.35	0.25	1.98	6.25
FM+m	4.93	2.81	0.00	15.00	98	4.00	3.00	0.82	0.97
EA	7.83	4.06	1.00	20.50	100	7.00	6.00	1.05	0.93
es	11.02	6.85	1.00	42.00	100	9.00	8.00	1.53	3.59
D Score	−1.03	2.06	−11.00	2.00	62	0.00	0.00	−1.80	5.23
AdjD	−0.09	1.31	−6.00	4.00	48	0.00	0.00	−0.24	4.88
a (active)	6.41	3.48	0.00	16.00	98	6.00	5.00	0.74	0.24
p (passive)	3.72	2.60	0.00	13.00	96	3.00	2.00	1.20	1.45

Table 2 (*continued*)

Variable	Mean	SD	Minimum	Maximum	Frequency	Median	Mode	SK	KU
Ma	3.52	2.29	0.00	10.00	97	3.00	2.00	0.84	−0.01
Mp	1.57	1.73	0.00	8.00	71	1.00	1.00	1.62	2.70
Intellect	1.58	1.85	0.00	8.00	60	1.00	0.00	1.31	1.35
Zf	11.70	4.06	3.00	26.00	100	11.00	10.00	0.87	1.09
Zd	2.07	4.34	−7.00	14.50	96	2.00	4.50	0.24	0.16
Blends	6.49	3.79	0.00	19.00	99	6.00	6.00	0.99	0.98
Blends/R	0.39	0.18	0.00	0.82	99	0.40	0.50	0.19	−0.59
Col-Shd Blends	1.08	[1.26]	0.00	6.00	58	1.00	0.00	1.48	2.62
Afr	0.47	0.18	0.25	1.20	100	0.43	0.43	1.38	2.19
Populars	4.75	1.68	2.00	8.00	100	5.00	3.00	0.04	−1.03
X + %	0.43	0.15	0.17	0.92	100	0.42	0.50	0.71	0.64
F + %	0.51	0.27	0.00	1.00	91	0.50	0.50	0.16	−0.15
X-%	0.16	0.11	0.00	0.46	88	0.13	0.00	0.77	0.15
Xu%	0.39	0.14	0.07	0.67	100	0.40	0.50	−0.12	−0.67
S-%	0.26	[0.33]	0.00	1.00	48	0.00	0.00	1.05	−0.04
Isolate/R	0.16	0.16	0.00	0.58	80	0.11	0.00	1.33	1.15
H	2.99	2.25	0.00	10.00	94	2.50	1.00	1.13	0.89
(H)	1.22	1.36	0.00	7.00	62	1.00	0.00	1.38	2.45
HD	1.93	2.14	0.00	10.00	72	1.00	0.00	1.49	1.90
(Hd)	0.38	0.68	0.00	3.00	29	0.00	0.00	1.93	3.67
Hx	0.55	[1.05]	0.00	6.00	33	0.00	0.00	2.76	9.15
H + (H) + Hd + (Hd)	6.52	4.12	0.00	18.00	99	5.00	4.00	0.88	0.11
A	6.14	3.02	0.00	16.00	99	6.00	4.00	0.94	1.31
(A)	0.66	[0.89]	0.00	4.00	45	0.00	0.00	1.43	1.82
Ad	1.56	[1.52]	0.00	8.00	72	1.00	0.00	1.32	2.50
(Ad)	0.14	[0.49]	0.00	3.00	9	0.00	0.00	3.93	16.12
An	1.12	[1.21]	0.00	7.00	64	1.00	0.00	1.72	5.20
Art	0.49	0.94	0.00	5.00	30	0.00	0.00	2.47	6.93
Ay	0.49	[0.82]	0.00	4.00	33	0.00	0.00	1.86	3.55
Bl	0.89	[1.33]	0.00	6.00	44	0.00	0.00	1.77	2.90
Bt	0.68	0.92	0.00	5.00	47	0.00	0.00	1.87	5.11
Cg	1.68	1.59	0.00	6.00	75	1.00	1.00	0.99	0.27
Cl	0.20	[0.55]	0.00	3.00	15	0.00	0.00	3.41	13.09
Ex	0.24	[0.47]	0.00	2.00	22	0.00	0.00	1.80	2.46
Fi	0.41	[0.73]	0.00	3.00	30	0.00	0.00	1.93	3.53
Food	0.23	[0.58]	0.00	3.00	16	0.00	0.00	2.72	7.25
Ge	0.04	[0.24]	0.00	2.00	3	0.00	0.00	6.68	47.66
Hh	0.45	0.69	0.00	3.00	35	0.00	0.00	1.42	1.41
Ls	0.49	0.73	0.00	3.00	36	0.00	0.00	1.29	0.73
Na	0.56	[1.02]	0.00	6.00	37	0.00	0.00	3.02	11.57
Sc	0.40	[0.71]	0.00	4.00	31	0.00	0.00	2.34	7.21
Sx	1.42	[1.88]	0.00	12.00	61	1.00	0.00	2.49	9.68
Xy	0.12	[0.41]	0.00	3.00	10	0.00	0.00	4.50	25.37
Idiographic	1.99	1.75	0.00	9.00	80	2.00	1.00	1.36	2.88
DV	0.26	[0.58]	0.00	3.00	20	0.00	0.00	2.45	6.23
INCOM	0.62	[0.86]	0.00	3.00	42	0.00	0.00	1.30	0.91
DR	0.43	[0.89]	0.00	5.00	27	0.00	0.00	2.79	9.21
FABCOM	0.37	[0.68]	0.00	4.00	29	0.00	0.00	2.38	7.86

Table 2 (*continued*)

Variable	Mean	SD	Minimum	Maximum	Frequency	Median	Mode	SK	KU
DV2	0.09	[0.29]	0.00	1.00	9	0.00	0.00	2.90	6.59
INC2	0.53	[0.97]	0.00	5.00	31	0.00	0.00	2.22	5.49
DR2	0.36	[0.82]	0.00	5.00	22	0.00	0.00	3.01	11.13
FAB2	0.90	[1.40]	0.00	6.00	40	0.00	0.00	1.70	2.37
ALOG	0.15	[0.41]	0.00	2.00	13	0.00	0.00	2.83	7.86
CONTAM	0.10	0.30	0.00	1.00	10	0.00	0.00	2.70	5.44
Sum 6 Sp Sc	3.81	3.91	0.00	18.00	85	2.50	1.00	1.58	2.66
Lvl 2 Sp Sc	1.88	[2.51]	0.00	12.00	62	1.00	0.00	2.04	4.51
WSum6	16.48	18.89	0.00	95.00	85	11.00	0.00	1.76	3.32
AB	0.30	[0.69]	0.00	3.00	20	0.00	0.00	2.55	6.27
AG	1.57	1.78	0.00	7.00	65	1.00	0.00	1.42	1.81
CFB	0.00	0.00	0.00	0.00	0	0.00	0.00	—	—
COP	1.95	1.65	0.00	6.00	78	2.00	2.00	0.65	−0.53
CP	0.04	[0.24]	0.00	2.00	3	0.00	0.00	6.68	47.66
MOR	3.66	[2.71]	0.00	11.00	91	3.00	3.00	0.89	0.36
PER	2.12	2.35	0.00	10.00	67	1.00	0.00	1.32	1.42
PSV	0.16	[0.42]	0.00	2.00	14	0.00	0.00	2.67	6.92

Abbreviations: SK, skewness value; KU, Kurtosis value; (Also, see Appendix A).

for the veterans who had acute stress (see Fig. 3) [44]. The patients who had DD and the veterans who had acute stress were unable to back away from stimuli, distinguishing them from veterans who had chronic PTSD who defensively oversimplified their involvement with stimuli. Weiner [43] noted that low L occurs in "multifaceted individuals" who can become "cognitively scattered, easily distractible, and painfully aware of distressing aspects of their lives." Simply, patients who have DD have difficulty "seeing the forest for the trees."

The patients who had DD blatantly misperceived reality less than the other patient groups (lower X-; see Fig. 3). However, the patients who had DD showed more distorted and illogical thinking (WSum6) than the normals and patients who had chronic PTSD, yet less illogical thinking than the patients who were depressed and the veterans who had acute stress (see Fig. 3). Despite thinking that was often illogical, the DD group did not show frank psychosis. These findings on the Rorschach mirror the findings on the MMPI-2 of an elevation of scale 8 (Sc) and together portray the disorganizing impact of traumatic intrusions on cognition. The patients who had DD often experienced the most distorted perceptions and illogical thought on trauma-related percepts (eg, "two people pulling a baby apart"), and these often involved humans (see earlier discussion of M- and Fig. 3). Armstrong [26] suggests that people who are severely traumatized have a "traumatic thought disorder" stemming from exposure to a world in which others behaved inconsistently and violently. From that perspective, the illogical, idiosyncratic thinking of the patients who had DD is an accurate reflection of the chaos they have experienced. This idiosyncratic perception and tendency to put together unrelated ideas may facilitate their ability

to experience themselves as being a combination of self-states, rather than existing as a conventional and cohesive self [44]. Patients who have DD also fail to put together ideas that are related, leaving them vulnerable to lapses in logic and, perhaps, judgment (eg, ''My mother abused me,'' ''I allow my mother to take care of my children'').

Summary

The authors' Rorschach study is consistent with the research on objective and other projective measures. Patients who have DD can be differentiated from other patients who have other trauma-based disorders and depression, particularly in their greater use of imagination, cognitive complexity, ideational coping style, avoidance of emotion, greater capacity for self-reflection, and mixed interpersonal functioning [13,37,44]. Individuals who have DD are also distinguishable from patients who have other trauma-based disorders and depression and individuals who are not in treatment because they are flooded with traumatic content. The patients who had DD were preoccupied by a sense of their bodies being damaged and the world being filled with aggression. Veterans who have chronic PTSD live a life dictated by avoidance, overly simplified ''tunnel vision,'' and withdrawal from others. In contrast, dissociation permitted patients who had DD to remain psychologically ''alive'' despite their chronic trauma. Although the individuals who were dissociative, like the veterans who had acute stress, experienced more distress, neither group was living as emotionally and socially diminished as the chronic PTSD group. Nonetheless, patients who had DD showed a pronounced traumatic thought disorder characterized by failing to integrate ideas logically and an impaired ability to perceive conventional reality. These findings are consistent with the trauma-based model of dissociation that suggests dissociation is an ideational defense employed to ward off overwhelming, intrusive, traumatic material. Armstrong [12] suggests that the ability to dissociate has the benefit of allowing for an atypical developmental pathway, a pathway in which contradictions and complexities, and vulnerabilities and strengths, can coexist. Within this pathway, individuals who are dissociative can show interest in others yet misunderstand them; they can be overinvolved in, yet reflective about, their experience; and they can avoid emotion yet be flooded with traumatic material. These seemingly contradictory findings among the DD Rorschach profiles support Armstrong's theory that dissociation is a factor that promotes resiliency in the midst of trauma by helping to preserve essential human intellectual and emotional capacities.

These findings point to important treatment implications. Most patients who have DD are capable of building a therapeutic alliance because of their interpersonal strengths. However, the alliance may be tested repeatedly because of their proclivity to misunderstand others. Patients who have DD can work through misunderstandings if therapists address these sensitively.

Similarly, assessors should be prepared to facilitate the processing of any misperceptions that involve them and the assessment process. In the authors' experience, giving feedback about assessments to patients who have DD can be therapeutic if the assessor emphasizes the person's strengths and shares information about the extent to which the patient avoids affect, what prompts them to become flooded and disorganized, and what they can do to recover from being flooded.

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References

[1] Armstrong J, Kaser-Boyd N. Projective assessment of psychological trauma. In: Hilsenroth M, Segal D, editors. Comprehensive handbook of psychological assessment, vol. 2. Objective and projective assessment of personality and psychopathology. New York: Wiley; 2004. p. 500–12.
[2] Briere J. Psychological assessment of posttraumatic states: phenomenology, diagnosis, and measurement. 2nd edition. Washington (DC): American Psychological Association; 2004.
[3] Briere J, Armstrong G. Psychological assessment of posttraumatic dissociation. In: Vermetten E, Spiegel D, Dorahy M, editors. Traumatic dissociation: neurobiology and treatment. Washington (DC): American Psychiatric Press; in press.
[4] Wilson JP, Keane TM. Assessing psychological trauma and PTSD. 2nd edition. New York: Guilford Press; 2004.
[5] Armstrong JG. Psychological assessment. In: Spira JL, editor. Treating dissociative identity disorder. San Francisco (CA): Jossey-Bass; 1996. p. 3–37.
[6] Carlson EB, Armstrong JG. Diagnosis and assessment of dissociative disorders. In: Lynn SJ, Rhue JW, editors. Dissociation: theoretical, clinical, and research perspectives. New York: Guilford Press; 1994. p. 159–74.
[7] Ellason JW, Ross CA, Fuchs DL. Assessment of dissociative identity disorder with the Millon Clinical Multiaxial Inventory-II. Psychol Rep 1995;76:895–905.
[8] Loewenstein RJ, Putnam FW. The dissociative disorders. In: Sadock BJ, Sadock VA, editors. Posttraumatic stress disorder: DSM-IV and beyond. 8th edition. Baltimore (MD): Williams & Wilkins; 2004. p. 1844–901.
[9] Vermetten E, Loewenstein RJ, Zdunek C, et al. Cortisol, memory and the hippocampus in PTSD and DID. Biol Psychiatry 2002;51S:114S–45S.
[10] Putnam FW. Dissociation in children and adolescents: a developmental perspective. New York: Guilford Press; 1997.
[11] Coons PM, Bowman ES, Milstein V. Multiple personality disorder: A clinical investigation of 50 cases. J Nerv Ment Dis 1988;176:519–27.
[12] Armstrong JG. Reflections on multiple personality disorder as a developmentally complex adaptation. Psychoanal Study Child 1994;49:349–64.
[13] Armstrong JG, Loewenstein RJ. Characteristics of patients with multiple personality and dissociative disorders on psychological testing. J Nerv Ment Dis 1990;178:448–54.

[14] Brand B, McNary SW, Dell P, et al. Malingered DID: preliminary results of psychological tests and a structured interview. Presented at the 21st Fall International Society for the Study of Dissociation Conference. New Orleans, November 19, 2004.
[15] Brand BL, McNary SW, Loewenstein RJ, et al. Assessment of genuine and simulated dissociative identity disorder on the structured interview of reported symptoms. J Trauma Dissociation, in press.
[16] Coons PM, Stern AL. Initial and follow-up psychological testing of a group of patients with multiple personality disorder. Psychol Rep 1986;58:43–9.
[17] Coons PM, Fine CG. Accuracy of the MMPI in identifying multiple personality disorder. Psychol Rep 1990;66:831–4.
[18] Arbisi PA, Ben-Porath YS. An MMPI-2 infrequent response scale for use with psychopathological populations: the infrequency Psychopathology Scale, F(p). Psychol Assess 1995;7: 424–31.
[19] Loewenstein RJ. An office mental status examination for chronic complex dissociative symptoms and multiple personality disorder. Psychiatr Clin North Am 1991;14:567–604.
[20] Welburn KR, Fraser GA, Jordan SA, et al. Discriminating dissociative identity disorder from schizophrenia and feigned dissociation on psychological tests and structured interview. J Trauma Dissociation 2003;4:109–30.
[21] Leavitt F. The development of the Somatoform Dissociation Index (SDI): a screening measure of dissociation using MMPI-2 items. J Trauma Dissociation 2001;2:69–80.
[22] Herman JL. Sequelae of prolonged and repeated trauma: evidence for a complex posttraumatic syndrome (DESNOS). In: Davidson JR, Foa EB, editors. Posttraumatic stress disorder: DSM-IV and beyond. Washington (DC): American Psychiatric Press; 1993. p. 213–28.
[23] Fink D. The co-morbidity of multiple personality disorder and DSM-III-R Axis II disorders. Psychiatr Clin North Am 1991;14:547–66.
[24] Millon T. Manual for the MCMI-II. 2nd edition. Minneapolis (MN): National Computer Systems; 1987.
[25] Fink D, Golinkoff M. Multiple personality disorder, borderline personality disorder, and schizophrenia: a comparison of clinical features. Dissociation 1990;3:127–34.
[26] Armstrong JG. Deciphering the broken narrative of trauma: signs of traumatic dissociation on the Rorschach. Rorschachiana 2002;25:11–27.
[27] Bernstein EM, Putnam FW. Development, reliability, and validity of a dissociation scale. J Nerv Ment Dis 1986;174:727–34.
[28] Steinberg M. Structured Clinical Interview for DSM-IV Dissociative Disorders-Revised (SCID-D-R). Washington (DC): American Psychiatric Press; 1994.
[29] Ross CA, Heber S, Norton GR, et al. The Dissociative Disorders Interview Schedule: a structured interview. Dissociation 1989;2:169–89.
[30] Carlson EB, Putnam FW, Ross CA, et al. Validity of the Dissociative Experiences Scale in screening for multiple personality disorder: a multicenter study. Am J Psychiatry 1993;150: 1030–6.
[31] Draijer N, Boon S. The imitation of dissociative identity disorder: patients at risk, therapists at risk. J Psychiatry Law 1999;27:423–58.
[32] Westen D, Lohr N, Silk KR, et al. Object relations and social cognition in borderlines, major depressives, and normals: A TAT analysis. Psychol Assess 1990;2:355–64.
[33] Brand B, Couacaud K, Mattanah J, et al. Object relations and social cognition of severely dissociative patients: A TAT analysis. Presented at the meeting of the International Society for the Study of Dissociation. Baltimore, November 12, 2002.
[34] Ornduff SR, Kelsey RM. Object relations of sexually and physically abused female children: a TAT analysis. J Pers Assess 1996;66:91–105.
[35] Exner JE. A Rorschach workbook for the comprehensive system. 5th edition. Ashville (NC): Rorschach Workshops; 2001.
[36] Exner JE. The Rorschach: a comprehensive system. Volume 1: Basic foundations. 4th edition. New York: Wiley; 2003.

[37] Armstrong J. The psychological organization of multiple personality disordered patients as revealed in psychological testing. Psychiatr Clin North Am 1991;14:533–45.
[38] Leavitt F, Labott SM. Rorschach indicators of dissociative identity disorders: clinical utility and theoretical implications. J Clin Psychol 1998;54:803–10.
[39] Young GR, Wagner EE, Finn RF. A comparison of three Rorschach diagnostic systems and use of the hand test for detecting multiple personality disorder in outpatients. J Pers Assess 1994;62:485–97.
[40] Hartman WL, Clark ME, Morgan MK, et al. Rorschach structure of a hospitalized sample of Vietnam veterans with PTSD. J Pers Assess 1990;54:149–59.
[41] Sloan P, Arsenault L, Hilsenroth M, et al. Rorschach measures of posttraumatic stress in Persian Gulf War veterans. J Pers Assess 1995;64:397–414.
[42] Exner JE. A new nonpatient sample for the Rorschach Comprehensive System: a progress report. J Pers Assess 2002;78:391–404.
[43] Weiner IB. Principles of Rorschach interpretation. Mahwah (NJ): Lawrence Erlbaum Associates; 1998.
[44] Scroppo JC, Drob SL, Weinberger JL, et al. Identifying dissociative identity disorder: a self-report and projective study. J Abnorm Psychol 1998;107:272–84.
[45] Exner JE. Some Rorschach data comparing schizophrenics with borderline and schizotypal personality disorders. J Pers Assess 1986;50:455–71.
[46] Kluft RP. Dissociation and revictimization: a preliminary study. Dissociation 1990;3(2): 167–73.

Appendix A. Alphabetical Abbreviations for Rorschach Variables

3r + (2)/R = Egocentricity Index
AB = abstract content
Adj D = stress tolerance with situational stress removed
Afr = affective ratio; a measure of willingness to process emotions
AG = aggression
Art = art response
Ay = anthropology response
C = pure color response with no form
CDI = Coping Deficit Index
CF = chromatic color where form is secondary to color
COP = cooperative movement
D score = scaled score based on EA - es; measure of stress tolerance
Dd = unusual detail response
DEPI = Depression Index
DQv = vague developmental quality
EA - es = EA (available resources) minus es (experienced stimulation)
EB = Erlebnistypus; compares human movement to weighted color responses
FC = chromatic color where form is primary to color
FD = form dimension response
FM = animal movement
Fr = reflection response in which form dominates over symmetry
H = human response
HVI = Hypervigilance Index
L = Lambda
Lambda = L = a measure of economizing resources
M- = distorted human movement
M = human movement
m = inanimate movement
Ma = active human movement
MOR = morbid response with damaged object or dysphoric characteristic
Mp = passive human movement
OBS = Obsessive Style Index
p = passive movement
Pure C = pure color response with no use of form
R = number of responses
r = reflection response
rF = reflection response in which symmetry is primary to form
S = space response
SCZI = Schizophrenia Index
Sp Sc = Special Scores; reflect problems with perception or thinking
T = shading-texture
TCI = Anatomy + Sex + Blood + Morbid + Aggression/R
V = shading-dimension
WSum6 = weighted sum of six special scores; measures logical thinking
X- = distorted from
X+ = conventional form
Xu = unusual form
Y = shading-diffuse
Zd = processing efficiency

Appendix B. Rorschach percentages, means, and standard deviations for patients who have dissociative disorder (N = 100)

	Percentage (%)	Mean (SD)
Capacity for therapeutic alliance		
Low alienation		
Pure H < 2	29	
Pure H = 0	6	
Capable of collaboration		
COP = 0	22	
COP > 2	29	
Often experience a need for closeness		
Sum T = 0	52	
Sum T > 1	17	
Heightened empathy and fantasy (M)		4.95 (2.99)
Dissociative distancing		
Highly ideational		
Introversive	54	
Super-introversive	33	
Ambitent	37	
Extratensive	9	
Avoid, yet can express, modulated emotion		
FC > (CF + C) + 2	12	
FC > (CF + C) + 1	27	
Afr < 0.40	43	
PureC > 0	27	
Flooded with traumatic images		
Aggression (AG)		1.57 (1.78)
Anatomy (An)		1.12 (1.21)
Blood (Bl)		0.89 (1.33)
Sex (Sx)		1.42 (1.88)
Morbid (MOR)		3.66 (2.71)
Self-reflective (FD)		2.47 (2.21)
Not helpless (m)		2.20 (1.77)
Cognitive disorganization		
Distorted perception		
Xu% > 0.20	91	
X-% > 0.20	28	
Distorted thinking (WSum6)		16.48 (18.89)
Overly involved in experience (L)		0.42 (0.32)
Complex thinking (Blends/R)		0.39 (0.18)
Distorted views of others (MQ-)		0.89 (1.39)