17 Somatoform Dissociation and Somatoform Dissociative Disorders

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OUTLINE

Mental dissociation can be described from three major perspectives: symptoms, structure, and process. To avoid conceptual confusion, a definition of dissociation must clearly specify which of these three domains is being addressed.

17.1 THE DOMAIN OF DISSOCIATIVE SYMPTOMS

According to the *Diagnostic and Statistical Manual for Mental Disorders*, fourth edition (DSM-IV; American Psychiatric Association, 1994), the essential feature of dissociation is a disruption of the normal integrative functions of consciousness, memory, identity, and perception of the environment. Thus the current standard for the assessment of dissociative disorders, the *Structural Clinical Interview for DSM-IV Dissociative Disorders* (SCID-D; Steinberg, 1994), involves four symptom clusters: dissociative amnesia, depersonalization, derealization, and identity confusion/identity fragmentation. Well-known self-report measures of dissociation, such as the *Dissociative Experiences Scale* (DES; Bernstein & Putnam, 1986) and the *Dissociation Questionnaire* (DIS-Q; Vanderlinden, 1993), predominantly focus on symptoms that reflect dissociative amnesia, depersonalization, derealization, identity confusion, and identity fragmentation. These phenomena have been collectively labeled *psychological dissociation* (Nijenhuis, Spinhoven, Van Dyck, Van der Hart, & Vanderlinden, 1996) and, more recently, *psychoform dissociation* (Van der Hart, Van Dijke, Van Son, & Steele, 2000; Van der Hart, Nijenhuis, & Steele, 2006).

But does dissociation not affect the body? DSM-IV's descriptive definition of dissociation and the contents of the SCID-D, DES, and DIS-Q give the impression that dissociation is only a psychoform phenomenon. This impression is strengthened by the DSM-IV criteria for the dissociative disorders, which seldom mention the body. Only the diagnostic criterion for depersonalization disorder refers to the body—detachment from one's

body or from parts of one's body. The diagnostic features of depersonalization disorder include various types of perceptual (i.e., sensory) anesthesia. Yet patients with DSM-IV dissociative disorders often report somatoform symptoms. In fact, many dissociative disordered patients meet the DSM-IV criteria for conversion disorder, or even somatization disorder (Pribor, Yutzy, Dean, & Wetzel, 1993; Ross, Heber, Norton, & Anderson, 1989; Saxe et al., 1994). Conversely, many patients with somatization disorder report episodes of amnesia (Othmer & De Souza, 1985). The strong correlation between dissociative disorders and somatoform disorders (see also Darves-Bornoz, 1997) suggests that dissociative symptoms, conversion symptoms, and certain somatization symptoms may be manifestations of a single underlying principle.

The major somatoform symptoms of hysteria provide another indication of the existence of *somatoform* dissociation (Nijenhuis, 2004). During the heyday of hysteria in the 19th century, many authors focused almost exclusively on the somatoform manifestations of hysteria (e.g., Briquet, 1859). Somatoform dissociation characterized many traumatized World War I soldiers as well; an important historical fact that Van der Hart and colleagues (2000) were able to retrieve from near oblivion. Recent clinical observations also indicate that dissociation can manifest in somatoform ways (Cardeña, 1994; Kihlstrom, 1994; Nemiah, 1991; Van der Hart & Op den Velde, 1995).

The labels "psychoform dissociation" and "somatoform dissociation" should *not* be taken to mean that only psychoform dissociation is of a mental nature. Both adjectives refer to *manifestations* of the existence of a structural dissociation of the personality as a whole dynamic biopsychosocial system into two or more insufficiently integrated subsystems (Van der Hart et al., 2006). Dissociative symptoms that phenomenologically involve the body are called somatoform; dissociative symptoms that phenomenologically involve the mind are called psychoform. The adjective *somatoform* refers to physical symptoms that suggest, but cannot be explained by, a medical condition or the direct effects of a substance.

Dissociative symptoms, whether somatoform or psychoform, must be distinguished from two other phenomena: (1) manifestations of low levels of consciousness (e.g., general inattention as in daydreaming or drowsiness), and (2) retractions of the field of consciousness during which fewer phenomena are consciously processed (i.e., absorption and other forms of selective attention). This distinction is often overlooked (Van der Hart, Nijenhuis, Steele, & Brown, 2004), as is argued by Steele et al. (2008a) in this book.

17.2 THE DOMAIN OF DISSOCIATIVE DISORDERS

DSM-IV recognizes four dissociative disorders (i.e., dissociative amnesia, dissociative fugue, depersonalization disorder, disssociative identity disorder; DID), and several atypical dissociative disorders (i.e., dissociative disorder not otherwise specified; DDNOS). In this chapter, I argue that somatoform dissociation routinely occurs in the DSM-IV dissociative disorders. In particular, I seek to show that (1) somatoform dissociation is as characteristic of DID and DDNOS as is psychoform dissociation; and (2) somatoform dissociation is *the* major feature of DSM-IV conversion disorder, and that conversion disorders are better understood as somatoform dissociative disorders (see also Brown, Cardeña, Nijenhuis, Şar, & Van der Hart, 2007). In contrast to DSM-IV, the *International Classification of Diseases, tenth edition* (ICD-10; World Health Organization, 1992) recognizes somatoform dissociation. ICD-10 classifies conversion disorders as *dissociative disorders of movement and sensation*. I will propose a briefer label for these disorders: *somatoform dissociative disorders.*

Both DSM-IV and ICD-10 omit significant somatoform dissociative symptoms. For example, neither DSM-IV nor ICD-10 acknowledge that pain and sexual dysfunctions can be dissociative. Localized pain may reflect a traumatic memory of physical pain that has been reactivated in a dissociative part of the personality. In fact, *traumatic memories*—experiential phenomena that must be distinguished from memories of trauma that have been integrated into autobiographical memory—primarily consist of sensorimotor and emotional reactions (Nijenhuis, Van Engen, Kusters, & Van der Hart, 2001; Van der Hart et al., 2000; Van der Kolk & Fisler, 1995).

17.3 THE DOMAIN OF DISSOCIATIVE PROCESSES AND ACTIONS

Dissociative symptoms presumably result from psychobiological processes and actions (Van der Hart et al., 2006). These processes and actions involve a postulated defense mechanism (Cardeña, 1994), a lack of integrative capacity (Nijenhuis, Van der Hart, & Steele, 2004; Van der Hart et al., 2006), and human capacities such as the hypnotic talents or dissociative talents that are displayed by mediums (Braude, 1995). Dissociative symptoms can also be induced by substances such as drugs. These different processes are not mutually exclusive. Whatever their nature, all of these processes entail a lack of integration of psychobiological phenomena and functions. In

somatoform dissociation, there is a lack of integration of somatoform experiences, reactions, and functions.

17.4 A CLASSIFICATION OF DISSOCIATIVE SYMPTOMS

Janet's (1889/1973, 1893**,** 1901/1977) clinical observations indicated that hysteria involves psychoform and somatoform functions and reactions. Because Janet saw mind and body as inseparable, his classification of the symptoms of hysteria does not follow a mind-body distinction. According to Janet, two kinds of symptoms occurred in hysteria: (1) permanent symptoms that occur in all hysterics (i.e., the "mental stigmata"), and (2) intermittent and variable symptoms whose nature differs from case to case (i.e., "mental accidents"; Nijenhuis, 2004; Van der Hart & Friedman, 1989).

The *mental stigmata* are partial or complete functional losses—of knowledge (i.e., amnesia), of sensations (i.e., anesthesia), of sensory abilities (i.e., touch, kinesthesia, smell, taste, hearing, vision), of sensitivity to pain (i.e., analgesia), and of motor control (i.e., loss of the ability to move or speak). We have referred to mental stigmata as losses or negative symptoms (Nijenhuis & Van der Hart, 1999).

Mental accidents are intrusions or positive symptoms. These relate to mental actions and contents that should have been integrated into the personality, but were not (Van der Hart et al., 2006). At times, dissociated mental actions and contents associated with one dissociative part of the personality intrude into the domain of consciousness of one or more other dissociative parts of the personality. These mental actions and contents can pertain to sensations, emotions, thoughts, memories (e.g., traumatic memories), motor actions, and the voice of one dissociative part that intrude another dissociative part.

According to Janet, the simplest form of mental accidents are *ideés fixes* (i.e., fixed ideas) that often generate intrusions of dissociated emotion, thought, sensory perception, or movement. These intrusions may take the form of "hysterical attacks," currently known as reactivated traumatic memories. Janet observed that some dissociative patients are subject to "somnambulisms"; today, many authors think of this as reactivations of dissociative "identities." Since *ideés fixes* involve much more than a different sense of self, we feel that they should be considered to be dissociative parts of the personality (Nijenhuis, Van der Hart, & Steele, 2004; Van der Hart et al., 2006). When patients lose all touch with reality during dissociative episodes, they experience a "delirium," a reactive dissociative psychosis (Van der Hart, Witztum, & Friedman, 1993; see Şar & Öztürk, 2008, this volume).

Janet (1889/1973, 1893**,** 1901/1977, 1907/1965) gave many clinical examples of dissociated sensory, motor, and other bodily (re)actions and functions. For example, in one dissociative part of the personality, the patient may be insensitive to pain or touch, but in another, these mental stigmata can be absent, or exchanged for mental accidents, such as localized pain. Whatever has not been integrated into one dissociative part of the personality (i.e., not-knowing; not-sensing; not-perceiving) is likely to be prominent in another part, and may be manifested in "hysterical attacks."

17.5 JANET'S DISSOCIATION THEORY

Janet's dissociation theory (1889/1973, 1893**,** 1901/1977, 1911/1983) postulates that both somatoform and psychoform components of experience, (re)actions, and functions can be associated with dissociative parts of the personality. He used the construct "personality" to denote the complex, but relatively-integrated, psychobiological system that encompasses consciousness, memory, identity, and other personal characteristics such as habits, motivations, psychophysiological features, somatic markers (e.g., gait and posture), and so on. Janet observed that dissociative psychobiological systems are also characterized by a retracted field of consciousness (i.e., mental functioning during which there is a significant reduction in the number of psychological phenomena that are consciously processed and integrated at the same time).

In Janet's conceptualization, mental accidents are reactivations of dissociated "systems of ideas and functions." As time goes by, due to recurrent dissociation and imagery, these systems may "emancipate" (i.e., synthesize and assimilate additional sensations, feelings, emotions, thoughts, behaviors, etc.). When this happens, dissociated systems may become associated with a range of experiences, a name, age, and other personality-like characteristics. Today, these emancipated systems are described as dissociative parts of the personality. The personality-like features of these dissociative parts may result from, or be enhanced by, secondary elaborations (Nijenhuis, Spinhoven, Vanderlinden, Van Dyck, & Van der Hart, 1998a). These elaborations are probably promoted by hypnotic-like imagination, restricted fields of consciousness, and the needs of specific dissociative parts of the personality. Secondary shaping of dissociative psychobiological systems may also be due to sociocultural influences (Gleaves, 1996; Janet, 1929/1984; Laria & Lewis-Fernández, 2001).

TABLE 17.1
A Phenomenological Categorization of Dissociative Symptoms: The Continuity between 19th Century and Contemporary Observations

	Psychoform Dissociation	Somatoform Dissociation
Mental stigmata, or *negative* dissociative symptoms	Amnesia: loss of knowledge, memory	Anesthesia: loss of sensory awareness; all sensory modalities
	Abulia: loss of will	Analgesia: loss of sensitivity for pain
	Modifications of character: loss of character traits, predominantly affects	Loss of motor control (movements, voice, swallowing, etc.)
	Suggestibility: loss of control over ideas	
Mental accidents, or *positive* dissociative symptoms	Psychoform components of subconscious acts, hysterical accidents, and fixed ideas	Somatoform components of subconscious acts, hysterical accidents, and fixed ideas: singular somatoform symptoms associated with one dissociative part which intrude another part's functioning
	Psychoform components of hysterical attacks and reactivated traumatic memories	Somatoform components of hysterical attacks and reactivated traumatic memories
	Somnambulism: psychoform aspects of dissociative parts of the personality, notably but not exclusively EPs	Somnambulism: somatoform aspects of dissociative parts, notably EPs, that take executive control
	Deliriums: dissociative psychosis, i.e. psychoform manifestations of dissociative psychotic parts. These parts display enduring failures of reality testing.	Deliriums: dissociative psychosis, i.e., somatoform manifestations of dissociative psychotic parts: grotesque somatoform alterations

17.6 THE "APPARENTLY NORMAL" PART OF THE PERSONALITY AND THE "EMOTIONAL" PART OF THE PERSONALITY

Many cases of dissociative disorder remain predominantly in a condition that has been metaphorically described as an *apparently normal part of the personality* (ANP; Myers, 1940; Nijenhuis & Van der Hart, 1999; Van der Hart et al., 2000, 2006). This observation lies at the root of the theory of structural dissociation of the personality (Van der Hart et al., 2006; Steele et al., 2008b). As ANP, the patient appears to be mentally normal. On closer scrutiny, however, he or she has negative dissociative symptoms (Nijenhuis & Van der Hart, 1999), for example, partial amnesia and anesthesia. The ANP is structurally dissociated from one or more *emotional parts of the personality* (EP; Nijenhuis & Van der Hart, 1999; Van der Hart et al., 2000, 2006). In our view, dissociative psychobiological systems that involve EPs[1] often encompass traumatic memories and defensive reactions to major threat (Nijenhuis, Vanderlinden, & Spinhoven, 1998d; Nijenhuis et al., 1998a). Because dissociative barriers are not impenetrable, EPs may influence ANPs and *vice versa*. Thus, intrusions of EPs—whatever their degree of complexity and emancipation—into ANPs or other EPs, and intrusions of ANPs into EPs or other ANPs constitute positive symptoms. However, as to *phenomenal content*, these intrusions, hence positive symptoms, can contain functional losses. For example, EPs can include functional losses—hence negative symptoms—such as analgesia and motor inhibitions; these are expressions of defensive freezing. Examples of positive phenomenal content include pain and particular trauma-related movements. Alternations between ANPs and EPs and intrusions of dissociative parts into each other's domains occur in mental disorders that range from posttraumatic stress disorder to DID (Nijenhuis & Van der Hart, 1999; Nijenhuis et al., 2004; Van der Hart et al., 2006).

Table 17.1 summarizes dissociative symptoms in terms of two dichotomies: (1) mental stigmata/negative symptoms versus mental accidents/positive symptoms, and (2) psychoform symptoms versus somatoform symptoms.

17.7 THE SOMATOFORM DISSOCIATION QUESTIONNAIRE

The *Somatoform Dissociation Questionnaire* (SDQ-20) is a self-report instrument with excellent psychometric characteristics that measures the severity of somatoform

[1] EPs may range from Janetian fixed ideas to somnambulism.

dissociation (Nijenhuis et al., 1996, 1998b, 1999). The original SDQ-20 findings in Dutch/Flemish samples have been largely replicated in Turkey (Şar, Kundakçı, Kızıltan, Bakım, & Bozkurt, 2000), France (El-Hage, Darves-Bornoz, Allilaire, & Gaillard, 2002), and Portugal (Espirito Santo & Pio-Abreu, 2007). SDQ-20 items reflect negative and positive somatoform dissociative symptoms, and converge with the major symptoms of hysteria as formulated by Janet. The SDQ-20 assesses such *negative* symptoms as analgesia ("Sometimes my body, or a part of it, is insensitive to pain"), kinesthetic anesthesia ("Sometimes it is as if my body, or a part of it, has disappeared"), motor inhibitions ("Sometimes I am paralyzed for a while"; "Sometimes I cannot speak, or only whisper"), blindness ("Sometimes I cannot see for a while"), and alterations of auditory perception ("Sometimes I hear sounds from nearby as if they were coming from far away"). The SDQ-20 assesses such *positive* somatoform dissociative symptoms as pain ("Sometimes I have pain while urinating," and "Sometimes I feel pain in my genitals—at times other than sexual intercourse)."

In most SDQ-20 studies performed to date, somatoform dissociation was not affected by age or gender. In samples of French and Dutch psychiatric outpatients, women had slightly higher scores than men (El-Hage et al., 2002; Nijenhuis, Van der Hart, & Kruger, 2002), and in Turkey, a weak but statistically significant correlation with age was found (Şar et al., 2000).

17.8 SOMATOFORM DISSOCIATION AND PSYCHOFORM DISSOCIATION: MANIFESTATIONS OF A COMMON PROCESS

Somatoform dissociation is strongly and consistently associated with psychoform dissociation as measured by the DES and DIS-Q in both clinical and nonclinical samples, ranging from $r = 0.58$ (Nijenhuis et al., 2003) to $r = 0.85$ (Nijenhuis et al., 1999). Dell (1997), El-Hage et al. (2002), Maaranen et al. (2005), Şar, Kundakçı, Kızıltan, Bahadır, and Aydıner (1998), Şar et al. (2000), and Nijenhuis and Van Duyl (2001) documented strong correlations between the SDQ-20 and DES in the United States, France, Finland, Turkey, and Uganda, respectively. Waller et al. (2000) found a somewhat lower, but still considerable correlation between somatoform and psychoform dissociative symptoms in psychiatric outpatients in the United Kingdom ($r = 0.51$).

A close link between somatoform and psychoform dissociation is also suggested by the finding that the 14 dimensions of the Multidimensional Inventory of Dissociation (Dell, 2002), including the somatoform dissociation dimension, loaded on one factor that accounted for 84% of the variance. Similarly, somatoform dissociation as measured with the Hebrew version of the MID was strongly correlated with different measures of psychoform dissociation ($r = 0.58$, $r = 0.73$, and $r = 0.77$) in two Israeli studies (Somer & Dell, 2005).

These results suggest that somatoform and psychoform dissociation are overlapping, but not identical, manifestations of a common process. *Peritraumatic* somatoform and psychoform dissociation (i.e., dissociation that occurs during or *immediately* after a potentially traumatizing event) were correlated as well (Nijenhuis et al., 2001).

17.9 SOMATOFORM DISSOCIATION IN VARIOUS DIAGNOSTIC GROUPS

Somatoform dissociation is a unique construct. As table 17.2 indicates, it is a major feature of DSM-IV dissociative disorders (Nijenhuis et al., 1996, 1998b, 1999; Şar et al., 2000). Patients with DSM-IV dissociative disorders had significantly higher SDQ-20 scores than psychiatric outpatients with other DSM-IV diagnoses, and DID patients had higher SDQ-20 scores than patients with DDNOS or depersonalization disorder (Nijenhuis et al., 1996, 1998b; Şar et al., 2000). Nijenhuis and Van Duyl (2001) found that Ugandan patients with spirit possession disorder—a culture-related dissociative disorder—had much higher SDQ-20 scores than mentally healthy controls. PTSD can also be seen as a dissociative disorder because it involves a continuing failure to integrate traumatic memories. Compared to healthy controls, patients with current or past PTSD reported higher levels of somatoform and psychoform dissociation, which were both strongly correlated with scores on the Clinician-Administered PTSD Scale (CAPS; El-Hage et al., 2002; see also Espirito Santo & Pio-Abreu, 2007).

The SDQ-20 discriminates among various diagnostic categories (Espirito Santo & Pio-Abreu, 2007; Nijenhuis et al., 1999; Şar et al., 2000). Compared to patients with DDNOS or depersonalization disorder, DID patients had significantly higher scores. Patients with DDNOS had significantly higher scores than patients with somatoform disorders or eating disorders, and the latter two diagnostic categories had significantly higher scores than did patients with anxiety disorder, depression, adjustment disorders, and bipolar mood disorders. Bipolar mood disorder was associated with extremely low somatoform dissociation (see also Nijenhuis et al., 1997a). The above group differences on the SDQ-20 remained after controlling for the influence of general psychopathology (Nijenhuis et al., 1999). Thus, the severity of somatoform

dissociation across diagnostic groups is not explained by general psychopathology.

Waller et al. (2003) reported that somatoform dissociation was strongly linked to bulimic attitudes and certain bulimic features (i.e., excessive exercise, laxative abuse, diet pill abuse, diuretic abuse). In contrast, Nijenhuis et al. (1999) found that eating disorders were not associated with high somatoform dissociation scores, but that eating disorder patients who reported substantial exposure to potentially traumatizing events had higher scores.

TABLE 17.2
Somatoform Dissociation in Different Diagnostic Categories

		SDQ-20	
		M	SD
Dissociative Disorders			
Dissociative Identity Disorder	Nijenhuis et al., 1996	51.8	12.6
	Nijenhuis et al., 1998b	57.3	14.9
	Şar et al., 2000	58.7	17.9
DDNOS (+ some with depersonalization disorder)	Nijenhuis et al., 1996	43.8	7.1
DDNOS	Nijenhuis et al., 1998b	44.6	11.9
	Şar et al., 2000	46.3	16.2
Mixed group of dissociative disorders, including depersonalization disorder and DDNOS	Espirito Santo & Pio-Abreu, 2007	39.3	12.0
Spirit possession disorder	Nijenhuis & Van Duyl, 2001	39.4	7.4
Somatoform Dissociative Disorders			
Mixed somatoform dissociative disorders	Roelofs et al., 2002a	30.5	8.5
	Nijenhuis et al., 1999	31.9	9.4
Pseudo-epilepsy	Kuyk et al., 1999	29.8	7.5
Conversion disorder	Şar et al., 2004	81.6% of sample: M >35	
	Espirito Santo & Pio-Abreu, 2007	39.8	14.1
Somatoform and Somatic Disorders			
Somatoform pain disorder			
Chronic headache	Yücel et al., 2002	32.6	10.4
Chronic low back pain	Yücel et al., 2002	30.6	10.9
Temporal lobe epilepsy	Kuyk et al., 1999	24.3	6.8
Non-temporal lobe epilepsy	Kuyk et al., 1999	25.6	7.3
General Psychiatric Patients, with and without Trauma			
	El-Hage et al., 2002		
1. reporting potentially traumatizing events		29.5	–
2. no trauma reporting		21	–
	Nijenhuis et al., 2002		
1. no trauma reporting		1	5.3
2. emotional neglect and abuse only		22.5	2.6
3. one criterion A event		22.6	3.8
4. up to 4 different criterion A events		25.4	5.0
5. more than 4 different criterion A events		31.7	10.5

(According to ANOVA and post-hoc Tukey HSD, group 5 had higher SDQ-20 scores than the other four groups)

TABLE 17.2
Somatoform Dissociation in Different Diagnostic Categories *(Continued)*

Other DSM-IV Axis I Diagnoses			
PTSD	Espirito Santo & Pio-Abreu, 2007	38.7	11.7
Schizophrenia	Şar et al., 2000	27.1	9.5
Eating disorders	Nijenhuis et al., 1999	27.7	8.8
Mixed types			
Anorexia nervosa, restricive	Waller et al., 2003	27.0	7.6
Anorexia nervosa, binge purge	Waller et al., 2003	38.2	14.8
Bulimia nervosa	Waller et al., 2003	32.6	–
Anxiety disorders	Şar et al., 2000	26.8	6.4
Anxiety disorders and depression	Espirito Santo & Pio-Abreu, 2007	29.2	6.7
Affective disorders	Roelofs et al., 2002a	23.0	3.8
Major depressive episode	Şar et al., 2000	28.7	8.3
Bipolar mood disorder	Nijenhuis et al., 1999	21.6	1.9
	Sar et al., 2000	22.7	3.5
Mixed psychiatric disorders, notably anxiety disorder and major depressive episode	Nijenhuis et al., 1996	23.5	4.0
	Nijenhuis et al., 1999	22.9	3.9
Nonclinical Groups			
Adults in Turkey	Şar et al., 2000	27.4	8.2
Adults in Uganda	Nijenhuis & Van Duyl, 2001	27.0	4.7
Adults	Nähring & Nijenhuis, 2005	23.2	5.0
Students	Nähring & Nijenhuis, 2005	24.4	4.4

17.10 SOMATOFORM DISSOCIATION IN DSM-IV AND ICD-10 SOMATOFORM DISSOCIATIVE DISORDERS

The SDQ-20 discriminated between bipolar mood disorder and DSM-IV somatoform disorders, whereas the DES did not (Nijenhuis et al., 1999). This research sample primarily included cases of conversion and pain disorder, but not hypochondriasis. Another study also documented that psychiatric patients with DSM-IV somatoform disorders (i.e., ICD-10 dissociative disorders of movement, sensation, convulsions, or combinations of these symptoms) had more somatoform dissociation compared to patients with affective disorders (Roelofs et al., 2002a; see also Espirito Santo & Pio-Abreu, 2007).

Only those somatoform disordered patients with a comorbid DSM-IV dissociative disorder had more psychoform dissociation. Whereas Moene, Spinhoven, Hoogduin, Sandijck, and Roelofs (2001) found that patients with somatoform dissociative disorders had higher DIS-Q scores compared to healthy controls, their sample's level of psychoform dissociation was quite modest; in fact, their somatoform sample had lower DIS-Q scores than the psychiatric controls. A contrasting finding emerged from a German study (Spitzer, Spelsberg, Grabe, Mundt, & Freyberger, 1999). In this study, patients with conversion disorder had more dissociative symptoms as measured by the German version of the DES than gender- and age-matched psychiatric patients with various mental disorders. However, this version of the DES includes items assessing somatoform dissociation. Nonetheless, conversion disorder, hence somatoform dissociation, can be associated with psychoform dissociation (Şar, Akyüz, Kundakçı, Kızıltan, & Doğan, 2004). In this study, half of the sample of conversion disorder patients also met the criteria of a DSM-IV dissociative disorder and still other DSM-IV diagnoses. This comorbidity is common in complex dissociative disorders.

From these findings, it can be concluded that somatoform dissociation is a stable characteristic of somatoform dissociative disorders, whereas psychoform dissociation is not. Clinical data suggest that hypochondriasis does not

involve substantial somatoform dissociation, but the issue awaits systematic study. Patients with pseudoseizures had higher psychoform dissociation scores than individuals with epilepsy (Fleisher et al., 2002), but this difference could be attributed to the influence of general psychopathology. Kuyk, Spinhoven, Van Emde Boas, and Van Dyck (1999; see table 17.2) documented higher SDQ-20 and DIS-Q scores for patients with pseudo-epileptic seizures than for patients with temporal lobe epilepsy and non temporal lobe epilepsy. However, when statistically corrected for general psychopathology, only the SDQ-20 difference remained.

In a sample of patients with somatoform pain disorders (i.e., chronic headache and low back pain), Yücel et al. (2002) reported mean SDQ-20 scores that were quite similar to the mean SDQ-20 scores of patients with somatoform dissociative disorders in other studies. As table 17.2 shows, SDQ-20 scores differ little across different somatoform disorders.

17.11 SOMATOFORM DISSOCIATION IN SCREENING FOR DSM-IV DISSOCIATIVE DISORDERS

The data discussed previously have shown that somatoform dissociation is very characteristic of patients with DDNOS and DID. The question remains, however, whether somatoform dissociation is as characteristic of these disorders as is psychoform dissociation. This issue can be examined by contrasting the relative abilities of somatoform and psychoform dissociation screening instruments to discriminate between patients with and without a DSM-IV dissociative disorder.

The SDQ-5 was developed as a screening instrument for DSM-IV dissociative disorders (Nijenhuis, Spinhoven, Van Dyck, Van der Hart, & Vanderlinden, 1997b; Nijenhuis et al., 1998b). The *sensitivity* (i.e., the proportion of true positives selected by the test) of the SDQ-5 among SCID-D assessed patients with dissociative disorders in various Dutch/Flemish samples (n = 50, n = 33, n = 31, respectively) ranged from 82% to 94%. The *specificity* (i.e., the proportion of the comparison patients that was correctly identified by the test) of the SDQ-5 ranged from 93% to 98% (n = 50, n = 42, n = 45, respectively). The *positive predictive value* (i.e., the proportion of cases with scores above the chosen cut-off value of the test that were true positives) among these samples ranged from 90% to 98%, and the *negative predictive value* (i.e., the proportion of cases with scores below this cut-off value that were true negatives) from 87% to 96%. The corresponding values of the SDQ-20 were slightly lower (Nijenhuis et al., 1997b).

High sensitivity and specificity of a test do not imply a high predictive value when the prevalence of the disorder in the population of concern is low (Rey, Morris-Yates, & Stanislaw, 1992). The prevalence of dissociative disorders among psychiatric patients has been estimated at approximately 8% to 18% (Friedl & Draijer, 2000; Horen, Leichner, & Lawson, 1995; Johnson, Cohen, Kasen, & Brook, 2006; Şar, Akyüz, & Doğan, 2007; Şar et al., 1999; Saxe et al., 1993). Corrected for a prevalence rate of 10%, the positive predictive values among the indicated samples ranged from 57% to 84%, and the negative predictive values from 98% to 99%. Averaged over three samples, the positive predictive value of the SDQ-5 was 66%. Hence, it can be predicted that among Dutch/Flemish samples two of three patients with scores at or above the cut-off will have a DSM-IV dissociative disorder.

Among Dutch dissociative disorder patients and psychiatric comparison patients, Draijer and Boon (1993) found that the sensitivity of the DES was 93%, the specificity 86%, the corrected positive predictive value 42%, and the corrected negative predicted value 99%. It thus seems that somatoform dissociation is at least as characteristic of complex dissociative disorders as is psychoform dissociation (in Dutch samples).

The SDQ-5 performed less well as a screening instrument for DSM-IV disorders in Turkey compared to the SDQ-20 (Şar et al., 2000). The positive and negative predictive value of the SDQ-20 were 45% and 99%, respectively, when corrected for an estimated prevalence rate of 10%. It is interesting to note that the SDQ-20 performed almost as well as the SDQ-5 in the Netherlands at a cutoff score of > 28. Clinicians are recommended to administer the SDQ-20 (that includes the SDQ-5 items), and to calculate and interpret the scores of both scales.

17.12 IS SOMATOFORM DISSOCIATION A UNIVERSAL PHENOMENON?

There are no empirical indications to date that somatoform dissociation is a culturally dependent phenomenon. Studies of somatoform dissociation from the Netherlands/Flanders, Finland, France, Portugal, the United Kingdom, Turkey, the United States, and Uganda have produced findings that are quite similar. Future research will be needed to explore the phenomenon in the Middle East, South America, and in Asia. A study from Nepal has reported that lifetime and 12-month ICD-10 dissociative disorders of movement and sensation, dissociative amnesia, persistent somatoform pain disorder,

and PTSD were more likely among tortured Bhutanese refugees than among refugees who had not been tortured (Van Ommeren et al., 2001).

17.13 SOMATOFORM DISSOCIATION AND PSYCHOBIOLOGICAL FEATURES

Several studies have found associations between somatoform dissociation and structural and functional brain features of patients with dissociative disorders. These studies are reviewed in this book (Nijenhuis & den Boer, 2008).

17.14 SUGGESTION AND ROLE-PLAYING

Hypnotic suggestion can elicit somatoform dissociative reactions (e.g., analgesia, motor inhibitions) in susceptible and motivated individuals. Hypnotic reactions are time-limited and can be altered by countersuggestions. Somatoform dissociative symptoms of psychiatric patients usually have a tendency to be chronic and often resist hypnotic or other therapeutic suggestions. Some authors postulate that suggestion and role-playing affects dissociation scores. For example, Merskey (1992, 1997) maintained that dissociative disorder patients are extremely suggestible, and therefore vulnerable to indoctrination by therapists who mistake the symptoms of bipolar mood disorder for dissociative symptoms.

Empirical data do not support Merskey's position. The correlation between hypnotizability and dissociativity is remarkably low, both in the normal population and in traumatized individuals (Putnam & Carlson, 1998). Groups of traumatized individuals did not have higher hypnotizability scores than nontrauma groups in most studies (Putnam & Carlson, 1998). A few studies found that patients with PTSD were more hypnotizable than other psychiatric patients and healthy controls (Spiegel, Hunt, & Dondershine, 1988) or combat veterans without PTSD (Stutmann & Bliss, 1985). However, it should be noted that patients with anxiety disorders, impulse control behaviors, and personality disorders also had higher hypnotizability scores (see Maldonado & Spiegel, 1998), suggesting that high hypnotizability is not specific for traumatized individuals. Patients with dissociative disorders had high scores on hypnotic suggestibility scales, but their mean scores were not "off the scale" (Putnam & Carlson, 1998). If dissociative symptoms were the result of hypnotic suggestibility, one would expect that dissociative patients would be extremely hypnotizable.

Furthermore, the weight of the current data suggests that traumatization does not increase suggestibility in most individuals. Only a subset of sexually abused girls had high scores on hypnotic suggestibility scales and dissociation scales (Putnam, Helmers, Horowitz, & Trickett, 1995). In a single case study that used positron emission tomography (PET) functional imaging, hypnotic paralysis activated similar brain areas to those that are activated in DSM-IV conversion disorder, suggesting that hypnosis and somatoform dissociation may share common neurophysiological mechanisms (Halligan, Athwal, Oakley, & Frackowiak, 2000). This study requires replication among a group of patients with somatoform dissociative disorders. The observed correlation does not prove a causal relationship.

There are noteworthy reasons to believe that suggestion and indoctrination do *not* explain the somatoform dissociation of psychiatric patients. Dissociative patients who completed the SDQ-20 in the assessment phase, and prior to the SCID-D interview, had higher SDQ-20 scores than dissociative patients who completed the instrument during the course of their therapy (Nijenhuis, Van Dyck, Van der Hart, & Spinhoven, 1998e; Nijenhuis et al., 1999). Moreover, prior to our research**,** the symptoms described by the SDQ-20 were not known as major symptoms of dissociative disorders among diagnosticians and therapists, let alone patients. It was also found that my dissociative patients did not exceed the SDQ-20 scores of other therapists' dissociative patients. Given my theoretical orientation and expectations, I was the most likely person to suggest somatoform dissociative symptoms. Roelofs et al. (2002a) found that patients with somatoform dissociative disorders were significantly more responsive to hypnotic suggestions than patients with affective disorders, and that they showed a significant correlation between hypnotic susceptibility and the number of "conversion complaints." Still, their hypnotic susceptibility scores were only moderate and their SDQ-20 scores did not correlate with hypnotizability. Another study of somatoform dissociative disorders also reported moderate hypnotizability in somatoform dissociative disorders (Moene et al., 2001). Thus, patients with somatoform dissociative disorders do not seem to be hypnotic virtuosos.

In summary, the available empirical data run contrary to the hypothesis that somatoform dissociation results from suggestion. Even if somatoform dissociation were strongly related to suggestibility and related factors such as absorption and fantasy proneness, this in itself would not prove that somatoform dissociation is *caused* by suggestibility. It may well be that traumatization prompts individuals to practice and elaborate their potential for absorption and fantasy as a means of coping with events that they cannot integrate. The finding of Roelofs et al. (2002a), that physical abuse fully mediated the association

between hypnotic susceptibility and the number of conversion symptoms in their study of somatoform disorders, is consistent with this possibility. Research in progress (Nijenhuis, in progress) suggests that women with DID or DDNOS are more fantasy prone than normal women, but most were not extremely fantasy prone. All of these patients used fantasy of positive experiences to cope with abuse and neglect.

17.15 CUMULATIVE TRAUMATIZATION

Given the link between psychoform dissociation and traumatization, and the link between psychoform and somatoform dissociation, somatoform dissociation may relate to traumatization. There are also theoretical reasons (see the following) for postulating such a link.

SDQ-20 scores are generally predicted best by cumulative exposure to potentially traumatizing events (e.g., Nijenhuis et al., 1998c, 1999, 2001, 2002; Nijenhuis & Van Duyl, 2001; Waller et al., 2000). Maaranen et al. (2004) documented a strong graded between an increasing number of adverse childhood experiences and high somatoform dissociation in a large sample of the general population. The finding that somatoform dissociation in dissociative disorders is strongly associated with multiple types of reported traumatization (see table 17.3) converges with findings about the incidence of verified multiple and chronic traumatization in DID patients (Coons, 1994; Hornstein & Putnam, 1992; Kluft, 1995; Lewis, Yeager, Swica, Pincus, & Lewis, 1997).

The association between somatoform dissociation and reported traumatization may be nonlinear, that is,

TABLE 17.3
Somatoform Dissociation and (Reported) Cumulative Potentially Traumatizing Events

Correlations between Reporting Potentially Traumatizing Events and:	1. SDQ-20		2. DES	
	r	*p*	*R*	*p*
Students (n=73; Näring & Nijenhuis, 2005)	0.27*	<0.01	0.32*	<0.001
Normal adults (n=147; Näring & Nijenhuis, 2005)	0.20*	<0.05	0.10*	ns
Women with chronic pelvic pain (n=52; Nijenhuis et al., 2003)	0.69	<0.0001	0.44	<0.001
Substance use disorder (n = 229; Baars et al., 2001)	0.41	<0.0001	0.29	<0.0001
General psychiatric patients (n =155; Nijenhuis et al., 2002)	0.57	<0.0001	0.43	<0.0001
General psychiatric patients (n=72; Waller et al., 2000)	0.32	<0.01	0.27	<0.05
Eating disorders (Waller et al., 2003)				
Nonclinical controls (n=75)	0.35	<0.01	0.13	ns
Restrictive anorexia nervosa (n=21)	0.40	<0.01	0.22	ns
Binge-purge anorexia nervosa (n=40)	0.32	<0.05	0.25	ns
Bulimia nervosa (n=70)	0.09	ns	0.06	ns
Spirit possession disorder (n=112) vs. mentally healthy controls (n=73; Nijenhuis & Van Duyl, 2001)	0.65	<0.0001	0.61	<0.0001
General psychiatric patients (n=140; El-Hage et al., 2002)	0.41	<0.0001		
Dissociative disorders (n = 47) and psychiatric controls (n = 43; Nijenhuis, 1999)	0.69	<0.0001		
Somatoform dissociative disorders				
different types (n=54) and controls with affective disorders (n=50; Roelofs et al., 2002b)	more childhood trauma in somatoform disorders (67.9% correct classification)			
pseudo-seizures (n=27) and true epilepsy (n=72; Kuyk et al., 1999)	more severe traumatization in pseudo-epilepsy			

Note: * Correlations after partialling out absorption as a measure of fantasy proneness

considerable somatoform dissociation may only emerge after very substantial traumatization. Thus, studying general psychiatric outpatients, Nijenhuis et al. (2004) found that only patients who reported four or more different types of potentially traumatizing events had high somatoform dissociation scores (see table 17.3). This finding was essentially replicated in substance abuse patients (Baars, Nijenhuis, & Van der Hart, 2001).

When administered a structured trauma interview, patients with somatoform disorders reported more potentially traumatizing events than did affective disorder patients (Roelofs, Keijsers, Hoogduin, Näring, & Moene, 2002b). Futhermore, patients with DSM-IV conversion disorder who reported histories of *multiple* traumatization had more pseudoneurological symptoms and higher SDQ-20 scores, but not higher DES scores, than did conversion disorder patients who reported only *one* type of traumatization. Thus, somatoform dissociation seems to be a better predictor of cumulative traumatization in these patients than does psychoform dissociation.

Table 17.3 shows that the association between somatoform dissociation and cumulative traumatization is generally stronger than the association between psychoform dissociation and cumulative traumatization. Reported traumatization was predicted by somatoform dissociation over and above the influence of gender, psychoform dissociation, and posttraumatic stress symptoms in psychiatric patients (Nijenhuis et al., 2004). This predictive superiority of somatoform dissociation may be due to the inclusion of nondissociative items in psychoform dissociation instruments such as the DES and DIS-Q (i.e., items that assess selective attention and lowering of consciousness; see Chapter 11).

Although somatoform dissociation is associated with cumulative traumatization, and sometimes quite strongly, it must be noted that traumatization does *not* explain all of the variance in somatoform dissociation. It seems likely that exposure to potentially traumatizing events is only one of the factors that account for somatoform dissociation. Other known explanatory factors include age at onset of exposure to these events and lack of support (Nijenhuis et al., 1998c).

Some authors have suggested that the personality characteristic of fantasy proneness may mediate the correlation between reported potentially traumatizing events and dissociative symptoms. However, taking absorption as a measure of fantasy proneness, the correlation between reported potentially traumatizing events and somatoform dissociation remained significant after partialling out absorption in nonclinical students and nonclinical adults (Näring & Nijenhuis, 2005).

Studies of somatization symptoms and somatoform disorders have also reported a link to reported traumatization. For example, undifferentiated somatoform disorder was one of the three DSM-IV axis I diagnoses that characterized Gulf War veterans who were referred for medical and psychiatric syndromes (Labbate, Cardeña, Dimitreva, Roy, & Engel, 1998). More specifically, reports of potentially traumatizing events were correlated with both PTSD and somatoform diagnoses, and veterans who handled dead bodies had a three-fold risk of receiving a somatoform diagnosis. In addition, several studies found associations among reported traumatization, psychoform dissociation, and somatization symptoms or somatoform disorders (e.g., Atlas, Wolfson, & Lipschitz, 1995; Darves-Bornoz, 1997; Van der Kolk et al., 1996).

17.16 SOMATOFORM DISSOCIATION AND ANIMAL DEFENSIVE REACTIONS

DID and related types of DDNOS manifest alternating dissociative parts of the personality. These parts are relatively discrete, discontinuous, and resistant to integration; they vary in the degree of complexity. These alternating parts are ANPs and EPs that have particular somatoform dissociative symptoms. Exploring the roots of dissociative psychobiological systems and symptoms, Nijenhuis, Vanderlinden, and Spinhoven (1998d) drew a parallel between (1) animal defensive and recuperative states that are evoked in the face of predatory imminence and injury, and (2) the somatoform dissociative responses of patients with dissociative disorders who report trauma. Their review of animal and human research data, and clinical observations, suggested that there are cross-species similarities of disturbances of normal eating patterns and normal behavioral patterns in the face of diffuse threat. Freezing and stilling (i.e., forms of motor inhibition) occur when serious threat materializes. Analgesia occurs when a predator is about to strike. And anesthesia with total submission occurs when the attack is proceeding and escape is impossible. Finally, acute pain occurs after the threat has subsided; actions that promote recuperation then occur. In the theory of structural dissociation of the personality (Nijenhuis et al., 2004; Van der Hart et al., 2006; Steele et al., 2008b), EPs are mediated—but not exclusively so—by animal defense-like systems; ANPs are mediated by action systems for daily functioning and survival of the species. ANPs exhibit behavioral and mental avoidance reactions to EPs and the traumatic memories that are associated with EPs.

Consistent with this model, several studies have suggested that threat to life may induce analgesia and numbness (Cardeña et al., 1998; Cardeña & Spiegel, 1993; Pitman, Van der Kolk, Orr, & Greenberg, 1990; Van der Kolk, Greenberg, Orr, & Pitman, 1989). Nijenhuis et al. (1998a) conducted the first empirical test of the hypothesized similarity between animal defensive reactions and certain somatoform dissociative symptoms of dissociative disorder patients who reported trauma. Twelve clusters of clinically observed somatoform dissociative phenomena were constructed. Each cluster discriminated between patients with dissociative disorders and patients with other psychiatric diagnoses. The clusters that were hypothesized to be most similar to animal defensive reactions—motor inhibitions, anesthesia/analgesia, and disturbed eating—ranked among the four most characteristic symptom-clusters of dissociative disorder patients. Anesthesia/analgesia, urogenital pain, and freezing independently contributed to predicted caseness of dissociative disorder. The three symptom clusters anesthesia/analgesia, urogenital pain, and motor inhibitions correctly classified 93% of cases from the original sample. The symptom clusters anesthesia/analgesia and urogenital pain correctly classified 96% of cases from an independent sample. After statistically controlling for the effect of general psychopathology, the anesthesia/analgesia symptom cluster still proved to be highly predictive of dissociative disorder. These results are largely consistent with the hypothesized similarity between somatoform dissociative phenomena and animal defensive reactions.

Anesthesia symptoms characterize EPs that are fixated in total submission. Anesthesia may also occur in ANPs that are motivated to avoid aversive affective feelings and body sensations. ANPs are phobic of traumatic memories and phobic of the associated EPs (Nijenhuis & Van der Hart, 1999; Nijenhuis et al., 2004; Van der Hart et al., 2006). These phobias tend to manifest in a number of negative dissociative symptoms: amnesia, depersonalization, and sensory and emotional anesthesia. Recent data from psychobiological experimental research with EPs and ANPs support this interpretation (Hermans, Nijenhuis, Van Honk, Huntjens, & Van der Hart, 2006; Reinders et al., 2003, 2006; see also Nijenhuis & Den Boer, this volume).

Consistent with a hypothesized link between somatoform dissociation and animal defense-like reactions, somatoform dissociation (1) was predicted best by bodily threat or bodily contact from a person, or (2) was most severe in patients that reported these types of traumatization. These findings were reported in a variety of different populations: general psychiatric patients (Nijenhuis et al., 2004; Waller et al., 2000); substance abuse patients (Baars et al., 2001); somatoform patients (Roelofs et al., 2002b); women who reported childhood sexual abuse and other forms of abuse (Nijenhuis et al., 2003); and spirit disorder patients (Nijenhuis & Van Duyl, 2001). These data suggest that bodily threat may evoke an enduring activation of animal defense-like psychobiological systems, especially when the threat is recurrent and occurs in a context of emotional neglect.

In Roelof et al.'s (2002a) study of patients with somatoform dissociative disorders, physical abuse fully mediated the relationship between hypnotic susceptibility and the number of somatoform dissociative symptoms. In this study, maternal parental dysfunction (but not paternal parental dysfunction) was associated with higher SDQ-20 scores. Emotional neglect, emotional abuse, and family pathology often constitute the context in which physical and sexual abuse occur (Nijenhuis et al., 1998c). We found that emotional neglect and abuse, sexual abuse, and sexual harassment independently contributed to the prediction of somatoform dissociation. Recognizing that retrospective studies restrict causal inference (Briere & Elliott, 1993; Tabachnick & Fidell, 1989), Nijenhuis et al. noted that only prospective studies can determine whether childhood events such as sexual and physical abuse actually cause somatoform dissociation.

To date, one longitudinal study of traumatization and somatoform dissociation has been performed (Diseth, 2006). At first admission, adolescents with anorectal anomalies or Hirschsprung disease, and hospitalized controls were assessed for treatment procedures, somatic function, mental health, and dissociative experiences as measured by the Adolescent-DES. At 10-year follow-up, the patients completed the DES and SDQ-20. Anal dilatation, a painful invasive medical treatment procedure performed on daily by the parents the first 4 years, was correlated with the frequency and severity of persisting psychoform and somatoform dissociation. The procedure was the only significant predictor of A-DES and SDQ-20 scores, and one of two significant predictors of DES scores. These findings strongly suggest a causal relationship between traumatizing events in early childhood involving the body and the parents as (forced) agents of anal dilatation, and somatoform and psychoform dissociation in early adolescence.

17.17 DISCUSSION

The items of the SDQ are based on Janet's (1893, 1907/1965) symptoms of hysteria. Modern empirical data

have shown that Janet's symptoms of hysteria are characteristic of 20th century dissociative disorders. Recent studies have confirmed that these symptoms involve both mental stigmata (i.e., the negative symptoms of anesthesia, analgesia, and motor inhibitions) and mental accidents (i.e., the positive symptoms of localized pain, and alternation of taste and smell preferences/aversions). Although I firmly believe that the so-called body-mind split is incorrect, I insist that the phenomenological distinction between psychoform and somatoform manifestations of dissociation is a clarifying one. It highlights a largely forgotten clinical observation—that dissociation affects the body. Moreover, modern research has affirmed that this is so.

There are no indications that somatoform dissociative symptoms are due to (1) general psychopathology or (2) suggestion. Although this is far from saying that dissociative disorder patients are immune to suggestion, or that factitious dissociative disorder cases (Draijer & Boon, 1999) do not exist, it seems reasonable to assert that suggestion does not explain somatoform dissociation.

Somatoform dissociation is a major manifestation of DSM-IV dissociative disorders, but it also characterizes many patients with DSM-IV somatoform disorders, and a subgroup of eating disordered patients. Like the dissociative disorders, somatization disorder (i.e., Briquet's syndrome) has its roots in hysteria. Briquet's pioneering research revealed that many patients with hysteria had both amnesia and a plethora of somatoform symptoms (Briquet, 1859). Contemporary research has shown that psychoform dissociation and somatization are related. For example, Saxe et al. (1994) found that two-thirds of dissociative disordered inpatients met the DSM-IV criteria for somatization disorder. Still, somatization may not be a distinct clinical entity, nor even the result of a single pathological process (Kellner, 1995). It seems likely that somatoform dissociative symptoms constitute a subgroup of somatoform symptoms.

The research to date on somatoform dissociation is more consistent with the nosology of ICD-10 (which includes dissociative disorders of movement and sensation) than the nosology of DSM-IV (which restricts dissociation to psychoform manifestations and regards somatoform manifestations of dissociation as "conversion symptoms"). The SDQ-5 in the Netherlands and the SDQ-20 in Turkey were at least as effective as the DES in screening for DSM-IV dissociative disorders. The consistent finding that psychoform and somatoform dissociation are strongly associated suggests that they are manifestations of a common process. Finally, as previously noted, somatoform dissociation is characteristic of DSM-IV conversion disorder. Patients with pseudoepileptic seizures exhibit somatoform dissociation, but not psychoform dissociation.

In conclusion, research indicates that (1) conversion symptoms should be relabeled as somatoform dissociation, and (2) the DSM-IV conversion disorders should be reclassified as somatoform dissociative disorders. The same relabeling and reclassification should probably apply to those cases of somatization disorder that are predominantly characterized by somatoform dissociation, but this is an issue that awaits further research. If research does support this thesis, it would promote a reinstitution of the 19th century category of hysteria under the general label of dissociative disorders. Such a nosological regrouping of the dissociative disorders would include the current DSM-IV dissociative disorders, DSM-IV conversion disorder (c.q., ICD-10 dissociative disorders of movement and sensation), and DSM-IV somatization disorder. Alternately, future studies of DSM-IV somatization disorder may reveal the presence of meaningful subgroups; for example, one subgroup might show severe somatoform dissociation, whereas another subgroup might show low or modest somatoform dissociation. It also seems doubtful that conversion disorder and hypochondriasis share a similar pathology. Further study of somatoform dissociation in the various DSM-IV somatoform disorders is urgently needed.

REFERENCES

American Psychiatric Association (1994). DSM-IV: Diagnostic and statistical manual of mental disorders, fourth edition. Washington, DC: American Psychiatric Association.

Atlas, J. A., Wolfson, M. A., & Lipschitz, D. S. (1995). Dissociation and somatization in adolescent inpatients. *Psychological Reports*, *76,* 1101–1102.

Baars, E., Van der Hart, O., & Nijenhuis, E. R. S. (2001). Trauma, dissociation, and the maintenance of substance abuse. Proceedings of the 18th International Fall Conference of the International Society for the Study of Dissociation. New Orleans, December 2–4.

Bernstein, E., & Putnam, F. W. (1986). Development, reliability, and validity of a dissociation scale. *Journal of Nervous Mental Disease*, *102*, 280–286.

Braude, S. E. (1995). *First person plural: Multiple personality and the philosophy of mind*. Lanham: Rowman and Littlefield.

Briere, J., & Elliott, D. M. (1993). Sexual abuse, family environment, and psychological symptoms: On the validity of statistical control. *Journal of Consulting and Clinical Psychology*, *61*, 284–288.

Briquet, P. (1859). *Traité clinique et thérapeutique de l'hystérie* (2 vols.) [Clinical and therapeutic treatise on hysteria]. Paris: J.-P. Baillière & Fils.

Brown, R. J., Cardeña, E., Nijenhuis, E. R. S., Şar. V., & Van der Hart, O. (2007). Should DSM-IV conversion disorder be re-classified as a dissociative disorder in DSM-V? *Psychosomatics, 48,* 369–378.

Cardeña, E. (1994). The domain of dissociation. In S. J. Lynn & J. W. Rhue (Eds.), *Dissociation: Clinical and theoretical perspectives* (pp. 15–31). New York: Guilford.

Cardeña, E., Holen, A., McFarlane, A., Solomon, Z., Wilkinson, C., & Spiegel, D. (1998). A multisite study of acute stress reaction to a disaster. In *Sourcebook for the DSM-IV, Vol. IV*. Washington, DC: American Psychiatric Association.

Cardeña, E., & Spiegel, D. (1993). Dissociative reactions to the San Francisco Bay area earthquake of 1989. *American Journal of Psychiatry*, *150*, 474–478.

Coons, P. M. (1994). Confirmation of childhood abuse in child and adolescent cases of multiple personality disorder and dissociative disorder not otherwise specified. *Journal of Nervous and Mental Disease*, *182,* 461–464.

Darves-Bornoz, J.-M. (1997). Rape-related psychotraumatic syndromes. *European Journal of Obstetrics & Gynecology*, *71,* 59–65.

Dell, P. F. (1997). Somatoform dissociation in DID, DDNOS, chronic pain, and eating disorders in a North American sample. Proceedings of the 14th International Conference of the International Society for the Study of Dissociation, November 8–11, p. 130.

Dell, P. F. (2002). Dissociative phenomenology of dissociative identity disorder. *Journal of Nervous and Mental Disease*, *190*, 10–15.

Diseth, T. H. (2006). Dissociation following traumatic medical treatment procedures in childhood: a longitudinal follow-up. *Developmental Psychopathology, 18,* 233–251.

Draijer, N., & Boon, S. (1993). Trauma, dissociation, and dissociative disorders. In S. Boon & N. Draijer (Eds.), *Multiple Personality Disorder in the Netherlands: A study on reliability and validity of the diagnosis* (pp. 177–193). Amsterdam/Lisse: Swets & Zeitlinger.

Draijer, N., & Boon, S. (1999). The imitation of dissociative identity disorder: Patients at risk; therapists at risk. *Journal of Psychiatry & Law*, *27*, 423–458.

El-Hage, W., Darves-Bornoz, J.-M., Allilaire, J.-F., & Gaillard, P. (2002). Posttraumatic somatoform dissociation in French psychiatric outpatients. *Journal of Trauma and Dissociation, 3*(3), 59–73.

Espirito Santo, H. M. A., & Pio-Abreu, J. L. (2007) Dissociative disorders and other psychopathological groups: exploring the differences through the Somatoform Dissociation Questionnaire (SDQ-20). *Revista Brasileira de Psiquiatria, 29(4),* 354–358.

Fleisher, W., Staley, D., Krawetz, P., Pillay, N., Arnett, J. L., & Maher, J. (2002). Comparative study of trauma-related phenomena in subjects with pseudoseizures and subjects with epilepsy. *American Journal of Psychiatry*, *159*, 660–663.

Friedl, M. C., & Draijer, N. (2000). Dissociative disorders in Dutch psychiatric inpatients. *American Journal of Psychiatry*, *157*, 1012–1013.

Gleaves, D. H. (1996). The sociocognitive model of dissociative identity disorder: A reexamination of the evidence. *Psychological Bulletin*, *120,* 42–59.

Halligan, P. W., Athwal, B. S., Oakley, D. A., & Frackowiak, R. S. (2000). Imaging hypnotic paralysis: implications for conversion hysteria [letter]. *Lancet*, *355,* 986–987.

Hermans, E. J., Nijenhuis, E. R. S., van Honk, J., Huntjens, R., & Van der Hart, O. (2006). State dependent attentional bias for facial threat in dissociative identity disorder. *Psychiatry Research, 141,* 233–236.

Horen, S. A., Leichner, P. P., & Lawson, J. S. (1995). Prevalence of dissociative symptoms and disorders in an adult psychiatric inpatient population in Canada. *Canadian Journal of Psychiatry*, *40*, 185–191.

Hornstein, N. L., & Putnam, F. W. (1992). Clinical phenomenology of child and adolescent disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, *31,* 1077–1085.

Janet, P. (1889/1973). *L'automatisme psychologique*. Paris: Félix Alcan. Reprint: Société Pierre Janet, Paris.

Janet, P. (1893). *L'état mental des hystériques: Les stigmates mentaux* [The mental state of hysterics: Mental stigmata]. Paris: Rueff & Cie.

Janet, P. (1901/1977). *The mental state of hystericals*. New York: Putnam & Sons. Reprint: University Publications of America, Washington DC, 1977.

Janet, P. (1907/1965). *Major symptoms of hysteria*. London: Macmillan. Reprint: Hafner, New York.

Janet, P. (1911/1983). *L'état mental des hystériques.* Paris: Félix Alcan. Second extended edition. Reprint: Lafitte Reprints, Marseille.

Janet, P. (1929/1984). *L'évolution psychologique de la personnalité*. Paris: Chahine. Reprint: Société Pierre Janet, Paris.

Johnson, J. G., Cohen, P., Kasen, S., & Brook, J. S. (2006). Dissociative disorders among adults in the community, impaired functioning, and axis I and II comorbidity. *Journal of Psychiatric Research., 40,* 131–140.

Kellner, R. (1995). Psychosomatic syndromes, somatization, and somatoform disorders. *Psychotherapy and Psychosomatics*, *61*, 4–24.

Kihlstrom, J. F. (1994). One hundred years of hysteria. In S. J. Lynn & J. W. Rhue (Eds.), *Dissociation: Clinical and theoretical perspectives* (pp. 365–395). New York: Guilford.

Kluft, R. P. (1995). The confirmation and disconfirmation of memories of abuse in DID patients: A naturalistic clinical study. *Dissociation*, *8,* 251–258.

Kuyk, J., Spinhoven, P., Van Emde Boas, M. D., & Van Dyck, R. (1999). Dissociation in temporal lobe epilepsy and pseudo-epileptic seizure patients. *The Journal of Nervous and Mental Disease*, *187*, 713–720.

Labatte, L. A., Cardeña, E., Dimitreva, J., Roy, M. J., & Engel, C. (1998). Psychiatric syndromes in Persian Gulf War veterans: An association of handling dead bodies with somatoform disorders. *Psychotherapy and Psychosomatics*, *67,* 275–279.

Laria, A. J., & Lewis-Fernández, R. (2001). The Professional fragmentation of experience in the study of dissociation, somatization, and culture. *Journal of Trauma ~~and~~ Dissociation, 2*(3), 17–47.

Lewis, D. O., Yeager, C. A., Swica, Y., Pincus, J. H., & Lewis, M. (1997). Objective documentation of child abuse and dissociation in 12 murderers with dissociative identity disorder. *American Journal of Psychiatry*, *154*, 1703–1710.

Maaranen, P., Tanskanen, A., Haatainen, K., Honkalampi, K., Koivumaa-Honkanen, H., Hintikka, J. et al. (2005). The relationship between psychological and somatoform dissociation in the general population. *Journal of Nervous and Mental Disease, 193,* 690–692.

Maaranen, P., Tanskanen, A., Haatainen, K., Koivumaa-Honkanen, H., Hintikka, J., & Viinamaki, H. (2004). Somatoform dissociation and adverse childhood experiences in the general population. *Journal of Nervous and Mental Disease, 192,* 337–342.

Maldonado, J. R., & Spiegel, D. (1998). Trauma, dissociation and hypnotizability. In J. D. Bremner & C. A. Marmar (Eds.), *Trauma, memory and dissociation* (pp. 57–106). Washington, DC: American Psychiatric Press.

Merskey, H. (1992). The manufacture of personalities: The production of multiple personality disorder. *British Journal of Psychiatry, 160*, 327–340.

Merskey, H. (1997). Tests of "dissociation" and mood disorder (letter). *British Journal of Psychiatry*, *171*, 487.

Moene, F. C., Spinhoven, P., Hoogduin, C. A. L., Sandijck, P., & Roelofs, K. (2001). Hypnotizability, dissociation, and trauma in patients with a conversion disorder: An exploratory study. *Clinical Psychology and Psychoptherapy*, *8*, 400–410.

Myers, C. S. (1940). *Shell shock in France 1914-18*. Cambridge: Cambridge Unversity Press.

Nähring, G., & Nijenhuis, E. R. S. (2005). Relationships between self-reported potentially traumatizing events, psychoform and somatoform dissociation, and absorption, in two nonclinical populations. *Australian and New Zealand Journal of Psychiatry, 39*, 982–988.

Nemiah, J. C. (1991). Dissociation, conversion, and somatization. In A. Tasman & S. M. Goldfinger (Eds.), *American Psychiatric Press Annual Review of Psychiatry* (Vol. 10) pp. 248–260. Washington, DC: American Psychiatric Press.

Nijenhuis, E. R. S. (2004). *Somatoform dissociation: Phenomena, measurement, and theoretical issues*. New York: W. W. Norton.

Nijenhuis, E. R. S., & Den Boer, J. A. (~~2008~~) Psychobiology of traumatization and structural dissociation of the personality. In P. F. Dell & J. A. O'Neil (Eds.), Dissociation and the dissociative disorders: DSM-V and beyond (pp. ~~**–**~~). New York: Routledge.

Nijenhuis, E. R. S., Spinhoven, P., Van Dyck, R., Van der Hart, O., De Graaf, A. M. J., & Knoppert, E. A. M. (1997a). Dissociative pathology discriminates between bipolar mood disorder and dissociative disorder. *British Journal of Psychiatry*, *170,* 581.

Nijenhuis, E. R. S., Spinhoven P., Van Dyck R., Van der Hart, O., & Vanderlinden, J. (1996). The development and the psychometric characteristics of the Somatoform Dissociation Questionnaire (SDQ-20). *Journal of Nervous and Mental Disease*, *184,* 688–694.

Nijenhuis, E. R. S., Spinhoven, P., Van Dyck, R., Van der Hart, O., & Vanderlinden J. (1997b). The development of the Somatoform Dissociation Questionnaire (SDQ-5) as a screening instrument for dissociative disorders. *Acta Psychiatrica Scandinavica*, *96*, 311–318.

Nijenhuis, E. R. S., Spinhoven, P., Vanderlinden, J., Van Dyck, R., & Van der Hart, O. (1998a). Somatoform dissociative symptoms as related to animal defensive reactions to predatory threat and injury. *Journal of Abnormal Psychology*, *107*, 63–73.

Nijenhuis, E. R. S., Spinhoven, P., Van Dyck, R., Van der Hart, O., & Vanderlinden J. (1998b). Psychometric characteristics of the Somatoform Dissociation Questionnaire: A replication study. *Psychotherapy and Psychosomatics*, *67*, 17–23.

Nijenhuis, E. R. S., Spinhoven, P., Van Dyck, R., Van der Hart, O., & Vanderlinden J. (1998c). Degree of somatoform and psychological dissociation in dissociative disorders is correlated with reported trauma. *Journal of Traumatic Stress*, *11*, 711–730.

Nijenhuis, E. R. S., & Van der Hart, O. (1999). Somatoform dissociative phenomena: A Janetian Perspective. In J. M. Goodwin & R. Attias (Eds.), *Splintered reflections: Images of the body in trauma* (pp. 89–127). New York: Basic Books.

Nijenhuis, E. R. S., Van der Hart, O., & Kruger, K. (2002). The psychometric characteristics of the Traumatic Experiences Questionnaire (TEC): First findings among psychiatric outpatients. *Clinical Psychology and Psychotherapy*, *9*(3), 200–210.

Nijenhuis, E. R. S., Van der Hart, O., Kruger, K., & Steele, K. (2004). Somatoform dissociation, reported abuse, and animal defence-like reactions. *Australian and New Zealand Journal of Psychiatry, 38*, 678–686.

Nijenhuis, E. R. S., Van der Hart, O., & Steele, K. (2004). Strukturelle Dissoziation der Persönlichkeitsstruktur, traumatischer Ursprung, phobische Residuen [Structural dissociation of the personality: Traumatic origins, phobic maintenance]. In L. Reddemann, A. Hofmann, & U. Gast, *Psychotherapie der dissoziativen Störungen* (pp. 47–69). Stuttgart: Thieme.

Nijenhuis, E. R. S., Vanderlinden, J., & Spinhoven, P. (1998d). Animal defensive reactions as a model for trauma-induced dissociative reactions. *Journal of Traumatic Stress*, *11*, 243–260.

Nijenhuis, E. R. S., & Van Duyl, M. (2001). Dissociative symptoms and reported trauma among Ugandan patients with possessive trance disorder. Proceedings of the 18th International Fall Conference of the International Society for the Study of Dissociation. New Orleans, December 2–4.

AQ1

Nijenhuis, E. R. S., Van Dyck, R., Spinhoven, P., Van der Hart, O., Chatrou, M., Vanderlinden, J., & Moene, F. (1999). Somatoform dissociation discriminates among diagnostic categories over and above general psychopathology. *Australian and New Zealand Journal of Psychiatry*, *33,* 512–520.

Nijenhuis, E. R. S., Van Dyck, R., Ter Kuile, M. M., Mourits, M. J. E., Spinhoven, P., & Van der Hart, O. (2003). Evidence for associations among somatoform dissociation, psychological dissociation and reported trauma in patients with chronic pelvic pain. *Journal of Psychosomatic Obstetrics and Gynecology, 24,* 87–98.

Nijenhuis, E. R. S., Van Dyck, R., Van der Hart, O., & Spinhoven, P. (1998e). Somatoform dissociation is unlikely to be a result of indoctrination by therapists (letter). *British Journal of Psychiatry*, *172,* 452.

Nijenhuis, E. R. S., Van Engen, A., Kusters, I., & Van der Hart, O. (2001). Peritraumatic somatoform and psychological dissociation in relation to recall of childhood sexual abuse. *Journal of Trauma and Dissociation, 2(3),* 49–68.

Othmer, E., & DeSouza, C. (1985). A screening test for somatization disorder (hysteria). *American Journal of Psychiatry*, *142*, 1146–1149.

Pitman, R. K., Van der Kolk, B. A., Orr, S. P., & Greenberg, M. S. (1990). Naloxone reversible stress induced analgesia in post traumatic stress disorder. *Archives of General Psychiatry*, *47,* 541–547.

Pribor, E. F., Yutzy, S. H., Dean, J. T., & Wetzel, R. D. (1993). Briquet's syndrome, dissociation and abuse. *American Journal of Psychiatry*, *150*, 1507–1511.

Putnam, F. W., & Carlson, E. B. (1998). Hypnosis, dissociation, and trauma: Myths, metaphors, and mechanisms. In J. D. Bremner & C. A. Marmar (Eds.), *Trauma, memory, and dissociation* (pp. 27–56). Washington, DC: American Psychiatric Press.

Putnam, F. W., Helmers, K., Horowitz, L. A., & Trickett, P. K. (1995). Hypnotizability and dissociativity in sexually abused girls. *Child Abuse and Neglect*, *19*, 645–655.

Reinders, A. A. T. S., Nijenhuis, E. R. S., Paans, A. M. J., Korf, J., Willemsen, A. T. M., & Den Boer, J. A. (2003). One Brain, Two Selves. *NeuroImage*, *20*, 2119–2125.

Reinders, A. A. T. S., Nijenhuis, E. R. S., Quak, J., Korf, J., Paans, A. M. J., Haaksma, J., Willemsen, A. T. M., & Den Boer, J. (2006). Psychobiological characteristics of dissociative identity disorder: A symptom provocation study. *Biological Psychiatry, 60,* 730–740.

Rey, J. M., Morris-Yates, A., & Stanislaw, H. Measuring the accuracy of diagnostic tests using Receiver Operating Characteristics (ROC) analysis. *International Journal of Methods in Psychiatric Research*, *2*, 39–50.

Roelofs, K., Hoogduin, K. A., Keijsers, G. P., Naring, G. W., Moene, F. C., & Sandijck, P. (2002a). Hypnotic susceptibility in patients with conversion disorder. *Journal of Abnormal Psychology, 111*, 390–395.

Roelofs, K., Keijsers, G. P., Hoogduin, K. A., Naring, G. W., & Moene, F. C. (2002b). Childhood abuse in patients with conversion disorder. *American Journal of Psychiatry, 159,* 1908–1913.

Ross, C. A., Heber, S., Norton, G. R., & Anderson, G. (1989). Somatic symptoms in multiple personality disorder. *Psychosomatics*, *30*, 154–160.

Şar, V., Akyüz, G., & Doğan, O. (2007). Prevalence of dissociative disorders among women in the general population. *Psychiatry Research, 149,* 169–176.

Şar, V., Akyüz, G., Kundakçı, T., Kızıltan, E., & Doğan, O. (2004). Childhood trauma, dissociation, and psychiatric comorbidity in patients with conversion disorder. *American Journal of Psychiatry, 161,* 2271–2276.

Şar, V., Kundakçı, T., Kızıltan, E., Bahadır, B., & Aydıner, O. (1998). Reliability and validity of the Turkish version of the Somatoform Dissociation Questionnaire (SDQ-20). *Proceeding of the International Society of Dissociation 15th International Fall Conference*. Seattle, November 14–17.

Şar, V., Kundakçı, T., Kızıltan, E., Yargıç, I. L., Tutkun, H., Bakım, B., Aydıner, O., Özpulat, T., Keser, V., & Özdemir, Ö. (1999). Frequency of dissociative disorders among psychiatric outpatients with borderline personality disorder. *Proceedings of the 6th European Conference on Traumatic Stress: Psychotraumatology, clinical practice, and human rights.* Istanbul, Turkey, June 5–8, p. 115.

Şar, V., Kundakçı, T., Kızıltan, E., Bakım, B., & Bozkurt, O. (2000). Differentiating dissociative disorders from other diagnostic groups through somatoform dissociation in Turkey. *Journal of Trauma and Dissociation*, *1*(4), 67–80.

Şar, V., & Öztürk, E. (2009) Psychotic presentations of Dissociative Identity Disorder. In P. F. Dell & J. A. O'Neil (Eds.), *Dissociation and the dissociative disorders: DSM-V and beyond* (pp. **–**). New York: Routledge. AQ1

Saxe, G. N., Chinman, G., Berkowitz, M. D., Hall, K., Lieberg, G., Schwartz J., & Van der Kolk, B. A. (1994). Somatization in patients with dissociative disorders. *American Journal of Psychiatry*, *151*, 1329–1334.

Saxe, G. N., Van der Kolk, B. A., Berkowitz, R., Chinman, G., Hall, K., & Lieberg, G. (1993). Dissociative disorders in psychiatric inpatients. *American Journal of Psychiatry*, *150*, 1037–1042.

Somer, E., & Dell, P. F. (2005). Development of the Hebrew-Multidimensional Inventory of Dissociation (H-MID): a valid and reliable measure of pathological dissociation. *Journal of Trauma and Dissociation, 6,* 31–53.

Spiegel, D., Hunt, T., & Dondershine, H. E. (1988). Dissociation and hypnotizability in posttraumatic stress disorder. *American Journal of Psychiatry*, *145,* 301–305.

Spitzer, C., Spelsberg, B., Grabe, H.-J., Mundt, B., & Freiberger, H. (1999). Dissociative experiences and psychopathology in conversion disorders. *Journal of Psychosomatic Research*, *46*, 291–294.

Steele, K., Dorahy, M. J., van der Hart, O., & Nijenhuis, E. R. S. (2009a). Dissociation versus alterations in consciousness. In P. F. Dell & J. A. O'Neil (Eds.), *Dissociation and the dissociative disorders: DSM-V and beyond* (pp. **–**). New York: Routledge. AQ1

Steele, K., Dorahy, M. J., van der Hart, O., & Nijenhuis, E. R. S. (2009b). The theory of trauma-related structural dissociation of the personality. In P. F. Dell & J. A. O'Neil (Eds.), *Dissociation and the dissociative disorders: DSM-V and beyond* (pp. **–**). New York: Routledge.

Steinberg, M. (1994). *Interviewer's guide to the structured clinical interview for DSM-IV dissociative disorders (revised ed.)*. Washington, DC: American Psychiatric Press.

Stutman, R. K., & Bliss, E. L. (1985). Posttraumatic stress disorder, hypnotizability, and imagery. *American Journal of Psychiatry*, *142,* 741–743.

Tabachnick, B. G., & Fidell, L. S. (1989). *Using multivariate statistics,* Second edition. Northridge: Harper Collins Publishers.

Van der Hart, O., & Friedman, B. (1989). A reader's guide to Pierre Janet on dissociation: A neglected intellectual heritage. *Dissociation*, *2*, 3–16.

Van der Hart, O., Nijenhuis, E. R. S., & Steele, K. (2006*). The haunted self: Structural dissociation and the treatment of chronic traumatization*. New York/London: W. W. Norton.

Van der Hart, O., Nijenhuis, E. R. S., Steele, K., & Brown, D. (2004). Trauma-related dissociation: Conceptual clarity lost and found. *Australian and New Zealand Journal of Psychiatry, 38*, 906–914.

Van der Hart, O., & Op den Velde, W. (1995). Traumatische herinneringen [Traumatic memories]. In O. Van der Hart (Ed.), *Trauma, dissociatie en hypnose* [Trauma, Dissociation and Hypnosis], 3rd edition (pp. 79–101). Lisse, the Netherlands: Swets & Zeitlinger.

Van der Hart, O., Van Dijke, A., Van Son, M. J. M., & Steele, K. (2000). Somatoform dissociation in traumatized World War I combat soldiers: A neglected clinical heritage. *Journal of Trauma and Dissociation*, *1*(4), 33–66.

Van der Hart, O., Witztum, E., & Friedman, B. (1993). From hysterical psychosis to reactive dissociative psychosis. *Journal of Traumatic Stress*, *6,* 43–64.

Van der Kolk, B. A., & Fisler, R. (1995). Dissociation and the fragmentary nature of traumatic memories: Overview and exploratory study. *Journal of Traumatic Stress*, *8*, 505–525.

Van der Kolk, B. A., Greenberg, M. S., Orr, S. P., & Pitman, R. K. (1989). Endogenous opioids, stress induced analgesia, and posttraumatic stress disorder. *Psychopharmacalogy Bulletin*, *25*, 417–422.

Van der Kolk, B. A., Pelcovitz, D., Roth, S., Mandel, F. C., McFarlane, A. C., & Herman, J. L. (1996). Dissociation, somatization, and affect dysregulation: The complexity of adaptation to trauma. *American Journal of Psychiatry*, *153* (Festschrift Supplement)*,* 83–93.

Vanderlinden, J. (1993). *Dissociative experiences, trauma, and hypnosis: Research findings and clinical applications in eating disorders*. Delft: Eburon.

Van Ommeren, M., de Jong, J. T., Sharma, B., Komproe, I., Thapa, S. B., & Cardena, E. (2001). Psychiatric disorders among tortured Bhutanese refugees in Nepal. *Archives of General Psychiatry, 58,* 475–482.

Yücel, B., Özyalçın, S., Sertel, H. O., Çamlıca, H., Ketenci, A., & Talu, G. K. (2002). Childhood traumatic events and dissociative experiences in patients with chronic headache and low back pain. *Clinical Journal of Pain, 18,* 394–401.

Waller, G., Hamilton, K., Elliott, P., Lewendon, J., Stopa, L. Waters, A., Kennedy, F., Chalkley, J., F., Lee, G., Pearson, D., Kennerley, H., Hargreaves, I., & Bashford, V. (2000). Somatoform dissociation, psychological dissociation and specific forms of trauma. *Journal of Trauma and Dissociation*, *1*(4), 81–98.

Waller, G., Babbs, M., Wright, F., Potterton, C., Meyer, C., & Leung, N. (2003). Somatoform dissociation in eating-disordered patients. *Behavior Research & Therapy, 41*, 619–627.

World Health Organization (1992). The ICD-10 classification of mental and behavioral disorders. Clinical description and diagnostic guidelines. Geneva: Author.

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