Dissociative Disorders in DSM-5

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Abstract

The rationale, research literature, and proposed changes to the dissociative disorders and conversion disorder in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) are presented. Dissociative identity disorder will include reference to possession as well as identity fragmentation, to make the disorder more applicable to culturally diverse situations. Dissociative amnesia will include dissociative fugue as a subtype, since fugue is a rare disorder that always involves amnesia but does not always include confused wandering or loss of personality identity. Depersonalization disorder will include derealization as well, since the two often co-occur. A dissociative subtype of posttraumatic stress disorder (PTSD), defined by the presence of depersonalization or derealization in addition to other PTSD symptoms, is being recommended, based upon new epidemiological and neuroimaging evidence linking it to an early life history of adversity and a combination of frontal activation and limbic inhibition. Conversion disorder (functional neurological symptom disorder) will likely remain with the somatic symptom disorders, despite considerable dissociative comorbidity.

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INTRODUCTION

The dissociative disorders are characterized by a disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior. Dissociative symptoms can disrupt every area of psychological functioning and are usually divided into two types: (*a*) unbidden intrusions into awareness and behavior, with accompanying deficits in continuity of subjective experience, labeled "positive" dissociative symptoms (e.g., identity fragmentation, depersonalization, derealization); and (*b*) inability to access information or to control mental functions, called "negative" dissociative symptoms (e.g., amnesia, aphonia, paralysis). In this review, we discuss three dissociative disorders—dissociative identity disorder (DID), dissociative amnesia, and depersonalization/derealization disorder—and two closely related disorders: posttraumatic stress disorder (PTSD) and conversion disorder (functional neurological symptom disorder). We emphasize changes to these disorders proposed for the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) and the rationales for these changes (Brand et al. 2012, Brown & Lewis-Fernández 2011, Spiegel et al. 2011a).

Table 1 DSM-IV-TR diagnostic criteria for dissociative identity disorder

A	The presence of two or more distinct identities or personality states (each with its own relatively enduring pattern of perceiving, relating to, and thinking about the environment and self).
B	At least two of these identities or personality states recurrently take control of the person's behavior.
C	Inability to recall important personal information that is too extensive to be explained by ordinary forgetfulness.
D	The disturbance is not due to the direct physiological effects of a substance (e.g., blackouts or chaotic behavior during alcohol intoxication) or a general medical condition (e.g., complex partial seizures). Note: In children, the symptoms are not attributable to imaginary playmates or other fantasy play.

PTSD and conversion disorder are included in this review because of their close nosological relationship with the dissociative disorders. The dissociative disorders are placed in DSM-5 right after the trauma- and stress-related disorders to indicate the close relationship between them. Both acute stress disorder and PTSD contain dissociative symptoms, such as amnesia, flashbacks, and emotional numbing. A dissociative subtype has been proposed for PTSD, and our review addresses the rationale for this proposal. In DSM-5 conversion disorder is considered a somatic symptom disorder, the disorder grouping that immediately follows the dissociative disorders. These disorders have high comorbidity with dissociative disorders and are characterized by pseudoepilepsy and other pseudoneurological symptoms that are dissociative in nature and that involve interference with sensory and motor function. In fact, the trauma- and stress-related disorders and the somatic symptom disorders both involve failures of integration of experience, traumatic or somatic, into consciousness.

DISSOCIATIVE IDENTITY DISORDER

Symptomatology

Dissociative identity disorder (**Table 1**) is the flagship dissociative disorder, having been described in the nineteenth century by Morton Prince, the founder of the *Journal of Abnormal Psychology* (Prince 1906), and Pierre Janet (Taylor 1984; Janet 1889, 1907). Janet referred to *désaggregation mentale*, a failure of integration of components of mental experience that ordinarily function together, including pronounced alterations in identity and memory. The disorder is typically associated with a childhood history of severe physical or sexual abuse (Dalenberg et al. 2012; Spiegel 1984, 1986, 1997) and presents with inconsistencies in identity, memory, and consciousness. The disorder was popularized in the United States through books such as *The Three Faces of Eve* (Thigpen & Cleckley 1957) and *Sybil* (Schreiber 1973), but this also led to the criticism that psychological fragmentation was being induced in highly suggestible patients by unwitting or inept therapists (Rieber 2006). However, the persistence of solidly grounded clinical description and case series indicates that the disorder is more than an iatrogenic response to maladroit therapeutic suggestion (Spiegel 2006, Spiegel et al. 2011b). The fact that individuals with the disorder typically go five to twelve years before receiving the diagnosis (Putnam et al. 1986, Rivera 1991, Ross et al. 1989) suggests that they are relatively resistant to implicit or explicit suggestions that they do not have the disorder or have a different disorder, such as schizophrenia (Kluft 1987).

The diagnostic criteria for DID have undergone little substantive change since they were set forth in DSM-III, with the exception of the amnesia criterion that was removed from the criteria

in the DSM-III-R but was reinstated in DSM-IV. The fundamental question addressed by the DSM-5 work group involved broadening the cross-cultural reach of the disorder by including reference to pathological possession (Spiegel et al. 2011a). Other changes to the criteria include the following:

- Incorporating in criterion A detailed clinical descriptors of DID to facilitate case detection by clinicians, specifically descriptors that reflect the most highly intercorrelated dissociative symptoms that routinely characterize DID (Spiegel et al. 2011a).
- Clarifying that identity alteration does not have to be directly witnessed by an observer but instead could be reported by the patient.
- Further specifying the amnesia criterion to include inability to recall everyday as well as traumatic information.
- Adding criteria stating that symptoms must be associated with clinically significant distress and functional impairment and cannot be part of a broadly accepted cultural or religious practice.

Below we review recent findings regarding the prevalence, diagnostic features, and treatment of DID, including a discussion of the major proposed change in the definition involving possession-like symptoms.

Addition of Pathological Possession to DID Criteria

Proposed changes. The following revisions are under consideration:

1. Addition of the words "or an experience of possession" to Criterion A.
2. Addition of a new Criterion C that distinguishes pathological from nonpathological forms of apparent DID and also helps to distinguish pathological from nonpathological forms of possession.
3. Addition of a new Criterion D to distinguish pathological forms of apparent DID from normative religious or spiritual practices. The new Criterion D also helps to distinguish pathological from nonpathological forms of possession.

Language on pathological possession has been proposed for the DID diagnostic criteria in order to make these criteria more applicable to diverse cultural groups by identifying a common presentation of DID in Africa, Asia, and other non-Western cultures, as well as in subgroups in Western cultures (e.g., immigrant populations, some conservative religious groups).[1] A new DID specifier was also proposed for the same reason, denoting presentations of DID that are characterized by prominent pseudoneurological symptoms. The specifier is not discussed further in this review.

Rationale for the inclusion of pathological possession. There are two complementary components to the relationship between pathological possession and DID: (*a*) whether the dissociative symptoms of pathological possession are essentially identical to those of DID and, conversely, (*b*) whether the dissociative symptoms of cases of DID across diverse cultures are characterized by pathological possession or possession-like phenomena.

[1]For simplicity, in this review "Western culture" refers to the dominant cultural orientation in North America, Europe, and Westernized, industrialized areas in other parts of the world. "Non-Western" refers to cultures different from those dominant in the Western industrialized world as well as to immigrant groups with non-Western cultural orientation within the industrialized world. Some Western subcultures (e.g., subgroups of evangelical Christian groups) may have belief systems about possession similar to those of non-Western cultural groups and may engage in nonpathological possession rituals as part of their regular worship (Putnam 1991, Spiegel et al. 2011a).

Dissociative symptoms of pathological possession are identical to those of DID. Specifically, cases of pathological possession manifest (*a*) distinct changes in identity and (*b*) amnesia. As noted by Spiegel et al. (2011a):

> It is very important to note that (**pathological possession**) . . . has marked phenomenological similarities to DID. It is **a disorder of identity alteration** that occurs during an altered state of consciousness. Of course, unlike DID, the alternate identity or identities in (pathological possession) are attributed to possession (by an external spirit, power, deity, or other person) rather than to internal personality states. Associated symptoms of (pathological possession) include stereotyped or culturally determined behaviors or movements that are **experienced as being controlled by the possessing agent** and/or **full or partial amnesia for the event . . . These alterations are involuntary, distressing, uncontrollable**, often chronic . . . (pp. 842–843; bold added for emphasis)
>
> Both DID and (pathological possession) manifest **incompatible identities that are separated by an amnestic barrier; these identities** occur during an altered state of consciousness and **display distinct cognitions, affects, and behaviors**. (pp. 844–845)

The above bolded symptoms of pathological possession are very similar to those of DID, with the exception that, in keeping with the patient's cultural background, the identity alteration is attributed to possession by an external spirit, power, deity, or other person.

Cases of pathological possession with the above dissociative symptoms have been reported in many countries (Cardeña et al. 2009): China (Gaw et al. 1998, Ross 2011), India (Adityanjee et al. 1989, Carstairs & Kapur 1976, Castillo 1994, Das & Saxena 1991, Venkataramaiah et al. 1981), Turkey (Şar et al. 1996, 2007), Iran, Republic of Singapore, Puerto Rico (Martinez-Taboas 1991, 2005), and Uganda (van Duijl et al. 2010). Some cases of DID in the United States and Canada are also explicitly attributed by the patient to possession (Bowman et al. 1993, Bull et al. 1998, Ross 2011, Ross & Ness 2010).

Similar to Western patients with DID, patients with pathological possession in Uganda ($N = 117$) report a significantly higher exposure to traumatic events (as assessed on the Harvard Trauma Questionnaire and the Traumatic Experiences Checklist) in comparison with 76 randomly selected mentally healthy inhabitants of the same villages (van Duijl et al. 2010). Scores on both of these trauma scales were strongly correlated with symptoms of pathological possession ($r = 0.51$–0.64) and other dissociative symptoms ($r = 0.64$–0.69). This is consistent with the well-established link between traumatic exposure and DID as well as other types of dissociation. Individuals with pathological possession in Uganda also had significantly higher dissociation scores than did normal controls. Symptoms of pathological possession correlated highly ($r = 0.68$–0.76) with scores on the Dissociative Experiences Scale and the Somatoform Dissociation Questionnaire (van Duijl et al. 2010).

In short, individuals with pathological possession around the world exhibit dissociative symptoms that are essentially identical to those of DID and therefore meet diagnostic criteria: involuntary alterations of identity (DID criterion A) and amnesia for everyday and/or traumatic events (DID criterion B).

Many cases of DID are characterized by pathological possession or possession-like phenomena. Some cases of DID in both Western and non-Western settings (e.g., United States, Canada, Puerto Rico, China, and Turkey) are explicitly attributed by the patient to possession (Bowman 1993b, Bull et al. 1998, Martinez-Taboas 1991, Ross 2011, Ross & Ness 2010, Şar et al. 2010). For example, of 35 consecutive inpatients admitted to a Turkish hospital with DSM-IV DID (Şar et al. 1996), 45.7% attributed their symptoms to possession by a *jinn* or demon, 28.6%

to possession by a dead person, 22.9% to possession by a living person, and 22.9% to possession by another power or source (several participants reported various types of possession).

In Western settings, 58.7% of 303 patients with DID reported that they felt like they were possessed (Ross 2011). In some cases, the phenomenology of the DID was influenced by their participation in religious groups that emphasized normative possession (e.g., Pentecostals, charismatics).

These data show that a substantial proportion of patients with DID conform to the possession-type phenomenology of the disorder. The addition of pathological possession to the definition of DID indicates that, around the world, DID presents in two main forms: as nonpossession-form DID or as possession-form DID. These are not mutually exclusive: individuals in one cultural setting may experience either form, and a single individual may experience both forms. Typically, in nonpossession-form DID the alternate identities are experienced as internal aspects of the person, as other personalities or identity states. In possession-form DID, by contrast, the alternate identities are typically experienced as external possessing agents, usually of supernatural or spiritual origin (e.g., demons, spirits). The main contrast between these two forms of DID appears to be shaped by the patient's sociocultural milieu. That is, possession-form DID arises in contexts where possessing agents are considered to be "real" (e.g., some fundamentalist religions in the United States or in traditional South Asian cultures), as opposed to nonpossession-form DID, which draws its alternate identities from individualistically focused experiences, such as stages of life (e.g., childhood) or biographical roles in the patient's life (e.g., protector, perpetrator).

This does not imply assertion of the objective reality of being possessed by outside agencies any more than it endorses the idea that individuals with nonpossession-form DID have a number of "separate people" within them. Individuals with both possession-form DID and individuals with nonpossession-form DID experience themselves as having alternate identities or possessing entities. This phenomenal experience is a bodily, subjective reality to those affected (Loewenstein & Putnam 2004, Putnam 1997, Spiegel et al. 2011a). Clinical interactions with individuals with DID clearly bring a sense of this experience into the interview. This occurs despite the fact that many individuals with DID struggle with disbelief of their own condition. In contrast, individuals with "imitative" (i.e., factitious) DID generally have no ambivalence about the experience of their purported multiplicity (Draijer & Boon 1999).

The recommendation of the inclusion of pathological possession in criterion A—as well as greater detail on the descriptors of DID and clarification that identity alteration need not be witnessed by an observer—was made because the absence of these elements was judged to contribute to the misdiagnosis of DID. This misdiagnosis has bred an overuse of the diagnosis "dissociative disorder not otherwise specified" (DDNOS). Studies have shown that 40% of dissociative disorder diagnoses are for DDNOS (Dell 2009, Spiegel et al. 2011a), an unacceptably high rate of NOS diagnosis in any DSM diagnostic category (Kupfer et al. 2002). In short, adding language on possession is a key part of a concerted effort by the work group to reduce the misdiagnosis of DID (and the overdiagnosis of DDNOS). This in turn is expected to lead to improved case detection, better treatment outcome, and more culturally relevant research studies of disorder prevalence and treatment outcome (Spiegel et al. 2011a).

Prevalence of pathological possession. With the exception of Turkey and India, there are no data on the community prevalence of pathological possession in most countries. An epidemiological study of a representative sample from a town in central Turkey using the Dissociative Diagnostic Interview Schedule (Ross et al. 1989) found much higher rates of DSM-IV DID (1.1%) and DDNOS-Example 1 (4.1%) than dissociative trance disorder (0.6%) (Şar et al. 2007). Dissociative trance disorder is a diagnosis included in the DSM-IV appendix that includes both

pathological possession and pathological trance without possession (Am. Psychiatr. Assoc. 2000). On the other hand, the period prevalence of pathological possession in rural Indian communities has been estimated at 0.97% (over six months) to 3.5% (over one year), depending on the region, the sample, and the method of assessment (Carstairs & Kapur 1976, Venkataramaiah et al. 1981). The lower number may be a better estimate of endemic prevalence because the higher number (3.5%) was obtained in the midst of an epidemic of pathological possession. The reported prevalence of voluntary (normal) possession trance contributed an additional 0.2% to 1.8% over six to twelve months in the same studies.

Pathological possession is also common among outpatients with dissociative disorder in India. Saxena and colleagues reviewed data on more than 4,000 Indian outpatients; 104 were diagnosed with a dissociative disorder (Das & Saxena 1991). Only 5% to 10% of these received a specified dissociative disorder diagnosis according to DSM-III or DSM-III-R (there were no diagnoses of DID). By contrast, 85.5% of dissociative disorder cases were covered by the specified dissociative diagnoses in the tenth revision of the *International Classification of Diseases* (ICD-10; World Health Org.). Seventy-four percent of patients had dissociative convulsions, 9.5% had trance and possession disorders, and 2% had dissociative movement disorder (Das & Saxena 1991).

Implications for treatment. Inclusion of pathological possession in DID criteria is expected to improve treatment outcome of individuals with possession-form DID who would have received a diagnosis of DDNOS in DSM-IV-TR. The treatment of DID has been well conceptualized and studied, as opposed to that of the more heterogeneous DDNOS group (Brand et al. 2009). Possession-form language in DID criteria may facilitate effective referral and treatment of this type of DID. In addition, linking possession-form and nonpossession-form DID should allow clinicians who have limited experience with possession-form DID to deepen their understanding of DID by acquiring new perspectives on how it is treated in other cultures. This should contribute to the development of novel strategies for treating all DID cases.

Treatment of possession-form DID by indigenous healers frequently resembles the psychotherapy of nonpossession-form DID. In both Western and indigenous therapy, the therapist addresses alternate aspects of the person's identity in order to "give voice" to their point of view and clarify the circumstances of the distress. The evolution of these components of identity over time and their eventual change to a more adaptive configuration or unification constitute one major basis of improvement (Krippner 1987, Martínez-Taboas 2005, Spiegel et al. 2011a). Martínez-Taboas (2005), for example, describes excellent results with a combination of culturally adapted cognitive, behavioral, and experiential psychotherapies.

However, some ritual therapies for possession-form DID are based instead on an attempted eviction of the alternate identity. There have been repeated incidents of fundamentalist clinicians "treating" possession-form DID as a demonic possession that requires an exorcism (Bowman 1993, Fraser 1993). Case series of such incidents report that many of these individuals with DID considered exorcism to be congruent with their religious and cultural belief systems. Despite this congruence, however, their exorcisms produced markedly poor outcomes in more than two-thirds of these individuals. These outcomes included significant worsening of dissociative and PTSD symptoms, suicide attempts, hospitalizations, and significant damage to the individuals' personal religious beliefs and sense of spirituality. Psychotherapeutic treatment of such individuals with possession after failed exorcism has been effective (Spiegel & Fink 1979). Bull and colleagues (1998) found that about half of their DID sample that underwent an exorcism had a more positive outcome, especially if it was undertaken in the context of a culturally congruent psychotherapy for

Table 2 Dissociative amnesia (formerly psychogenic amnesia) in DSM-IV-TR

A	The predominant disturbance is one or more episodes of inability to recall important personal information, usually of a traumatic or stressful nature, that is too extensive to be explained by ordinary forgetfulness.
B	The disturbance does not occur exclusively during the course of dissociative identity disorder, dissociative fugue, posttraumatic stress disorder, acute stress disorder, or somatization disorder and is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a neurological or other general medical condition (e.g., amnestic disorder due to head trauma).
C	The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

DID. However, these investigators recruited subjects by asking specifically for those with positive responses to exorcism.

Summary and Conclusions

Cross-cultural data clearly show that persons with pathological possession report the same core dissociative symptoms as do persons with DID (i.e., involuntary alteration of identity and amnesia). Many persons with DID report that they feel or have felt like they are possessed. These data suggest that possession-form DID and nonpossession-form DID are variants of one another.

Including pathological possession in DSM-5 as a variant of nonpossession-form DID is expected to help bridge the counterproductive and culturally insensitive rift between disorders in the DSM and their (unrecognized) counterparts among persons from diverse cultural backgrounds. The alternative is likely treatment delay and the use of ineffective (or sometimes frankly deleterious) approaches to this condition. Moreover, clinicians and researchers unaware of possession-form DID may deepen their understanding of DID by acquiring new perspectives on DID from other cultures, leading to improved treatments.

DISSOCIATIVE AMNESIA

Symptomatology

Amnesia is a diagnostic criterion in four DSM-IV-TR dissociative disorders (dissociative amnesia, dissociative fugue, DID, and DDNOS-Example 1) (**Tables 2** and **3**) and a component diagnostic criterion in acute stress disorder and PTSD. Amnesia involves a deficit in functioning episodic memory such that information that was presumably encoded cannot be retrieved under normal circumstances (Kritchevsky et al. 1997), although it is potentially reversible using

Table 3 Dissociative fugue in DSM-IV-TR

A	The predominant disturbance is sudden, unexpected travel away from home or one's customary place of work, with inability to recall one's past.
B	Confusion about personal identity or assumption of a new identity (partial or complete).
C	The disturbance does not occur exclusively during the course of another dissociative disorder and is not due to the direct effects of a substance or a general medical condition.
D	The symptoms cause clinically significant distress or impairment in functioning.

techniques such as hypnosis (Butler et al. 1996, Yovell et al. 2003). The deficit in retrieval frequently involves memory for stressful or traumatic events but may also involve memory for everyday occurrences.

Dissociative Fugue as a Subtype

The major change regarding dissociative amnesia proposed in DSM-5 is the reclassification of dissociative fugue as a subtype of dissociative amnesia rather than a separate diagnosis. This is due to the prominence of amnesia in dissociative fugue; the fact that other fugue symptoms, confusion about personal identity, assumption of a new identity, and bewildered wandering, do not consistently occur; and the relative rarity of the disorder.

Including fugue as a subtype does create an explicit link between dissociative amnesia and identity disturbance. A consistent sense of personal continuity is achieved through the maintenance of a consistent stream of memory, a kind of smoothing function under which disparate experiences under a common heading of personal integrity and identity are subsumed (Gergen 1991, Spiegel 1990). The accomplished integrated identity is yet subject to disruption through trauma, hypnotic influences, or disjunctions in information-processing strategies (Kihlstrom 1987, Spiegel & Cardeña 1991). However, implicit memories persist across dissociative states that contain different stores of explicit memories (Elzinga et al. 2003). This suggests that information not readily available to consciousness may nonetheless influence it: Out of sight is not out of mind (Spiegel 2006, Spiegel & Cardeña 1991). In addition, some studies show that despite reports of memory gaps, more explicit information is shared across identity states than subjects are aware of (Kong et al. 2008). Thus explicit memory retrieval failures in dissociation likely overrepresent information unavailability. As an example, traumatic experiences not fully available to consciousness may nonetheless exert influence on it: A woman raped in an elevator may still avoid elevators despite an inability to explicitly recollect the assault. Despite the fact that dissociated information is inaccessible to conscious recall, that information still influences the person's emotional reactions and behavior.

This can be mistakenly interpreted as indicating that the person's reported amnesia is feigned or malingered. Indeed, this same phenomenon characterizes some forms of organic amnesia—for example, hippocampal lesions that spare access to information learned long ago and stored in "gist" format in the cortex (Moscovitch et al. 2006, Winocur et al. 2010), and "blindsight," the phenomenon in which people with cortical blindness discriminate among visual stimuli at levels greater than chance despite an inability to provide any conscious description of what they are looking at (Lamme 2001). Similarly, dissociated information may become temporarily available to conscious recall and then redissociated, usually with amnesia for the period that the memory appeared to be consciously available. This has also been thought to indicate factitious or malingered memory impairment. However, dissociative amnesia can be understood as a form of psychological inhibition (Lanius et al. 2010a) that may vary depending on the level of stress facing the individual (Loewenstein 1991).

Dissociative amnesia may also take the form of other dissociative symptoms, such as depersonalization. Individuals with dissociative amnesia may also describe derealized memory, in which they experience some of their memories as if they are detached from a sense of personal ownership; they recall the events, but as if they had been learned in a secondhand way and not personally experienced. Individuals with dissociative amnesia may also report conscious attempts to not think about distressing and/or traumatic events, which over time may lead to more automatic processes of dissociative amnesia (Koutstaal & Schacter 1997, Loewenstein & Putnam 2004). Neurobiological studies of nonclinical samples given amnesia instructions show neural

Table 4 Depersonalization disorder criteria in DSM-IV-TR

A	Persistent or recurrent experiences of feeling detached from, and as if one is an outside observer of, one's mental processes or body (e.g., feeling like one is in a dream; sense of unreality of self, perceptual alterations; emotional and/or physical numbing; temporal distortions; sense of unreality of surroundings).
B	During the depersonalization experience, reality testing remains intact.
C	The depersonalization causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
D	The depersonalization experience does not occur exclusively during the course of another mental disorder, such as schizophrenia, panic disorder, acute stress disorder, or another dissociative disorder, and is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., temporal lobe epilepsy).

network activation similar to that shown by clinical subjects with dissociative forms of PTSD and dissociative amnesia (Anderson et al. 2004).

DEPERSONALIZATION/DEREALIZATION DISORDER

Depersonalization and Derealization

Depersonalization and derealization (**Table 4**) are typical dissociative symptoms involving a failure of perceptual integration associated with a subjective experience of detachment from one's self and/or the world around (Simeon et al. 2003b). There is evidence that individuals with prominent derealization alone do not significantly differ from those with depersonalization accompanied by derealization in any respect, including demographics, precipitants, illness characteristics, and comorbidity (Simeon 2009). Thus, derealization has been proposed as an equal component of depersonalization disorder in DSM-5, resulting in the new name of depersonalization/derealization disorder. These symptoms are highly prevalent in other dissociative conditions ranging from peritraumatic dissociation to DID, although they also occur in mood, anxiety (e.g., panic attacks), and psychotic disorders. The primary distinctions from other dissociative disorders involve (*a*) the emphasis on perceptual dissociation rather than dissociation of memory or identity and (*b*) the proximity, type, and severity of traumatic antecedents. There is considerable evidence that dissociation occurs at high rates in the peritraumatic period (Koopman et al. 1996, Marmar et al. 1994) and that early life trauma, in particular complex trauma, is strongly associated with later dissociative disorders (Dalenberg et al. 2012). There are three fundamental dissociative ways of responding to a traumatic experience: detach from it (depersonalization/derealization), forget it (amnesia), or separate the memory of the experience from one's present identity (dissociative flashback, DID) (Dalenberg et al. 2012; Koopman et al. 1994, 1995, 1996; Marmar et al. 1994). Depersonalization and derealization provide an immediate means of modulating the acute perceptual impact of a traumatic experience, but if they persist, then over time they can become disturbing persistent or recurrent symptoms that hamper processing of past and present experiences.

Neurobiology

Neuroimaging studies show patterns of brain activation and inhibition consistent with other dissociative disorders. Three consistent findings have emerged: (*a*) altered activation of posterior cortical sensory association areas, primarily the inferior parietal lobe; (*b*) prefrontal activation; and

(*c*) limbic inhibition (Simeon et al. 2003a). These findings are similar to observations regarding the dissociative subtype of PTSD (Lanius et al. 2002, 2005, 2010a, 2012), those reported for the "apparently normal personality" of DID (Reinders et al. 2006), and findings of inferior parietal lobe involvement in simulated out-of-body experiences in healthy volunteers (Arzy et al. 2006). These observations differ from those seen in mood and anxiety disorders. They highlight a neural mechanism common among dissociative disorders—prefrontal activation and limbic inhibition. Suppression of emotion would plausibly inhibit the neural connectivity that would facilitate integration of information about memory, identity, and consciousness.

The neurochemistry of depersonalization disorder is consistent with a pattern of hypothalamic-pituitary-adrenal (HPA) hyperarousal involving higher cortisol levels and reduced feedback inhibition (Simeon et al. 2001, 2007), even when controlling for the presence of depression or depressive symptoms. However, there is blunted cortisol reactivity to psychosocial stress (Simeon et al. 2007), unlike in depression, in which baseline hypercortisolemia is accompanied by heightened HPA axis responsivity to stressors (Giese-Davis et al. 2006), or in PTSD, in which there is generally lower HPA activation but heightened response to stressors (Yehuda et al. 2004, 2006). Although dissociation, especially when accompanied by anxiety, is usually associated with heightened noradrenergic tone, norepinephrine declines as the severity of depersonalization increases (Simeon et al. 2003b). Depersonalization disorder is also associated with blunted skin conductance responses to emotional stimuli (Sierra et al. 2002), consistent with autonomic blunting in depersonalization disorder. Although not directly studied in the disorder, other neurotransmitter systems associated with depersonalization/derealization symptoms include the endogenous cannabinoid, kappa opioid, and N-methyl D-aspartate systems (Sierra 2008). These neurobiological findings are consistent with the phenomenology described above linking depersonalization/derealization to stress buffering by inhibiting limbic arousal, reducing the spread of trauma-related associations, and blocking HPA and noradrenergic arousal.

THE DISSOCIATIVE SUBTYPE OF POSTTRAUMATIC STRESS DISORDER

The following section of the review outlines the rationale and evidence for the dissociative subtype of PTSD with a focus on (*a*) latent class, taxometric, and confirmatory factor analyses; (*b*) neurobiological mechanisms; and (*c*) treatment implications.

Background

Evidence for a dissociative subtype of PTSD has recently been described (Ginzburg et al. 2006; Lanius et al. 2010a, 2012; Steuwe et al. 2012; Wolf et al. 2012a,b). A recent epidemiological study involving 25,018 people from 16 countries in a World Mental Health Survey found that 14.4% of those with PTSD had the dissociative symptoms of depersonalization and derealization. They were characterized by higher levels of re-experiencing symptoms, onset of PTSD in childhood, high trauma exposure and childhood adversities, severe role impairment, and suicidality (Stein et al. 2013). Thus a dissociative subtype of PTSD is currently being considered for inclusion in DSM-5 to address symptoms of depersonalization and derealization exhibited among a subset of patients with PTSD. The definition of dissociation included in the Introduction section of the present review clearly demonstrates that dissociation is a complex phenomenon that comprises a host of symptoms that are usually studied as a single construct (Bryant 2007, Hagenaars et al. 2010). Researchers have therefore argued for the deconstruction of the term "dissociation" into distinct factors, including depersonalization, derealization, time distortion, and dissociative

flashbacks, to name just a few (Bryant 2007). Neurophenomenology is one emerging approach to studying the different facets of dissociation (Frewen & Lanius 2012). The basic concept behind neurophenomenology is that first-person experience is combined with the measurement of neurophysiological processes (Varela 1996). It combines real-time collection and analysis of subjective experiential reports with objective measures of brain activity and thus allows the examination of different dissociative experiences such as depersonalization, derealization, flashbacks, amnesia, and the perception of self.

The proposed dissociative subtype of PTSD has focused on depersonalization and derealization for reasons concerning existing psychological measurement and neurobiological evidence. The majority of studies to date that have investigated evidence for the dissociative subtype (Cloitre et al. 2012; Lanius et al. 2010a; Resick et al. 2012; Steuwe et al. 2012;Wolf et al. 2012a,b) have utilized the Clinician Administered PTSD Scale (CAPS) (Blake et al. 1995) and the Trauma Symptom Inventory Dissociation Subscale (TSI-DIS) (Briere 1995). These scales predominantly focus on symptoms of depersonalization and derealization, although they also assess psychogenic amnesia. Moreover, neurobiological evidence for a dissociative subtype has focused on brain activation patterns underlying symptoms of depersonalization and derealization. However, the relationship of depersonalization and derealization symptoms to specific core PTSD symptoms that are conceptually related to dissociation, including dissociative flashbacks, psychogenic amnesia, and emotional numbing, remains to be elucidated and will need to be an ongoing focus of investigation.

Rationale for the Dissociative Subtype of PTSD

The addition of a dissociative subtype of PTSD in the DSM-5 will be beneficial for several reasons. First, several studies using latent class, confirmatory factor, and taxometric analyses have demonstrated increasing evidence for a dissociative subtype of PTSD in both veteran and civilian PTSD samples (Ginzburg et al. 2006; Lanius et al. 2010a; Putnam et al. 1996; Steuwe et al. 2012; Waelde et al. 2005; Wolf et al. 2012a,b). Second, a neurobiological model has been described in which the dissociative subtype is viewed as a form of emotion dysregulation that involves emotional overmodulation mediated by midline prefrontal inhibition of the limbic regions, including the amygdala. Third, preliminary evidence suggests that individuals with symptoms of depersonalization and derealization can have a differential response pattern to current cognitive behavioral treatments for PTSD as compared to those without these symptoms (Cloitre et al. 2012, Resick et al. 2012). Adding a dissociative subtype of PTSD may therefore allow symptoms of depersonalization and derealization to be considered during treatment planning. Fourth, the addition of this subtype will further much needed research into the etiology, epidemiology, neurobiology, and treatment response of this PTSD subtype. Such research is necessary to deepen our understanding of the environmental and genetic contributions of this subtype and to expand our understanding of its neurobiological characteristics. Moreover, it will be crucial to further elucidate the effects of the subtype on current PTSD treatments.

Evidence from Taxometric, Signal Detection, Latent Class, and Confirmatory Factor Analyses

Current research suggests that dissociation is associated with unresponsive parenting and psychological trauma as well as PTSD (e.g., Dalenberg et al. 2012; Ginzburg et al. 2006; Lanius et al. 2010b; Ogawa et al. 1997; Steuwe et al. 2012; Wolf et al. 2012a,b). Although not all individuals who meet criteria for PTSD have high levels of dissociation, most individuals with high levels of dissociative symptomatology meet criteria for PTSD. For example, taxometric analyses have

demonstrated that in a sample consisting of 316 trauma-exposed male veterans with a current diagnosis of PTSD, 32% belonged to the dissociative taxon. Among those in the dissociative taxon, 80% met criteria for PTSD as compared to only 18.2% of the nontaxon individuals (Waelde et al. 2005). In another study, women seeking treatment for childhood sexual abuse were divided into high-dissociation and low-dissociation groups using signal detection analyses. The group with PTSD included 77% of the high-dissociation subgroup and 30% of the low-dissociation subgroup, whereas the non-PTSD group included 23% of the high-dissociation subgroup and 70% of the low-dissociation subgroup (Ginzburg et al. 2006). Similarly, 89% of a general population sample who showed high levels of dissociation had PTSD as compared to only 22% of individuals with low levels of dissociation (Carlson et al. 2012).

Studies using taxometric analyses have also argued that certain forms of dissociation can be conceptualized as dimensional as opposed to others that are distributed categorically (Waller et al. 1996). Taxometric procedures found a dissociation "taxon" that described a group of individuals reporting pathological levels of dissociation (Waelde et al. 2005) among 316 veterans. One-third of those who had PTSD fell into the dissociative taxon. Individuals in the taxon-positive group were more likely to suffer from PTSD (80% versus 18% in the taxon-negative group) in addition to meeting criteria for dysthymia and major depression as compared to those who were not in the dissociative taxon. The dissociative taxon was also associated with more severe PTSD symptoms. However, two additional taxometric studies examining veteran samples concluded that dissociation was on a continuum rather than being a dimensional, taxonic variable (Forbes et al. 2005, Ruscio et al. 2002).

Wolf and colleagues (2011b) have recently utilized latent class analysis to examine PTSD and dissociative symptomatology in 492 veterans and their partners, not all of whom met criteria for PTSD. Of the individuals who met CAPS criteria for PTSD, 12% formed a dissociative group characterized by high PTSD symptoms and elevated dissociation scores, specifically derealization and depersonalization, as well as significantly more flashbacks. Although the classic PTSD symptom clusters were strongly intercorrelated, they did not correlate as highly with the derealization or depersonalization items (both r's $= 0.27$, p values <0.001). Wolf et al. (2012a) further validated these findings using latent profile analyses on symptoms of PTSD and dissociation (depersonalization, derealization, and reduction in awareness of surroundings) among 360 male Vietnam War veterans with combat-related PTSD and 284 female veterans and active duty service personnel with PTSD and a high base rate of exposure to sexual trauma. Similar to the first study by Wolf and colleagues, the latent profile analysis yielded evidence for a three-class solution in both samples, including moderate and high PTSD classes as well as a class marked by high PTSD severity coupled with dissociative symptoms including depersonalization, derealization, and a reduction in awareness of surroundings. In the latter study, approximately 15% of the male sample and 30% of the female sample were classified into the dissociative subtype. Women (but not men) with the dissociative subtype of PTSD exhibited higher rates of axis II comorbidity, including avoidant and borderline personality disorder. In a civilian PTSD sample consisting predominantly of women with a history of childhood trauma, Steuwe et al. (2012) also demonstrated evidence for a dissociative subtype of PTSD using latent class and confirmatory factor analyses. Similar to the findings of Wolf et al. (2012a), latent class analysis yielded three groups, one of which was uniquely characterized by high derealization and depersonalization symptoms and accounted for 25% of the sample. Individuals in this dissociative subgroup also showed a higher number of comorbid Axis I disorders and a more significant history of childhood abuse and neglect. Furthermore, confirmatory factor analyses suggested the acceptance of a five-factor solution in which depersonalization and derealization symptoms are distinct from but correlate significantly with the core PTSD symptom clusters. Additional research using a wider range of items to assess dissociation is needed

to develop a sophisticated understanding of the relationship between the various dissociative and PTSD symptoms over time and across trauma types.

Relationship of PTSD Dissociative Subtype Symptoms to Flashbacks and Dissociative Amnesia

Studies exploring the relationship between symptoms of depersonalization and derealization to other dissociative PTSD symptoms (e.g., flashbacks and dissociative amnesia) are just emerging. Steuwe et al. (2012) reported results from a confirmatory factor analysis that examined a five-factor model of PTSD, including the well-accepted four factors reported by King et al. (1998) in addition to a dissociation factor consisting of symptoms of depersonalization and derealization. Such a five-factor model showed the best overall fit. Interestingly, fit was only slightly poorer in a model recognizing a third symptom as dissociative, namely PTSD item B3 (flashbacks). The latter supports the notion of flashbacks as dissociative phenomena. On the other hand, models that relegated depersonalization and derealization symptoms to loadings on any of the four previously recognized PTSD factors provided comparably poorer fit. These findings suggest that symptoms of derealization and depersonalization cannot be better explained by any core PTSD cluster than by a dissociative factor and give credence to the importance of distinguishing depersonalization and derealization symptoms as a distinct construct. Nonetheless, it is important to note that the dissociative factor consisting of symptoms of depersonalization and derealization is not independent from the other four core PTSD factors, supporting the assumption of dissociation as a component of PTSD (Carlson et al. 2012). Future research will need to examine the relationships among symptoms of depersonalization, derealization, dissociative amnesia, and emotional numbing.

Neurobiological Evidence

The neurobiology underlying dissociative symptomatology: emotional under- and overmodulation. Research to date has examined the neuronal underpinnings of re-experiencing/hyperarousal and depersonalization/derealization dissociative responses in PTSD using the script-driven symptom provocation paradigm (Bremner 1999; Lanius et al. 2002, 2005, 2006). This paradigm involves patients creating a narrative of their traumatic experience including as many sensory details as possible. During a brain-imaging scan, these narratives are then read back to the patients, who are instructed to recall the traumatic memory as vividly as possible. Researchers have demonstrated that approximately 70% of patients re-experience their trauma and show a concomitant increase in heart rate. The remaining 30%, however, exhibit states of depersonalization and derealization often associated with no significant concomitant increase in heart rate (Lanius et al. 2005, 2010a).

Emotional undermodulation: failure of corticolimbic inhibition. Emotional undermodulation refers to symptoms of re-experiencing and hyperarousal often associated with cluster B symptoms of PTSD. The PTSD patients who responded to hearing their trauma narratives in the functional magnetic resonance imaging (fMRI) scanner with re-experiencing and hyperarousal symptoms, as measured by the Response to Script-Driven Imagery Scale (Hopper et al. 2007), exhibited abnormally low activation in the medial prefrontal and the anterior cingulate cortex. These brain regions play a role in modulating arousal and regulating emotion (Etkin & Wager 2007, Lanius et al. 2006). Consistent with the notion of impaired cortical modulation of affect and arousal, increased activation of the limbic system, particularly the amygdala, has often been demonstrated in PTSD patients in response to exposure to traumatic reminders and to masked

fearful faces (Etkin & Wager 2007). Neuroimaging investigations in PTSD patients have also demonstrated inhibitory influence of the prefrontal cortex on the amygdala. Specifically, studies using positron emission tomography have shown a negative correlation between blood flow in the left ventromedial prefrontal cortex and the amygdala, and negative correlations between medial prefrontal cortex and the amygdala during exposure to fearful faces in individuals with PTSD (Shin et al. 2005). Decreased activation of medial prefrontal regions observed in the re-experiencing/hyperaroused PTSD subgroup is therefore consistent with failed inhibition of limbic reactivity, including the amygdala, and is associated with re-experiencing/hyperaroused emotional undermodulation (for a review, see Francati et al. 2007).

Emotional overmodulation: excessive corticolimbic inhibition. Emotional overmodulation refers to dissociative symptoms, including depersonalization and derealization, which usually involve a distancing from an emotional experience. In contrast to the re-experiencing/hyperaroused group described above, the group experiencing symptoms of depersonalization and derealization, as measured by the Clinician Administered Dissociative Symptom Scale (Bremner et al. 1998) during the trauma script-driven imagery procedure, exhibited abnormally high activation in the anterior cingulate cortex and the medial prefrontal cortex. This subgroup of PTSD patients can therefore be considered as experiencing emotional overmodulation in response to traumatic memory recall accompanied by increased activation of medial prefrontal structures and concomitant hyperinhibition of limbic regions, including the amygdala. It is important to note that individuals with PTSD may show both over- and undermodulated response patterns at different time points, although only patients exhibiting the dissociative subtype show severe and frequent overmodulated emotional responses characterized by impairing levels of depersonalization and derealization. As reviewed above, different traumatic experiences, including childhood trauma and military trauma, have been related to the overmodulated response observed in the dissociative subtype of PTSD.

An investigation by Felmingham et al. (2008) provides further evidence for the corticolimbic inhibition model of dissociation. This study compared brain activation patterns during the processing of consciously and nonconsciously perceived fear stimuli. PTSD patients with high state-dissociation scores during the neuroimaging procedure as measured by the Clinician Administered Dissociative Symptom Scale showed enhanced activation in the ventral prefrontal cortex during conscious fear processing as compared to patients with low state-dissociation scores. During processing of nonconscious fear, high dissociative symptomatology at the time of the scan in PTSD was associated with increased activation in the bilateral amygdala, insula, and left thalamus as compared to low state-dissociation. The authors propose that dissociation, including states of depersonalization and derealization, is an emotion regulatory strategy during conscious processing of threat that is employed to cope with extreme arousal in PTSD through hyperinhibition of limbic regions.

Implications for Treatment

Preliminary evidence suggests that high levels of dissociation appear to be associated with a differential response pattern to some conventional PTSD treatments. It has been suggested that dissociation during traumatic memory processing may interfere with habituation, a critical process for resolving PTSD during exposure-based treatments (Foa & Kozak 1986, Jaycox et al. 1998).

One open trial study of prolonged exposure found that PTSD subjects who exhibited high dissociative symptomatology were more likely to maintain their diagnosis of PTSD at the end

of treatment than were low dissociative symptomatology PTSD patients (69% versus 10%, respectively), even though both groups showed an equal improvement in PTSD symptoms posttreatment (Hagenaars et al. 2010). In another study, women with childhood trauma-related PTSD were randomized to one of three psychotherapeutic interventions (Cloitre et al. 2012). The treatment of principal interest included a form of modified exposure therapy [labeled narrative story telling (NST)] preceded by a cognitive-behavioral intervention intended to facilitate the development of emotion regulation and interpersonal effectiveness skills [labeled skills training in affective and interpersonal regulation (STAIR)], together labeled STAIR-NST. The STAIR-NST model was compared with two other forms of treatment delivery: (*a*) supportive counseling (SC) followed by NST and (*b*) STAIR followed by SC. The STAIR-NST model had already been shown to be the most advantageous delivery model for most patients in a prior report (Cloitre et al. 2010). A reanalysis of the data, however, showed that in women reporting lower pretreatment (baseline) levels of dissociative symptoms, outcomes across the three delivery models in terms of dissociative symptoms were largely equivalent. In comparison, in women with high pretreatment levels of dissociation, dissociation was reduced most effectively by STAIR-NST; the effect was most obvious at six-month posttreatment follow-up. In addition, for those with higher posttreatment dissociation scores, the greatest further decreases in PTSD symptoms over the course of follow-up occurred in the STAIR-NST group.

A study conducted by Resick and colleagues (2012) randomized women with PTSD related to interpersonal violence to one of three treatments: (*a*) cognitive therapy alone, (*b*) written exposure therapy alone, or (*c*) cognitive processing therapy. The latter intervention combines elements of cognitive therapy and written exposure therapy (Resick et al. 2012). Outcomes were determined not only in terms of PTSD symptoms but also in terms of dissociative symptoms. Resick and colleagues found that at high pretreatment baseline levels of dissociation, cognitive processing therapy achieved quicker and overall better outcomes on PTSD symptom severity than did cognitive therapy alone, with outcomes for written exposure therapy alone producing outcomes that did not significantly differ from either of the two conditions. Importantly, group differences were observed only for certain dissociation measures (Multiscale Dissociation Inventory depersonalization subscale but not Trauma Symptom Inventory dissociation subscale), suggesting the need to examine different factors of dissociation on treatment outcome.

Additional evidence for the influence of dissociation, including symptoms of depersonalization and derealization, on emotional learning stems from a study examining a classical conditioning paradigm to investigate the effects of state dissociation on acquisition and extinction processes in patients with borderline personality disorder (Ebner-Priemer et al. 2009). Individuals with borderline personality disorder and high levels of state dissociation did not show differences in skin conductance and arousal during acquisition and early extinction. In contrast, patients with borderline personality disorder and low levels of state dissociation (as well as healthy subjects) showed higher skin conductance and arousal during these processes. These findings suggest that emotional, amygdala-based learning processes appear to be hindered by state dissociation, resulting in the alteration of acquisition and extinction processes. The investigators point out that dissociative patients should therefore be closely monitored in exposure-based psychotherapy since they may respond differently to exposure treatment (Ebner-Priemer et al. 2009). Furthermore, dissociation, including symptoms of depersonalization and derealization, has recently been demonstrated to be a negative predictor of psychotherapy outcome in borderline personality disorder (Kleindienst et al. 2011). The findings described above are consistent with the notion that dissociative symptoms can interfere with the cognitive and affective processes thought to mediate the efficacy of psychotherapy for PTSD (e.g., habituation, cognitive restructuring, and emotion regulation).

Summary and Conclusions

In summary, a subgroup of PTSD patients experiences symptoms of depersonalization and derealization. Taxometric, latent class, and confirmatory factor analyses have revealed a taxon/subtype/group of individuals exhibiting symptoms of depersonalization and derealization in veteran and civilian samples ranging in prevalence from 12% to 30% of individuals with PTSD (Bernstein & Putnam 1986; Steuwe et al. 2012; Waelde et al. 2005; Wolf et al. 2012a,b). Individuals in this group also endorsed elevations on items assessing flashbacks (Wolf et al. 2012b), exhibited greater exposure to childhood abuse and neglect, and showed increased Axis I comorbidity (Steuwe et al. 2012; Wolf et al. 2012a,b). The relationship of depersonalization and derealization symptoms to specific core PTSD symptoms that are conceptually related to depersonalization and derealization, including dissociative flashbacks, psychogenic amnesia, and emotional numbing is largely unknown at this time and should be an ongoing focus of research. Neurophenomenology, an emerging approach that combines real-time collection and analysis of subjective experiential reports with objective measures of brain activity, may aid in determining the mechanisms underlying these conceptually related phenomena (Frewen & Lanius 2013). According to the corticolimbic model of dissociation (Lanius et al. 2010a), the dissociative subtype of PTSD may involve emotion dysregulation in the form of emotional overmodulation mediated by midline prefrontal inhibition of limbic regions, including the amygdala. Research is beginning to suggest that symptoms of depersonalization and derealization can lead to a differential response to current cognitive-behavioral treatment designed for PTSD (Cloitre et al. 2012, Jaycox et al. 1998, Lanius et al. 2010a, Resick et al. 2012). The addition of a dissociative subtype to DSM-5 not only allows a more careful analysis of different phenotypes of PTSD, but should also lead to research that deepens our understanding of the prevalence, symptomatology, neurobiology, and treatment of individuals suffering from the dissociative subtype of PTSD.

CONVERSION, DISSOCIATION, AND SOMATIZATION

The long history of research on the relationship between pseudoneurological symptoms and the dissociative disorders reveals many areas of commonality and overlap (**Table 5**) (Brown 2002, 2004; Brown & Lewis-Fernández 2011; Cardeña 1994; Interian et al. 2004; Kihlstrom 1992; Moene et al. 2000; Nemiah 1991; Nijenhuis et al. 2004). Dissociative processes appear to underlie nonepileptic seizures, which can be reversed using appropriate hypnotic suggestions (Oakley 1999). Individuals with medically unexplained sensory loss (e.g., blindness, deafness) who process information in the affected modality are temporarily unable to access these sensations consciously due to a lack of integration between implicit and explicit perceptual processes, suggesting a dissociative origin (Holmes et al. 2005). As in other dissociative disorders, physical/sexual abuse and other traumatizing events are common among individuals with pseudoneurological symptoms (Bowman & Markand 1996, Reilly et al. 1999, Roelofs et al. 2002, Şar et al. 2000a) and other medically unexplained symptoms (MUS; Brown et al. 2005, Drossman 1996, Labbate et al. 1998, Pribor et al. 1993, Şar et al. 2004). Relatively high levels of hypnotic suggestibility have been found in both dissociative (Frischholz et al. 1992) and pseudoneurological (Roelofs et al. 2002) symptom patients, although not all studies have found such a relationship with pseudoneurological symptoms (Şar et al. 2000b, Tezcan et al. 2003).

Not all researchers, however, find a close relationship between conversion disorder and dissociative processes. An alternative viewpoint emphasizes the overlap between medically unexplained somatic symptoms and anxiety (excessive concern over medical problems) rather than dissociation (Brown 2006). In fact, there is approximately equal overlap between conversion disorder and the

Table 5 Conversion disorder in DSM-IV-TR

A	One or more symptoms or deficits affecting voluntary motor or sensory function that suggest a neurological or other general medical condition.
B	Psychological factors are judged to be associated with the symptom or deficit because the initiation or exacerbation of the symptom or deficit is preceded by conflicts or other stressors.
C	The symptom or deficit is not intentionally produced or feigned (as in factitious disorder or malingering).
D	The symptom or deficit cannot, after appropriate investigation, be fully explained by a general medical condition, or by the direct effects of a substance, or as a culturally sanctioned behavior or experience.
E	The symptom or deficit causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or warrants medical evaluation.
F	The symptom or deficit is not limited to pain or sexual dysfunction, does not occur exclusively during the course of somatization disorder, and is not better accounted for by another mental disorder.
	Specify type of symptom or deficit:
	With motor symptom or deficit (e.g., impaired coordination or balance, paralysis or localized weakness, difficulty swallowing or "lump in throat," aphonia, and urinary retention). With sensory symptom or deficit (e.g., loss of touch or pain sensation, double vision, blindness, deafness, and hallucinations). With seizures or convulsions: includes seizures or convulsions with voluntary motor or sensory components. With mixed presentation: if symptoms of more than one category are evident.

DSM-IV-TR dissociative and somatoform disorders. The link with dissociation is strongest among individuals with nonepileptic seizures, both in terms of comorbid prevalence and symptomatology (e.g., loss of consciousness and memory).

The complex associations between conversion symptoms, somatic symptoms, and dissociative processes have resulted in disagreement over how to classify conversion disorder. DSM-IV-TR considers it a somatoform disorder, emphasizing the common preoccupation with somatic dysfunction. ICD-10 places conversion disorder with the dissociative disorders, emphasizing a common underlying dissociative mechanism and comorbidity. In this review, we describe the prevalence of conversion disorder, its comorbidity with dissociative disorders, somatic symptom disorders, and other psychiatric disorders, and its underlying neurophysiology.

Comorbidity of Conversion Disorder and Dissociative Disorders

Several studies have found substantial comorbidity between dissociative disorder and conversion disorder. Şar and colleagues (Guz et al. 2004), for example, examined 38 consecutive patients with conversion disorder utilizing the SCID for DSM-III-R, the Somatoform Dissociation Questionnaire (SDQ-20), the Childhood Trauma Questionnaire, and the SCID for DSM-IV Dissociative Disorders (SCID-D). They found that 48% of these patients also met diagnostic criteria for a dissociative disorder (Şar et al. 2004). A history of abuse and neglect was significantly more common among the comorbid conversion and dissociation patients. However, it is worth noting that comorbidity with other disorders was even higher: 78.9% had an anxiety disorder, 76.3% had a somatoform disorder, and 71.1% had an affective disorder. Thus, on the basis of comorbidity alone, conversion and dissociation would not necessarily be considered overlapping disorders. Also in Turkey, Tezcan et al. (2003) examined 59 consecutive conversion disorder patients using

the Dissociative Experiences Scale (DES), the Dissociative Disorders Interview Schedule (DDIS), and the SCID-D. By SCID-D criteria, 30.5% of patients also had a dissociative disorder, 50% of them DID, 44.4% of them DDNOS, and 5% dissociative amnesia. Other common comorbidities were major depression and borderline personality disorder.

In Germany, Spitzer et al. (1999) compared 72 patients with conversion disorder to 96 gender- and age-matched psychiatric patients "suffering from various neurotic disorders" (p. 291). Scores on the DES were twice as high in the conversion disorder group ($p < 0.001$), whereas somatization scores on the SCL-90 were 40%, but not significantly higher ($p < 0.055$) than those in the comparison sample. They concluded that their findings support a "reclassification of the conversion disorders with the dissociative disorders" (p. 293).

Nijenhuis postulates two types of dissociation, somatoform and psychological, and proposes that the somatoform type, analogous to conversion, is more likely after physical and sexual trauma (Nijenhuis et al. 1998, 2003, 2004). Bowman (2006), in a thoughtful and careful review of the literature, notes the common co-occurrence of conversion seizures and dissociation in the wake of trauma. She concurs with Nijenhuis that "conversion is a somatoform manifestation of dissociation" (Bowman 2006, p. 198). Brown et al. (2007) make a similar argument, noting as did Bowman and Isaac & Chand (2006) that the ICD links the two disorders, reserving for somatoform disorders the more anxiety-based preoccupations with physical health, but not including conversion, which is characterized by altered sensorimotor experience rather than anxiety.

Studies using the DDIS (Şar et al. 2007) have found that MUS are extremely common in patients with DID, many of whom also meet diagnostic criteria for DSM-IV somatization disorder (Ross 1989; Ross et al. 1990a,b). Studies using the SDQ-20, which mostly comprises items pertaining to pseudoneurological phenomena (e.g., anesthesias, seizures, paralysis, dysphagia), have found that these symptoms are significantly more common in patients with dissociative disorders than in psychiatric controls and that the severity of these symptoms is correlated with the complexity of the dissociative disorder (Nijenhuis et al. 1998, 1999). Other studies have measured dissociative symptoms in patients with well-documented pseudoneurological symptoms. Tezcan and colleagues (2003) used the SCID-D to diagnose dissociative disorders in mixed pseudoneurological samples, obtaining prevalences of 30.5% and 47.4%, respectively. In the latter study, a concurrent dissociative disorder predicted higher psychiatric comorbidity more generally, including somatization disorder, dysthymic disorder, major depression, borderline personality disorder, self-destructive behavior, suicide attempts, and childhood trauma.

Mixed results have been found in studies using questionnaire measures of dissociation, such as the DES and the Dissociation Questionnaire (DIS-Q). Several studies (Goldstein et al. 2000, Spitzer et al. 1999, Tezcan et al. 2003) have found elevated DES scores in patients with medically unexplained seizures compared to controls. Other studies with similar populations have failed to find comparable associations, however (Alper et al. 1997, Kuyk et al. 1999, Prueter et al. 2002). It is likely that these mixed findings are due to the fact that only some DES and DIS-Q items are related to pseudoneurological illness. According to one recent review, the DES and DIS-Q include items pertaining to two qualitatively distinct categories of dissociative phenomena, detachment and compartmentalization; only the latter is directly linked to pseudoneurological symptoms (Brown 2006, Brown et al. 2007, Holmes et al. 2005, Moene et al. 2000).

Patients with pseudoneurological symptoms often experience other MUS. Mace & Trimble (1996), for example, followed up a group of pseudoneurological patients and found that although only 4% had been initially diagnosed with somatization disorder, 64% met criteria for it 10 years later. Similarly, patients with large numbers of MUS across multiple bodily systems have pseudoneurological complaints as their predominant symptoms (Interian et al. 2004).

Neurophysiology

Possible common mechanisms of neural dysfunction may underlie both dissociative and conversion disorders (Black et al. 2004, Isaac & Chand 2006). In particular, conversion disorder has been linked to dysfunction in orbitofrontal cortex and anterior cingulate cortex (ACC), insula, thalamus, and ventrolateral prefrontal cortex (Mailis-Gagnon et al. 2003). Similar brain regions were involved in an fMRI study of hypnotically induced paralysis (right orbitofrontal cortex, right cerebellum, left thalamus, and left putamen) (Halligan et al. 2000). Recently, high hypnotizability has been shown to be associated with functional connectivity during resting states between the dACC and dorsolateral prefrontal cortex (Hoeft et al. 2012). The ACC has been strongly implicated in hypnotic dissociation of pain (Rainville et al. 1997, 1999, 2002). Thus, dysfunction in brain regions that integrate cognition, affect, and sensation are implicated in both conversion and dissociative symptomatology (Spiegel 2008).

Alternatives for DSM-5

Taken together, these findings provide a relatively consistent picture. Many patients with dissociative disorders report phenomena akin to the pseudoneurological symptoms experienced by patients with DSM-IV conversion disorder, as well as many other MUS. Similarly, one-third to one-half of patients with diagnosed pseudoneurological symptoms meet criteria for an additional dissociative disorder. Patients with pseudoneurological symptoms often do not exhibit high scores on measures of dissociation such as the DES, although this may reflect the fact that DES items encompass a wide range of qualitatively distinct phenomena, only some of which are relevant to somatoform and pseudoneurological illness. Indeed, patients with pseudoneurological symptoms typically score high on measures such as the SDQ-20, which is thought to tap the type of dissociation that is most relevant to this group. Many pseudoneurological patients also report histories of other MUS, with pseudoneurological symptoms often being the predominant complaint in patients with the most severe medically unexplained syndromes. A growing body of research and theory also suggests that patients with dissociative and pseudoneurological symptoms suffer from a failure of integration of sensory information and have other important features in common, such as histories of abuse and high suggestibility.

Although the evidence clearly shows that the overlap between the dissociative and pseudoneurological disorders is considerable, the co-occurrence of pseudoneurological illness with other somatic symptoms is just as impressive. Moreover, there is evidence to suggest that pseudoneurological and other somatic symptoms have similar psychosocial precipitants (e.g., potentially traumatizing events), and there are conceptual grounds for assuming common underlying mechanisms. Furthermore, pseudoneurological symptoms are an important aspect of somatization disorder, the paradigmatic example of a somatoform disorder in DSM-IV. Indeed, the most severe cases of somatization disorder appear to be those characterized by numerous pseudoneurological symptoms. It would clearly be unsatisfactory to assume that pseudoneurological symptoms are dissociative disorders when they occur in isolation but somatoform disorders when they occur alongside other MUS. This is particularly true given that many patients with pseudoneurological symptoms often report new MUS over time.

Alternative fates for conversion disorder in DSM-5 include:

1. Recategorizing conversion disorder as a dissociative disorder, perhaps labeled dissociative sensorimotor disorder.
2. Dividing conversion disorder into somatic and dissociative subtypes, based on evidence that pure motor paralysis has more in common with somatization and that sensory/pseudoseizure disorders are more related to dissociation.

3. Leaving conversion disorder among the somatic symptom disorders, the most likely outcome.

Clearly there is evidence that dissociative failure of integration of consciousness plays an important role in at least some types of conversion disorder. Failure of integration may include on the psychological side identity and memory and on the somatic side sensation, perception, and motor function. This framing of conversion disorder has important implications for treatment (Moene et al. 2003, Nash 2005) because techniques useful in diagnosing and treating dissociation apply to conversion disorder as well (Maldonado & Spiegel 2000, Spiegel 2003). Although conversion symptoms clearly are somatic in nature, they are distinct from many of the other somatic symptom disorders in (*a*) presenting with dysfunction to a greater extent than with anxiety about dysfunction and (*b*) representing failures in the integration of sensory and motor function, similar to dissociative failures in integration of memory and identity.

CONCLUSION

This review has focused on the changes to the dissociative disorders proposed for DSM-5 and the rationales for these changes. The following proposed changes were discussed in detail:

- Including language on pathological possession in DID.
- Incorporating derealization into depersonalization disorder in a new combined diagnosis of depersonalization/derealization disorder.
- Reformulating dissociative fugue as a subtype of dissociative amnesia.
- Adding a dissociative subtype to PTSD.
- Reformulating conversion disorder as a dissociative disorder.

The intent of these diagnostic refinements is to more accurately describe the symptomatology of the dissociative disorders in order to (*a*) reduce the proportion of patients who receive a diagnosis of dissociative disorder not elsewhere classified (the DSM-5 equivalent of DSM-IV-TR DDNOS), (*b*) reflect research advances since the publication of DSM-IV-TR, and (*c*) help clinicians maximize the specificity of the treatments at their disposal for each patient's particular presentation.

Overuse of the diagnosis of DDNOS has been considered one of the major nosological problems of the dissociative disorders field that DSM-5 would need to address (Spiegel & Cardeña 1991). The proposed changes—most directly those to DID and depersonalization disorder—directly confront this issue. The clear intent of the work group has been to reduce the years-long delay patients with these conditions encounter before they are identified and offered effective treatment.

Personalizing treatment to the patient's specific phenomenology of illness is ultimately the most important goal behind these nosological refinements. The dissociative subtype of PTSD illustrates clearly how refining diagnostic criteria can help maximize treatment efficacy. The data presented in this review argue forcefully that treatments should be chosen for individuals with PTSD taking into account their level of dissociative symptomatology. Patients with elevated dissociative symptoms may not respond as well to traditional exposure therapy, apparently because dissociation interferes with amygdala-based learning processes. Specific forms of treatment, such as STAIR-NST and cognitive reprocessing, may be necessary for these high state-dissociation patients. Further research is needed to confirm these findings, but they point to the potential usefulness of careful diagnostic evaluation and the need for precise nosological distinctions such as the proposed PTSD subtype.

In sum, cultural and neurobiological research findings are two important engines for the development of the dissociative disorders nosology, as described for pathological possession on the one

hand, and for the PTSD subtype and depersonalization/derealization disorder on the other. The dissociative disorders show marked cultural variation (Lewis-Fernández et al. 2007). Clarifying the extent of this diversity not only facilitates diagnostic accuracy but also may help identify universal social and psychological processes underlying the development of these disorders. Neurobiologically, dissociation appears to be associated with a pattern of altered activation of posterior cortical sensory association areas, prefrontal cortical activation, and limbic inhibition. Future research will show whether these recent but robust findings can continue to refine our nosological categories and the treatments that derive from them.

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An online log of corrections to *Annual Review of Clinical Psychology* articles may be found at http://clinpsy.annualreviews.org

Dispelling Myths About Dissociative Identity Disorder Treatment: An Empirically Based Approach

Bethany L. Brand, Richard J. Loewenstein, and David Spiegel

Objective: Some claim that treatment for dissociative identity disorder (DID) is harmful. Others maintain that the available data support the view that psychotherapy is helpful.

Method: We review the empirical support for both arguments.

Results: Current evidence supports the conclusion that phasic treatment consistent with expert consensus guidelines is associated with improvements in a wide range of DID patients' symptoms and functioning, decreased rates of hospitalization, and reduced costs of treatment. Research indicates that poor outcome is associated with treatment that does not specifically involve direct engagement with DID self-states to repair identity fragmentation and to decrease dissociative amnesia.

Conclusions: The evidence demonstrates that carefully staged trauma-focused psychotherapy for DID results in improvement, whereas dissociative symptoms persist when not specifically targeted in treatment. The claims that DID treatment is harmful are based on anecdotal cases, opinion pieces, reports of damage that are not substantiated in the scientific literature, misrepresentations of the data, and misunderstandings about DID treatment and the phenomenology of DID. Given the severe symptomatology and disability associated with DID, iatrogenic harm is far more likely to come from depriving DID patients of treatment that is consistent with expert consensus, treatment guidelines, and current research.

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There has been increased awareness of the potential for psychotherapy to do harm (Dimidjian & Hollon, 2010; Shimokawa, Lambert, Smart, 2010). Dimidjian and Hollon (2010) assert that researchers have "ignored indirect harm" (p. 23) caused when erroneous statements are made that certain treatments are harmful, when they are not. They warn, "A beneficial treatment that is falsely assumed to be inert or worse can result in opportunities lost" (p. 23). These inaccurate conclusions lead to patients being deprived of effective treatment, spending months or years needlessly suffering from significant symptoms, functioning poorly, and subjected to "therapy" that is not beneficial compared to the treatment erroneously described as harmful. Years of patients' lives and professionals' time are wasted, along with unnecessary loss of crucial health care dollars.

Detection of "harm" may be complicated, as treatments can have both beneficial and harmful effects (Dimidjian & Hollon, 2010). Dimidjian and Hollon (2010) recommend measuring a wide variety of outcomes and specifically assessing for deterioration. A recent review found that worsening of symptoms occurs among 5% to 10% of adults receiving psychotherapy in university treatment centers, employee assistance programs, clinics, and community mental health centers (Whipple & Lambert, 2011). Individuals who have experienced complex trauma, (i.e., repeated interpersonal trauma, often beginning in early development, and occurring throughout the lifespan) may be particularly vulnerable to deterioration if treatment is not adapted to their myriad symptoms and difficulties. These include dissociation, affect dysregulation, mood disorders, problems with identity, somatization, and posttraumatic stress disorder (PTSD) symptoms, as well as substance abuse, self-harm, and interpersonal difficulties, among others (e.g., Cloitre, Courtois, et al., 2012). For example, despite exposure therapy being considered a first-line treatment for PTSD in randomized controlled trails (RCTs)[1] complex trauma survivors treated with exposure therapy showed trend level worsening of a physiological marker of emotion regulation (respiratory sinus arrythmia) and anxiety-related attentional bias (D'Andrea & Pole, 2012). D'Andrea and Pole suggest that participants' high level of dissociation and comorbidity contributed to their poor response to this treatment. However, the patients showed improvement with psychodynamic therapy or stress inoculation therapy. The former helps with relational issues that are common in survivors of interpersonal trauma, while the latter improves coping skills. Both of these are important in treating complex trauma (Cloitre, Courtois, et al., 2012; Kezelman & Stavropoulos, 2012).

We examine the evidence for and against the claim that treatment of dissociative identity disorder (DID) is harmful. Critics of the trauma model (TM) of dissociation have repeatedly made this claim (e.g., Gee, Allen & Powell, 2003; Lilienfeld, 2007; Lilienfeld & Lambert, 2007; Lynn, Lilienfeld, Merckelbach, Giesbrech, & van der Kloet, 2012; McHugh, 1992, 2013; Powell & Gee, 1999). Most individuals with DID report trauma exposure consistent with the construct of complex trauma, and are reported to have the many types of difficulties consistent with this (e.g., Brand, Classen, McNary, & Zaveri, 2009; Foote, Smolin, Kaplan, Legatt, & Lipschitz, 2006). Thus, it is logical that DID individuals will not respond to, and may even have adverse outcomes to, treatments that do not specifically address their complex symptoms (e.g., standard exposure therapy for posttraumatic disorders; Foa, Keane, Friedman, & Cohen, 2009). The current standard of care for DID treatment is described in the International Society for the Study of Trauma & Dissociation's (ISSTD) Treatment Guidelines for Dissociative

1. RCTs are studies in which patients are randomly assigned to either two or more treatments or an untreated "control" group.

Identity Disorder in Adults (ISSTD, 2011). These Guidelines recommend a tri-phasic, multi-modal, trauma-focused psychotherapy. In Stage 1, the clinical work prioritizes safety issues and symptom stabilization, including symptoms of dissociation, depression, suicidal and self-destructive behavior, and PTSD. In this model, failure to focus on stabilization, and/or premature focus on detailed exegesis of traumatic memories, almost invariably leads to overwhelming emotions, exacerbation of PTSD and dissociative symptoms, and, usually, decompensation of the patient, with increasing difficulties with safety, overwhelming symptoms, and deterioration in day-to-day functioning.

In this model, DID patients are first taught affect and impulse regulation skills as well as skills for communication and cooperation among dissociated self-states.[2] It is only after safety is established, symptoms are stabilized, and adequate coordination and cooperation among self-states occurs that, in Stage 2, trauma may be processed in more detail, working through trauma-based feelings, thoughts, and impulses. However, even in Phase 2 there must be ongoing, careful attention to pacing, maintaining the patient's safety, stability, and grounding in present reality.[3] Exposure is done only in modified form, emphasizing careful and incremental processing of memories (ISSTD, 2011; Kluft, 2013), and is not used session after session, as is done in standard exposure therapy (Foa et al., 2009; ISSTD, 2011). In the third stage, current and future life issues such as engaging in healthy relationships and meaningful activities become the dominant focus. Many patients achieve partial or complete integration among self-states (e.g., Kluft, 1984, 1986, 1988b).[4] This staged treatment model is similar to the standard of care advocated for complex trauma by the International Society for Traumatic Stress's *Expert Consensus Treatment Guidelines for Complex PTSD in Adults* and in Australia's *Practice Guidelines for Treatment of Complex Trauma and Trauma Informed Care and Service Delivery* (Cloitre, Courtois, et al., 2012; Kezelman & Stavropoulos, 2012).

EXPERT TREATMENT GUIDELINES AND EVIDENCE ABOUT DID TREATMENT

We review the studies for DID treatment, including case studies, case series, cost-efficacy studies, prospective inpatient studies, and outpatient studies. We identified DID treatment articles by searching peer-reviewed journal articles published in English since 1989 identified on PsychINFO and PubMed databases by crossing the term "treatment" with "dissociative" (yielded 96 articles) and "multiple personality disorder" (yielded 64 articles). We also searched the references in key articles, including Brand, Classen, McNary, & Zaveri (2009), Lilienfeld (2007), and Powell & Howell (1998).

Beginning at least as early as the 16th century, the psychological and medical literature began to describe individuals with multiple personality states, including studies by Alfred Binet, the author of the first formal test of intelligence, Benjamin Rush, Pierre Janet, William James, Sigmund Freud, and Morton Prince, the founder of the *Journal of Abnormal Psychology*, among others (Carl-

2. Many terms exist in the literature for DID self-states, including identities, personality states (DSM-5), dissociative parts of the personality (van der Hart, Nijenjhuis, & Steele, 2006), alters, "parts," and so forth. See the ISSTD guidelines (2011) for a discussion. We choose to use the term *self-states* (Kluft 1988a) as we believe it is the most descriptive and theoretically neutral term currently available.

3. Also, some DID patients never adequately establish the stability or have the wish to engage in Stage 2 work. Many of these patients remain in long-term stabilizing treatment. Even here, patients may achieve considerable gains in stability and cost less to the health care system (Loewenstein, 1994).

4. Discussion of "integration" and "fusion" in DID is a complex topic, and readers are referred to Kluft (1986, 1988a) and to the ISSTD Guidelines (2011) for a full discussion.

son, 1981; Ellenberger, 1970; Loewenstein, 1993; Van der Hart & Dorahy, 2009). For more than 20 years, the professional organization dedicated to supporting education, research, and training about dissociative disorders, the International Society for the Study of Trauma & Dissociation (ISSTD), has worked to train therapists in the best practices for treating DID. Informed by over 60 years of clinical and research literature, beginning in 1994, the ISSTD published expert consensus treatment guidelines for DID in adults with revisions in 1997, 2005 and 2011 incorporating the most recent research (ISSTD, 2011).[5] A recent survey of 36 international DID treatment experts asked them, based on a list of interventions, to identify and rate which ones they found most effective at each stage of DID treatment (Brand, Myrick, et al., 2012). The most commonly recommended strategies were consistent with the treatment described in the ISSTD Treatment Guidelines. This supports the notion that there is a core set of interventions that are consistently effective in treating DID patients, even cross-culturally (Spiegel et al., 2011). Just as in the Guidelines, experts recommended that the initial phase of treatment prioritize skill building in emotion awareness and regulation, impulse control, interpersonal effectiveness, grounding (i.e., techniques for decreasing dissociation and increasing awareness of current reality), and containment of intrusive material. The importance of improving emotion awareness and regulation is supported by neurobiological research which shows that high dissociation involves difficulty modulating affect due to excessive limbic inhibition (e.g., Brand, Lanius, Vermetten, Loewenstein, & Spiegel, 2012; Lanius et al., 2010). In addition, the experts emphasized an early focus on safety: improving control over dangerousness to self and/or others and other high-risk behaviors. The experts advised addressing trauma-based cognitive distortions as well as identifying and working with dissociated self-states. While they recommended the use of significantly modified exposure/abreaction techniques for Stage 2 patients, they emphasized that trauma-focused work should occur alongside interventions such as grounding, managing emotions and impulses, and containing traumatic material, as well as others that help maintain the patient's safety. The consistency of the recommendations among the experts and ISSTD Treatment Guidelines indicates that a clear standard of care is emerging for the treatment of DID.

Clinical cases and case series in peer-reviewed journals document the beneficial response to DID treatment for patients from the United States, Canada, Europe, Asia, Africa, and the Caribbean (e.g., Coons, 1986; Draijer and Van Zon, 2013; Hove, Langfeldt, Boe, Haslerud, & Stoerseth, 1997; Kluft, 1984, 1986, 1988b; Martinez-Taboas & Rodrigues-Cay, 1997; Şar, Ozturk, & Kundakci, 2002; Şar & Tutkun, 1997; Van der Hart & Boon, 1997). These studies' systematic data show that DID treatment consistent with the expert guidelines is associated with decreased dissociation, depression, anxiety, posttraumatic stress, general psychiatric distress, and self-destructiveness, among others (Brand, Classon, McNary, & Zaveri, 2009). In addition, cost-efficacy studies of DID treatment have shown a robust decrease in costs over years of follow-up, once phasic DID treatment was initiated, even in the most chronically ill DID patients (Fraser & Raine, 1992; Lloyd, 2011; Loewenstein, 1994; Ross & Dua, 1993).

In a rigorously designed case study, Kellett (2005) described the 24-session cognitive analytic treatment of a DID patient using a single case "AB" experimental design (i.e., multiple daily self-report measures completed for 35 days prior to treatment, followed by 175 days of treatment and 168 days of

5. The ISSTD has also issued Guidelines for the Evaluation and Treatment of Dissociative Symptoms in Children and Adolescents, under its former name, International Society for the Study of Dissociation (2004).

follow-up). The careful documentation of the patient's severe yet stable symptoms before treatment, followed by improvement after targeted interventions, permitted Kellett to conclude that the patient's depression and dissociation decreased only after specific interventions were applied. This study strongly suggests that the improvements were caused by the treatment, rather than the passage of time or other non-treatment variables.

A review of treatment outcome for four dissociative disorders (DD; dissociative amnesia, depersonalization disorder, DID, dissociative disorder not otherwise specified [DDNOS]) found a variety of pre/post studies, including individual cases, case series, and inpatient studies, that used consecutive admissions (Brand, Classon, McNary, & Zaveri, 2009). The authors concluded that the prospective inpatient outcome studies that specifically identified and focused on DID demonstrated a significant reduction in a broad range of comorbid symptoms in response to hospitalization, with some further improvement at follow-up of as long as two years (e.g., Ellason & Ross, 1996, 1997, 2004).

Patients showed reduction in the number of psychiatric disorders, including depression, dissociation, somatic symptoms, substance abuse, and borderline features, and they required less psychiatric medication (e.g., Ellason & Ross, 1997). This review found evidence of consistent improvement associated with treatment; see Table 1 for the DID/DDNOS studies and their effect sizes (ES). However, due to the correlational nature of all but one study, improvement could not be unambiguously linked to treatment. No empirical study available for the Brand and colleagues' review, or published subsequently, found that patients were harmed by treatment. A meta-analysis of the eight studies that included necessary data found moderate to large within-subject, pre-post standardized Hedge's *g* ES across seven categories of symptoms (mean = 0.71, range 0.36–1.82), indicating that DID treatment is associated with moderate improvement in a variety of outcomes (see Table 2; Brand, Classon, McNary, & Zaveri, 2009). Brand conducted a comparative meta-analysis of six treatment studies of individual therapy for adults in which at least 25% of the sample reported childhood abuse; the overall within group, pre-post ES was comparable to those in the DD studies (mean = 0.82, 95% CI [0.21, 1.86]; see Table 2).

One area of agreement between the critics (e.g., Powell & Howell, 1989) and DID treatment proponents (e.g., Brand, Classon, McNary, & Zaveri, 2009) is that DD treatment outcome research had methodological weaknesses, including a reliance on severely ill inpatients, who may improve due to regression to the mean, not just in response to treatment. Recent research with improved methodology consistently finds that DID treatment is beneficial. For example, a Norwegian study of consecutive admissions to a specialized inpatient trauma program provided stabilization treatment consisting of group and individual therapy based on Herman's (1997) model for complex trauma survivors. The authors found that DID symptoms do not substantially improve if dissociated self-states and amnesia are not directly addressed in treatment (Jepsen, Langeland, Sexton & Heir, 2014). This study had notable methodological strengths. None of the 23 patients diagnosed by structured interview with a "complex dissociative disorder" (CDD)—either DID or DDNOS[6]—had previously been assessed or treated for a DD, and the program did not target dissociative symptoms such as amnesia or self-states. Thus, the study provides an opportunity to assess outcome among DID

6. DID and most DDNOS patients experience many similar symptoms and require similar treatment so are considered together in this review (ISSTD, 2011).

TABLE 1. Studies Providing Treatment to Dissociative Identity Disorder and DDNOS Patients Used in Brand, Classon, McNary, and Zaveri (2009) Meta-analysis

Authors	Date	Sample description and *N*	Treatment	Primary Findings	Effect Sizes
Choe & Kluft	1995	*N* = 21 DID females	Daily individual therapy and specialized group therapy (approx. 12/week) on inpatient dissociative disorders unit. Average length of stay = 23 days.	Improved: DES Total Score and symptoms of absorption and depersonalization/derealization; Worsened: amnesia scores	Pre- to post- treatment: DES = -1.23
Ellason & Ross	1996, 1997, 2004	*N* = 135 DID patients at baseline, *N* = 35–54 at 2-year follow-up	Inpatient trauma program. No information on average length of stay.	At 2-year follow-up 22% patients were integrated. Both integrated and unintegrated patients showed significant improvement on a wide range of MCMI-II subscales. Across all patients there was significant improvement on number of Axis I and II disorders, dissociation, depression, all subscales of DDIS, global severity index and all subscales on the SCL-90-R, and reduced medication use. Integrated patients showed significantly more improvement across measures compared to unintegrated.	Pre- 2-year follow-up: Number of diagnoses: SCID I = -1.73, SCID II = -.58, DES = -.99, BDI = -0.81, GSI (all pts.) = .85, GSI (integrated pts.) = -2.99
Ross & Ellason	2001	*N* = 50 trauma inpatients. Clinical diagnoses at discharge were 37 DID, 4 DDNOS, and 9 Major Depressive Disorder with psychotic features.	Inpatient trauma unit; went on to partial program (if so, completed measures at discharge from partial). Average length of inpatient stay = 19.5 days. Average length of stay at partial = 11.0.	Significant reduction in general distress, hopelessness, depression, suicidal ideation but no change in dissociation.	Pre- to post- treatment: DES = -.13, GSI = -.92, BDI-II = -1.23, BSS = -.60, BHS = -.90
Ross & Haley	2004	*N* = 46 of 60 consecutive admissions to trauma unit (52% with DID)	Inpatient trauma unit; average length of stay = 18.2 days. CBT and experiential therapies. 30 hours of group and 2 hours of individual treatment.	Significant decreases in depression, suicidal ideation, hopelessness, dissociation, and general distress at discharge. Changes maintained at 3-month FU and many continued to improve.	Pre- to post- treatment: DES = -.29, GSI = -.80, BDI-II = -1.48, BSS = -.89, BHS = -1.17
Gantt & Tinnin	2007	*N* = 72 trauma survivors (13 DID, 37 DDNOS, 22 PTSD)	Outpatient intensive program with combination of art therapy, hypnosis, and "video therapy." No information on average length of stay.	Based on clinician assessment of DD patients (DID and DDNOS combined): Recovered - 16/50 (32%), Improved - 27/50 (54%), Unchanged - 6/50 (12%), Worse - 2/50 (4%). Outcomes assessed using last available assessment point. Significant improvement on all objective measures.	Pre- to post- treatment: DES = -.66, SCL-45 = -.91, IES = -1.35
Ross & Burns	2007	*N* = 111 patients. 90% of patients on this unit have a DD but diagnoses not provided for this sample	Inpatient treatment on trauma unit; average length of stay = 10.3 days.	Significant decrease in depression. Length of stay not correlated with discharge BDI score or change in BDI score.	Pre- to post- treatment: BDI = -1.82

Note. Adapted from Brand, Classon, McNary, and Zaveri (2009) and used by permission. BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory; BHS = Beck Hopelessness Scale; BSS = Beck Scale for Suicidal Ideation; DES = Dissociative Experiences Scale; DDIS = Dissociative Disorders Interview Schedule; DDNOS = Dissociative Disorder Not Otherwise Specified; FU = follow-up; GSI = Global Severity Index of the SCL-90-R; IES = Impact of Event Scale MCMI-II = Millon Clinical Multiaxial Inventory II; Pts. = patients; SCID-I = Structured Clinical Interview for DSM-IV; SCID-II = Structured Clinical Interview for DSM-IV version 2; SCL-90-R = Symptom Checklist-90-Revised; SCL-45 = Symptom Checklist-45.

TABLE 2. Comparison of Effect Sizes for DD Studies and Individual Treatment Studies for Childhood Trauma

Outcome	Effect Size for DD Treatment Studies Comparing Pre- and Post-treatment Data	Effect Size for Individual Treatment Studies of Childhood Trauma
Overall Outcomes	.71	.82
Depression	1.12	.98
Dissociation	.70	.94
General distress	1.09	.49

Note. Data from a review of dissociative disorders treatment studies and six treatment outcome studies of individual therapy for adults in which at least 25% of the sample reported childhood abuse (data from Brand, Classon, McNary, & Zaveri, 2009). DD = Dissociative Disorders

patients in a setting in which it was unlikely that therapists may have "iatrogenically" suggested or reinforced DID symptoms,[7] and in which dissociative symptoms were not specifically addressed. An assessment one year prior to hospitalization showed that patients' dissociative symptoms were stable prior to inpatient treatment, thus eliminating the possibility that symptoms changed due to the passage of time or regression to the mean.

The authors compared a control group of complex trauma inpatients with childhood sexual abuse (CSA) without a CDD diagnosis to a CSA group with CDD diagnoses at four time points: one year before admission, admission, discharge, and one-year follow-up (Jepsen et al., 2014). The CDD group was more symptomatic across all measures, including dissociation, at all time points. Although both groups showed statistically significant decreases in general psychiatric symptoms, at discharge, the CDD patients showed lower rates of reliable overall improvement, and a slower process of improvement across symptoms, with no effect on dissociation, and only a small effect at follow-up. The interaction between dissociation and worsening in interpersonal functioning prior to treatment predicted poor outcome at one-year follow-up in the DD group (Jepsen et al., 2014). These findings prompted the program directors to develop specialized treatment for CDD patients that specifically targets dissociated self-states and amnesia, evaluation of which is underway (E. Jepsen, personal communication, June 2013).

The largest study to date of DID and DDNOS, called the Treatment of Patients with Dissociative Disorders (TOP DD), prospectively studied the outcomes of 280 DID or DDNOS patients and 292 therapists from 19 countries at four times over 30 months of treatment. (Therapists were able to participate regardless of whether their patient participated, which resulted in slightly more therapists than patients.) The cross-sectional results showed patients in the earlier stages of treatment had higher levels of symptoms of dissociation, PTSD, and overall distress; more hospitalizations; and less adaptive functioning than patients in the later stages of treatment (Brand, Classen, Lanius, et al., 2009). The prospective, 30-month follow-up results showed even more improvements. Specifically, patients showed decreased dissociation, PTSD, general distress, depression, suicide attempts, self-harm, dangerous behaviors, drug use, physical pain, and hospitalizations as well as improved functioning as reported by patients and therapists (Brand, McNary, et al., 2013). After initial relatively rapid improvement, the rate of

7. Critics of the phasic trauma model (TM) treatment for DID opine that trauma is not central to the etiology of DID. According to their theory, dissociation is caused, perpetuated, and worsened by clinicians who believe in the TM of dissociation and who reinforce this belief directly or indirectly (Lilienfeld et al., 1999). This model of DID is variously known as the Iatrogenic, Sociocognitive, or Fantasy Model. For a more complete critique of this view, see Dalenberg et al., 2012; Gleaves, 1996; Gleaves, May, & Cardena, 2001; Kluft, 1989; Loewenstein, 2007).

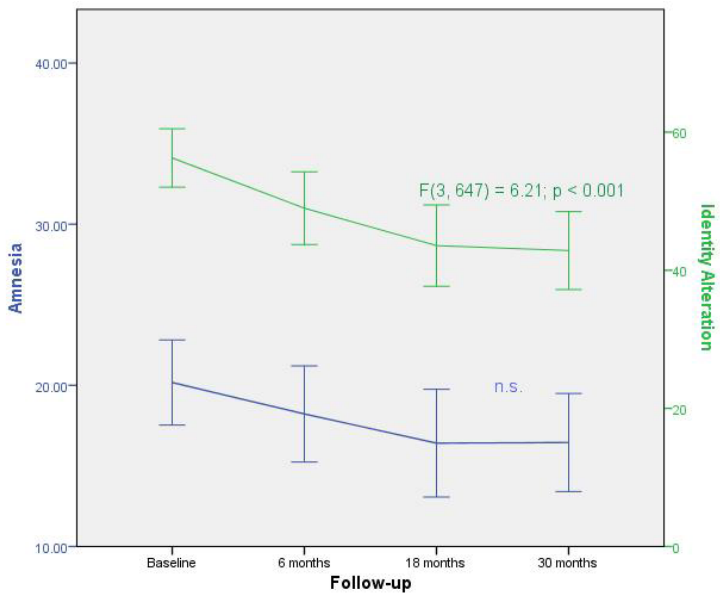

FIGURE 1. Mean Amnesia and Identity Alteration Over Four Assessments in Dissociative Disorders Patients in TOP DD Participants with 95% Confidence Intervals. Adapted from Brand, B. L., & Loewenstein, R. J. (2014). Does phasic trauma treatment make patients with dissociative identity disorder treatment more dissociative? *Journal of Trauma & Dissociation*. Reprinted by permission of Taylor and Francis, LLC (http://www.tandfonline.com)

change slowed over the course of 30 months for most outcomes; therefore, effect sizes are not able to sufficiently capture the complexity of the changes. More patients were involved in volunteer jobs and/or attending school and socializing, and reported feeling good at the 30-month assessment. Patients progressed from early stages of treatment to more advanced stages more often than they regressed from an advanced to early treatment stage, according to therapists' reports (Brand, McNary, et al., 2013).

Although some studies have shown that traumatized patients with the highest level of dissociation were not as responsive to treatment (D'Andrea & Pole, 2012; Fraser & Raine, 1992; Jepsen, Langeland, & Heir, 2013; Jepsen et al., 2014; Resick, Suvak, Johnides, Mitchell, & Iverson, 2012), the TOP DD patients with the highest levels of dissociation, as well as those with the most severe depression, showed decreases in both types of symptoms over time (Engelberg & Brand, 2012; Brand & Stadnik, 2013). There were more patients who showed "sudden improvement" versus "sudden worsening" across a range of symptoms (defined by a 20% increase or decrease in symptoms) at one or more time points (Myrick, Brand, & Putnam, 2013). The sudden improvers had significantly fewer episodes of revictimization and stressors compared to those who worsened, suggesting that revictimization and/or day-to-day stressors may have contributed to worsening in treatment. Sustained worsening occurred in only a very small minority (1.1%) of the patients. This rate of worsening compares favorably to that found in studies of general psychiatric patients (Whipple & Lambert, 2011). Patients showed a decrease in the frequency of identity alteration and hearing the voices of self-states (see Figures 1 and 2; Brand & Loewenstein, 2014), and a trend-level improvement in amnesia, but no worsening in this symptom, as predicted by the critics (i.e., Gee et al., 2003). This indicates that DID treatment facilitates integration, thereby reducing compartmentalization into self-states. The patients' functioning si-

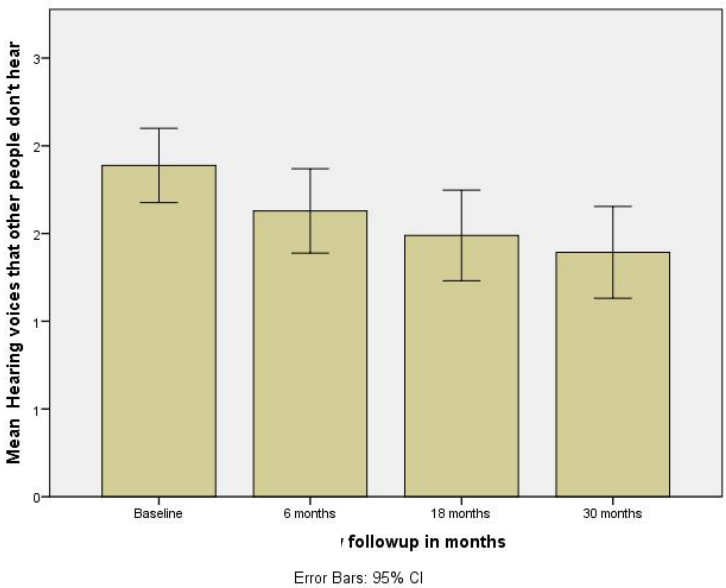

FIGURE 2. Mean Hearing Voices Over Four Assessments in Dissociative Disorders Patients in TOP DD Study. Adapted from Brand, B. L., & Loewenstein, R. J. (2014). Does phasic trauma treatment make patients with dissociative identity disorder treatment more dissociative? *Journal of Trauma & Dissociation*. Reprinted by permission of Taylor and Francis, LLC (http://www.tandfonline.com)

multaneously improved (see Figure 3; Brand & Loewenstein, 2014).

In summary, the TOP DD study documented that a wide range of symptoms and adaptive functioning improve while utilization of intensive interventions decrease during treatment for DID. The TOP DD study meets the standards set forth by Dimidjian and Hollon (2010) for having broad outcome measures so that potential harm can be detected and the researchers specifically investigated worsening, yet found that rates of improvement outweighed worsening. Further, factors external to treatment (e.g., revictimization, health and financial difficulties) appear to have contributed to the worsening that occurred in a fraction of the participants (Myrick et al., 2013).

Specialized treatment for DD is associated with significant cost savings, although reductions are most notable in patients with less chronic treatment courses (Fraser & Raine, 1992; Loewenstein, 1994; Ross & Dua, 1993). However, even chronic cases can often benefit from treatment. For example, a British woman with DID was misdiagnosed with conditions other than DID for 13 years, resulting in her decompensating to such a regressed state that she required frequent hospitalizations and daily monitoring (Lloyd, 2011). Within a year of being diagnosed and treated for DID, she had less frequent psychiatric crises and had not needed any subsequent hospitalizations. Her stabilization following recognition and treatment for DID is reflected in her annual treatment costs dropping from £29,492 ($47,187) pre-DID diagnosis to £10,695 ($17,112) post-DID diagnosis, representing an annual savings of £18,797 ($30,075). Ross and Dua (1993) document similar findings with a patient who had cost $45,800 per year (in 1992 Canadian dollars) for 19 years before DID diagnosis, and $14,602 per year for the treatment subsequent to the diagnosis of DID and initiation of appropriate treatment.

In summary, systematic evidence has consistently shown that the Phasic Trauma Model for DID treatment is beneficial across a wide variety of outcomes, treatment set-

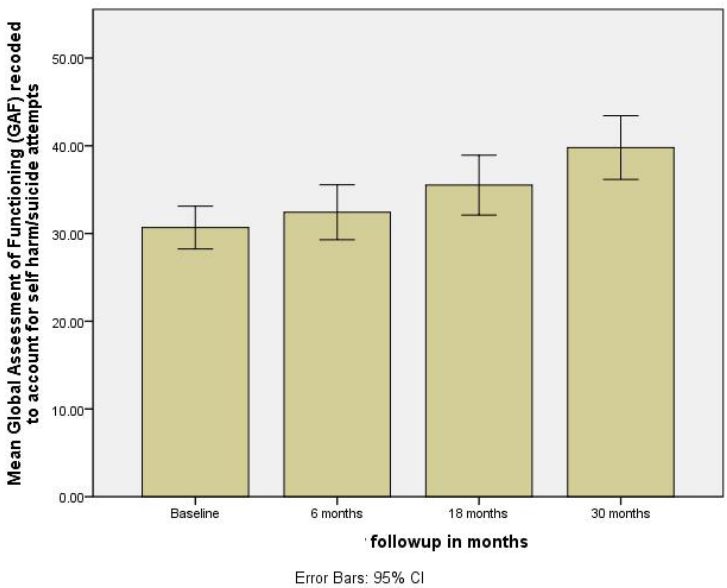

FIGURE 3. Global Assessment of Functioning Over Four Assessments in Dissociative Disorders Patients in TOP DD Study. Adapted from Brand, B. L., & Loewenstein, R. J. (2014). Does phasic trauma treatment make patients with dissociative identity disorder treatment more dissociative? *Journal of Trauma & Dissociation*. Reprinted by permission of Taylor and Francis, LLC (http://www.tandfonline.com)

tings, researchers, and cultures. Treatment that does not address DID symptoms of amnesia and identity alteration does not appear to improve dissociation, although other outcomes may improve. In addition, DID treatment consistent with expert guidelines is associated with significant cost savings.

CONCERNS ABOUT HARM

Despite this evidence base, a few vocal critics continue to argue that DID treatment is "harmful." As noted above, the standard of DID care is well articulated and clinicians whose treatment falls below the standard should be held accountable. In any treatment model of any patient with any diagnosis, it is not rational to assume that all clinicians provide harmful treatment to a specific type of patient because a few clinicians' treatment has fallen below the standard of care. It is illogical to think that the solution to these unfortunate isolated cases is to deprive all DID patients of evidence-based, beneficial treatment focused on their dissociative symptoms.

An important measure for protecting patients is to provide therapists with rigorous training, grounded in evidence-based practices, about the assessment and treatment of DD patients. The ISSTD has developed an extensive international therapist training program, available in small classes throughout North America, as well as web-based seminars in English, German, and Spanish. This training course has already taught over 2,200 therapists the phasic treatment model for DD (personal communication, Lynette Danylchuk, Director of the Professional Training Program of ISSTD, November 4, 2013). Similarly, the DeGPT, or German Speaking Society for Psychotraumatology, has provided certification in complex trauma and dissociative disorders to over 1,000 clinicians (personal communication, Reinhard Drobetz, Ph.D., Scientific Referee of DeGPT, September 12, 2013).

FAILURE TO REVIEW SCIENTIFIC EVIDENCE AND RELIANCE ON OPINION PIECES

Critics of DID treatment argue that the disorder is typically only diagnosed in North America and/or by a small number of DID specialists, which they believe supports the notion that the disorder is iatrogenically created by therapists and other cultural influences (Lilienfeld, 2007; Lynn, Fassler, Knox, & Lilienfeld, 2006; Lynn et al., 2012; Paris, 2012). The reality is that DID is recognized, diagnosed, and treated in many countries, including some in Europe, North and South America, Asia, and the Middle East, with prevalence of DID typically around 1% of the general population (Spiegel et al., 2011). For example, the TOP DD study had a sample of 292 participating therapists from 19 countries in North America, Europe, Africa, Asia, and the Middle East (Brand, Classen, Lanius, et al., 2009). Each therapist reported on only one patient, making it clear that therapists around the world diagnose and treat DID.

The critics fail to acknowledge, let alone explain, the consistent evidence from the wide variety of studies that document the treatment progress of DID patients across a range of outcomes. Lynn and colleagues (2012) attempted a DID treatment review, yet cited only a single study conducted on DID treatment: a case series study from almost 30 years ago that did not collect systematic data on patients (Kluft, 1984). The bulk of this "review" consisted of the author's own non-empirical, theory-focused publications. They failed to cite any of the 13 DID treatment studies with systematic data that were available at the time they wrote their review. Similarly, Paris (2012) contended that, "treatment [of DID] was never shown to be successful" (p. 1078), yet he also failed to cite much of the available literature. Only 14% of his 48 references were peer-reviewed articles from the prior 12 years, and 70% of his references were non-peer-reviewed materials (Brand, Loewenstein & Spiegel, 2013).

In Lilienfeld's article, "Psychological Treatments That Cause Harm" (2007), he failed to cite even one DID treatment study from the five case/case series studies and four treatment studies that were published before 2007. It is striking that an article offering broad claims about the purported harmfulness of DID treatment overlooked every peer-reviewed published treatment outcome study. Similarly, Lynn and colleagues (2006) fail to cite a single data-based study of DID treatment despite the title of their book being *Practitioner's Guide to Evidence-Based Psychotherapy*.

LACK OF EMPIRICAL EVIDENCE THAT DID TREATMENT IS HARMFUL

The critics fail to mention that there is no empirical, peer-reviewed study that has shown that DID treatment is harmful. Critics of DID treatment sometimes dismiss the DID treatment studies to date, noting that they are not RCTs (e.g., Lynn et al., 2012; Paris, 2012). Naturalistic, uncontrolled longitudinal trials may be more ethical and feasible than RCTs with complex patients with chronic suicidality and have provided important treatment outcome data (e.g., Brand, McNary et al., 2013; D'Andrea & Pole, 2012).

RELIANCE ON NON-PEER-REVIEWED ANECDOTES AND UNFOUNDED CLAIMS

Instead of relying on peer-reviewed cases and outcome studies, the critics rely on non-peer-reviewed literature, such as an autobiographical account written by a patient (MacDonald, 1998). This autobiography is one of the few pieces of "evidence" used by Gee, Allen, and Powell (2003) to attempt to substantiate their claim that DID treatment is harmful. Anecdotal stories with-

out data are the least rigorous type of "evidence" upon which to base claims of harmful (or beneficial) treatment (Dimidjian & Hollon, 2010). Sometimes the critics quote sources of "data" that are not easily accessible for review and that have not been peer-reviewed. For example, Gee and colleagues (2003) cite a brief submitted to a judge in Australia in a legal proceeding as evidence that DID patients become more symptomatic during treatment. Claims made in legal briefs are necessarily meant to "win" at trial, and do not meet the same data-driven, unbiased standards as do peer-reviewed scientific studies. Gee and colleagues (2003) make the strong statement that, "employment rates dropped 10-fold" (p. 115) during DID treatment based on a non-peer-reviewed study, with incompletely described methodology conducted by the Washington Department of Labor and Industries. One of us was able to contact the author of this study, but the latter stopped responding to queries after being asked specifically about its methodology (personal communication from Loni E. Parr, R.N. to B.L. Brand, October 29, 2013). Data published subsequently from the TOP DD study shows that rates of attending school and/or volunteering and GAF scores *increase* among DID patients during treatment (see Figure 3; Brand, McNary, et al., 2013; Brand & Loewenstein, 2014).

Gee and colleagues (2003) also misrepresented data from Gleaves, Hernandez, and Warner (1999) in their re-analysis of the Gleaves and colleagues data. Therapists reported that 73% of 446 DID cases had corroborated symptoms of DID prior to DID diagnosis and 67% prior to treatment. Gee misinterpreted the Gleaves and colleagues data as showing an increase in amnesia during DID treatment. In a later published reply, Gleaves and colleagues (2003) argued that, "what Gee et al. described as a gain in 100 cases of childhood amnesia was completely due to missing data from the 'prior to therapy' question … Gee's continued misinterpretation of the survey data is based on their equating absence of documentation with documentation of absence" (p. 117). In addition to misinterpreting missing data, Gee and colleagues presented these data as if they were from a treatment study, which they were not.

The critics cite malpractice suits as evidence that DID treatment is harmful (e.g., McHugh, 2013). There have been malpractice suits for treatments of most major psychiatric and medical disorders. If a plaintiff wins in a lawsuit against a clinician for malpractice, it does not follow that the established treatment model itself is at fault. Rather, the judgment is that the treatment fell below the standard of care. All treatments, including those for DID, should be consistent with the current standard of care. It is illogical to conclude that because a few therapists have failed to do this for individual DID patients, all DID treatment is harmful.

INACCURATE ASSUMPTIONS ABOUT THE NATURE OF DID TREATMENT

The critics of DID treatment wrongly assume that memory "recovery" is the "initial focus of therapy" (Gee et al., 2003, p. 115). DID experts have found that poorly educated therapists who focus on "memory recovery" usually cause marked worsening of symptoms in their patients (Loewenstein & Wait, 2008). A survey of DID expert therapists found that at no stage in treatment was the processing of trauma memories one of the top 10 most frequently recommended treatment interventions, not even during the middle phase when DID patients discuss trauma in detail in some sessions (Brand, Myrick, et al., 2012). Instead, the experts preferentially advocated teaching and practicing containment of traumatic memories. Containment techniques are the opposite of exploring trauma memories. Here, patients are assisted in achieving greater distance from, and mastery over, intrusive flashbacks of traumatic memories. This finding reveals

a theme of DID treatment that has been missed by the critics: DID patients are typically *flooded with posttraumatic intrusions* and do not need help "recovering" traumatic memories. Instead, they need help attenuating and containing them, and reducing the extent to which current functioning is impaired by flashbacks, posttraumatic reactivity, and dissociative symptoms.

This approach is consistent with the stage-oriented psychotherapy developed by Cloitre and colleagues (2010) for the treatment of complex childhood trauma. Her phase-based skills and exposure treatment of individuals with PTSD from chronic early life trauma was shown in an RCT to produce greater benefit and fewer adverse effects than either skills training or exposure alone. This approach, like that espoused by DID experts, emphasizes stabilization and self-regulation skills before exposure to trauma-related memories (Cloitre et al., 2011; ISSTD, 2011).

Cloitre, Petkova, Wang, & Lu Lassell (2012) conducted a dismantling study in which three elements of psychotherapy (training in affect and relationship management, discussion of trauma narratives, and supportive counseling) were examined. The three elements were equally effective in reducing PTSD symptoms among those low in dissociation. However, for those with moderate dissociative symptoms, the combination of skills training and trauma narratives provided better outcome, while supportive counseling helped to maintain post-treatment gains. Resick and colleagues (2012) compared cognitive processing therapy to cognitive therapy alone or written accounts about the trauma alone. For high dissociators, the combination of cognitive processing and written accounts worked better, while low dissociators responded better to the cognitive processing without the written accounts. These studies show dissociative individuals fare best with phase-oriented treatment that involves techniques designed to teach emotion regulation before focusing directly on resolving trauma. The dissociation scores in these two studies were less severe than found in DID samples. These studies show that even at moderate levels of dissociation treatment needs to be modified to be beneficial to dissociative individuals.

CONTRADICTORY SUGGESTIONS FOR DID TREATMENT

Lynn and colleagues (2006) advocate that therapists avoid what they refer to as "suggestive procedures," including "guided imagery," with DID patients (p. 252). Despite this advice, Lynn and colleagues add the conflicting notion that imagery for integration of DID alternate identities—such as streams flowing together—could be used to treat DID (p. 254). In the DID literature, this type of intervention is viewed as an adjunctive technique to facilitate unification of DID alternate identities (ISSTD, 2011; Kluft, 1982). Further, this sort of intervention should *only* be used in the context of well-constructed phasic treatment of DID. It can be harmful to use this type imagery without sufficient preparation and informed consent for patients to integrate self-states (Kluft, 1993). The critics fail to add the cautions for this adjunctive technique's use, while conflating a technique to facilitate treatment goals with treatment itself. Not recognizing the inherent contradictions in arguing that DID treatment is harmful, they advocate a procedure that is a recognized guided imagery/hypnotic technique straight from the DID literature. However, some of these authors' suggestions for DID treatment, such as development of self-regulation using behavioral, cognitive, and affective-regulatory strategies, are entirely consistent with the ISSTD treatment guidelines (pp. 136-138, ISSTD, 2011[8]) and the later DID experts' survey (Brand,

8. In 2006, they could have referenced the prior edition of the ISSTD guidelines, which are quite similar to the current guidelines. See International Society for the Study of Dissociation (2006).

Myrick, et al., 2012). These critics appear to have little familiarity with what the expert consensus-based ISSTD treatment guidelines advocate for DID treatment, yet argue that this treatment model is harmful.

STRAINED LOGIC AND LACK OF PARSIMONY IN INTERPRETATIONS OF DATA

The critics frequently claim that dissociated self-states are created via hypnosis (Lilienfeld, 2007; Powell & Gee, 1999) despite evidence that DID patients who have been hypnotized do not differ from DID patients who have not been hypnotized in terms of types of self-states, symptoms, psychiatric history, or abuse history (Putnam, Guroff, Silberman, Barban, & Post, 1986). In a brief report that purports to find that hypnosis has iatrongenic effects on DID, Powell and Gee (1999) examined Ross and Norton's (1989) study that found that the number of self-states did not differ between patients who had been hypnotized versus those who had not. Despite the equivalence of means, Powell and Gee compared the groups' standard deviations for the number of self-states. Based on finding that the standard deviations were larger among hypnotized patients, Powell and Gee concluded that using hypnosis could have iatrogenic effects. This speculation is questionable at best. It is unclear why they did not give credence to the more parsimonious explanation they offered but discounted: that therapists who use hypnosis receive more referrals for DID patients because hypnosis is a useful adjunctive modality for treating DID (ISSTD, 2011).

Powell and Gee (1999) dismissed another study that found no differences in numbers of self-states according to whether patients had been hypnotized or not (Putnam et al., 1986), arguing it may have been underpowered due to using Bonferroni corrections, which are widely used to correct for error rates, particularly in large data sets to avoid spurious correlations (Kirk, 1982). Elsewhere, Powell and Howell (1998) criticize another DID treatment study (Ellason & Ross, 1997) for *not* controlling for error rates. Despite the serious problems with Powell and colleagues' papers, they are among the most commonly cited pieces of "evidence" relied upon to support the argument that DID treatment is harmful (e.g., Lilienfeld, 2007; Lynn et al., 2006; 2012).

Lilienfeld (2007) offers another example of strained logic in his argument that DID treatment is supposedly harmful. He states that "the presence of alters can impede treatment progress" (p. 60), based on a .48 correlation found by Coons (1986) between the number of alters and the length of time required to achieve integration of dissociated self-states, an outcome of treatment that has been shown to improve patient functioning (e.g., Brand, Classen, McNary, & Zaveri, 2009; Ellason & Ross, 1997). Given that the number of dissociated self-states provides a rudimentary assessment of the degree of internal fragmentation of a given patient, it is logical that there would be a positive, significant correlation between the number of self-states experienced by patients early in treatment and length of time in treatment. Severity markers are often related to length of treatment as well as treatment response for a variety of disorders (Blom et al., 2007; Haby, Donnelly, Corry, & Vos, 2006). If Lilienfeld's logic were extended to depression, it would mean that a positive correlation between the severity of depression at baseline and length of treatment would be grounds for concluding that treatment for depression is harmful.

MISUNDERSTANDING AWARENESS OF SELF-STATES

Those who contend that DID treatment is harmful equate the increased awareness of dissociated self-states that often occurs with DID patients over the course of

treatment with the *creation* of self-states, concluding that treatment is harmful because it creates self-states (Lilienfeld, 2007; Piper & Merskey, 2004). If this line of reasoning were accurate, it would be akin to saying that in undiagnosed bipolar disorder patients, the disorder is created by clinicians who help patients become more aware that they have changes in mood states. Clinicians do not create bipolar disorder, schizophrenia, or any other disorder that patients may not recognize until a clinician helps them identify symptoms and make sense of their experiences as disorders.

Because DID requires the presence of amnesia, DID patients are, by DSM-5 definition (American Psychiatric Association, 2013), unaware of some of their behavior in different states. Progress in treatment includes helping patients become more aware of, and in better control of, their behavior across all states. To those who have not had training in treating DID, this increased awareness may make it seem as if patients are creating new self-states, and "getting worse," when in fact they are becoming aware of aspects of themselves for which they previously had limited or no awareness or control. Although some DID patients create new self-states in adulthood, clinicians strongly advise patients against so doing (Fine, 1989; ISSTD, 2011; Kluft, 1989).

UNSUBSTANTIATED CLAIMS THAT DID TREATMENT MAKES PATIENTS MORE DISSOCIATIVE

Critics of DID therapy opine that treatment will result in increased symptoms of dissociation over time as patients become influenced by therapists who recognize and treat DID (Gee et al., 2003). This opinion is inconsistent with the results of meta-analyses and prospective inpatient and outpatient studies which generally find moderate to large within individual effect sizes for reductions in dissociation, self-harm, and hospitalizations, among others (Brand, Classen, Lanius, et al., 2009; Brand, Classen, McNary, & Zaveri, 2009; Brand, McNary, et al., 2103). Gee and colleagues (2003) suggest that the most direct way to examine the possibility that DID treatment has iatrogenic effects on DID patients is to measure alter identity symptoms over time in treatment. They speculate that "there will be an increase in symptoms during therapy that coincides with the increased exposure to various forms of social influence concerning DID" (p. 114). Contrary to this hypothesis, dissociative symptoms including hearing voices and feeling as if one is different people *decreased* among the TOP DD patients over time in treatment (see Figures 2 and 3; Brand, McNary, et al. 2013; Brand & Loewenstein, 2014). Moreover, trauma treatment that does not address dissociated self-states results in little improvement in dissociation (Jepsen, Langeland, & Heir, 2013; Jepsen, Langeland, Sexton, & Heir, 2013).

DID patients spend an average of 6–12 years in treatment before correct diagnosis, receiving multiple incorrect diagnoses and undergoing costly and ineffective treatments (Loewenstein, 1994; Putnam et al., 1986; Spiegel et al., 2011). This means that these patients have been exposed to clinicians who did not make the diagnosis of DID and/or who treated the patient for other disorders. Were these patients easily suggestible, and were the disorder illusory, or its symptoms prone to quick improvement, non-DID treatment should have reduced, eliminated, or significantly improved symptoms during the first decade in the mental health system. Instead, patients often became more disabled during the years of misdiagnosis and misdirected treatment (Lloyd, 2011; Mueller-Pfeiffer et al., 2012). Even if they receive trauma-based treatment that does not specifically address self-states and amnesia, dissociation does not substantially improve (Jepsen, Langeland, & Heir, 2013; Jepsen et al., 2014). This failure to diagnose and treat DID over many years may represent the *real* iatrogenic harm (Kluft, 1989).

WHAT CONTRIBUTED TO THE NOTION THAT DID TREATMENT IS HARMFUL?

Despite lack of research data to support them, these views have found a place in the peer-reviewed literature (e.g., Giesbrecht, Lynn, Lilienfeld, & Merckelbach, 2008). The available evidence supports the link between trauma and dissociation, and not the idea that fantasy-proneness creates a reverse association between dissociation and trauma (Dalenberg et al., 2012, in press). Editors and reviewers have accepted the seemingly authoritative comments of senior writers espousing what is now an obsolete approach to etiology, diagnosis, and treatment DD, based in 19th-century theories of hysteria (McHugh, 1992) and outmoded, oversimplified views of hypnosis, that is, the sociocognitive model of hypnosis (Radtke & Spanos, 1981). The history of medicine shows that it may take time to overcome the vociferous support of the venerable, but incorrect, "received wisdom" (Carter & Carter, 2005; Marshall & Adams, 2008).

Based on the current literature, it is clear that clinicians also *can* harm DID patients if they are not trained in or fail to provide treatment consistent with the expert consensus phasic treatment model (e.g., focus on trauma memory before stabilization), do not maintain adequate boundaries, and/or become overly fascinated with the overt phenomena of self-states, among others (Chu, 1988; Fine, 1989; Kluft, 1988a). Widespread training in correct assessment and treatment of dissociation and DID is needed to prevent harm to patients, not withholding evidence-based phasic, trauma-informed DID treatment.

SUMMARY AND FUTURE DIRECTIONS

In contradiction to the claim that DID treatment is harmful, peer-reviewed research shows that trauma-informed, phasic treatment is consistently associated with a wide range of benefits across cultures, researchers, and when administered by a variety of clinicians. Further, the treatment model and research are consistent with outcome studies in patients with complex trauma with moderate dissociation (Cloitre et al., 2010; Cloitre, Petkova, et al., 2012; Resick et al., 2012). The authors who opine that DID treatment is harmful have relied on anecdotal cases, misrepresentations of data, claims of damage in legal cases that are not substantiated in the scientific literature, and opinion pieces that overlook data-based peer-reviewed treatment studies. The critics of DID treatment have made strong statements that are not substantiated by current evidence regarding such treatment.

The current literature provides considerable empirical evidence that DID treatment is beneficial. While RCTs have not been conducted with DID, current evidence is consistent with the conclusion that DID treatment is responsible for improvements in DID patients' symptoms and functioning. Given the severe symptomatology and dysfunction associated with DID, as well as the toll it exacts from individuals who suffer from it and the agencies that fund and provide treatment, harm may come from depriving patients of treatment that is consistent with DID treatment guidelines (ISSTD, 2011; Brand, Lanius, et al., 2012). Further harm may occur if clinicians believe the unsubstantiated claim that this type of DID treatment is harmful and provide treatment that falls below the standard of care for DID. We do agree with Lynn and colleagues (2012) that treatment for individuals with DID is an important area that merits considerably more research. However, the evidence base makes it clear that well-conducted, phasic, trauma-focused treatment is helpful for people with dissociative disorders.

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Inviting Scientific Discourse on Traumatic Dissociation: Progress Made and Obstacles to Further Resolution

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Abstract

This paper emerged from a five-part exchange on trauma-related dissociation in forensic contexts between the authors and Merckelbach and colleagues (2017–2019). We find important areas of consensus, including that trauma exposure is associated with depersonalization and, occasionally, memory errors; reports of dissociative symptoms may be elevated due to non-trauma factors; error rates for diagnosing dissociative identity disorder are low; and multiple sources of information are required for assessing any symptom, including dissociation, in forensic contexts. Our goals in this paper are to accurately summarize our evidence-based position about dissociation as it relates to forensic contexts and to call for more scientific discourse and less motivated skepticism by all involved scholars. We enumerate and demonstrate our critics' reliance on eight forms of rhetoric that are largely rejected by the scientific community. We illustrate these forms of argument using Merckelbach et al.'s published responses in this lengthy debate as exemplars. Recognition of our critics' reliance on these forms of argumentation is crucial to making further substantial progress in this debate. We argue that recovered memories of trauma should be evaluated in court using the same criteria that would be used with any other memory, including seeking out and evaluating corroborating and disconfirming evidence. We conclude by emphasizing the importance of comprehensive, unbiased assessments of dissociation in reported trauma-related forensic cases and suggest areas where research is needed.

Keywords Dissociation · Dissociative disorder · Recovered memory · False memory · Fantasy · Forensic

Beginning in 2017 and continuing to date, an unusually long exchange on the assessment of trauma-related dissociation in forensic contexts occurred between ourselves (Brand, Schielke, & Brams, 2017; Brand, Schielke, Brams, & DiComo, 2017; Brand et al., 2018) and Merkelbach and colleagues (Merckelbach & Patihis, 2018; Patihis, Otgaar, & Merckelbach, 2019). In this final paper, we will address the agreements that have been acknowledged, remaining problems in the discourse between trauma researchers and their critics, and future research needed in this area.

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Agreement Across Scholars

In their final paper of a five-paper exchange of views, Patihis et al. (2019) affirmed that they understood and agreed with some of the original positions of the Brand et al. authors, providing a base for consensus on the forensic evaluation of traumatic dissociation. Many of the initial disagreements put forth in Merckelbach and Patihis's (2018) original response were based on their misreading of our manuscript that at times could be addressed by greater clarity and added information on our part. That is, Merckelbach and colleagues were disagreeing not as much with statements that we had made in these articles or beliefs that we held, but rather with their own (potentially correctable) misconceptions of our thinking.

We can move forward with a joint understanding that error rates of diagnosis of dissociative identity disorder (DID) are low (Brand et al., 2018) (but should improve, as is true for all mental health diagnostic error rates), that there is a correlation

between trauma exposure and feeling depersonalized and/or occasionally experiencing memory errors (Brown et al., 2007; Edwards, Fivush, Anda, Felitti, & Nordenberg, 2001; Eid & Morgan, 2006), that elevations on symptom screening and diagnostic inventories for dissociation and dissociative disorders may be due to non-trauma factors (e.g., factitious or malingered presentations, "cry for help") (see Lyssenko et al., 2017), and that multiple sources of information are required for a comprehensive assessment of any symptom or putative diagnosis, including dissociative amnesia (DA) in the forensic context (American Association of Psychiatry and the Law, 2015). All such conclusions are repeatedly expressed throughout our papers and are supported by Merckelbach and colleagues.

Patihis et al. (2019), in their final response to our paper, stated that they were reassured that we, like the majority of trauma researchers, do not subscribe (and never have subscribed) to a media-based understanding of DID, wherein those with DID are portrayed as actually multiple "people" within one body. Rather, we have repeatedly described these individuals as suffering from a fragmentation of identity with personified behavioral states (Putnam, 2016; Spiegel et al., 2011). They were heartened to understand that we were not arguing that all individuals alleging DA are photographically recalling events that occurred. This last position would have been difficult for us to take, given that most of us have written from the earliest days of the "memory wars" to the present about partially or wholly false allegations, malingered dissociative conditions, and the reconstructive nature of memory (e.g., Brand, Webermann, & Frankel, 2016; Dalenberg, 1996). Furthermore, many of us (BLB, RJL, CJD) have served as expert witnesses in a variety of civil and/or criminal cases, including those in which we opined, according to the particular case, that the dissociation or dissociative disorder was genuine, that the dissociation or dissociative disorder itself was genuine but some aspect was exaggerated, and/or that the dissociative symptoms or disorder was malingered or factitious.

Patihis and colleagues also conceded that trauma exposure is related to problems in memory, although they wrote that this relationship occurs "via the mechanism of prolonged stress," (Patihis et al., 2019, p. 11) rather than through dissociation. We do not disagree that prolonged stress plays a causative role in problems in memory, although the distinction they proposed is difficult to make given that dissociative experiences themselves frequently occur under conditions of prolonged stress. Further, stress is an ill-defined term at this point in the literature, referring to a set of physiological responses as well as to negative experiences ranging from having a bad day at the office to cumulative, catastrophic life threat (Dalenberg, Straus, & Carlson, 2017). Patihis et al. also conceded that "trauma can cause feelings of depersonalization" (p. 11), a form of dissociation, but argued that evidence is insufficient to support the relationship to DA. Nevertheless, the depersonalization and amnesia factors of the DES correlate above 0.80 in confirmatory factor analyses (e.g., Stockdale, Gridley, Balogh, & Holtgraves, 2002), suggesting that experiences of depersonalization and DA tend to co-occur. Further, a latent class analysis conducted on a National Child Traumatic Stress Network data set of 3081 adolescents with the dissociative subtype of PTSD (D-PTSD) found that the best model fit for D-PTSD included both dissociative amnesia and depersonalization/derealization (Choi et al., 2017). Overall, recent reviews within the European literature have strongly supported the trauma model (TM) of DA and explicitly rejected the fantasy model (FM) as having no evidentiary support (Staniloiu & Markowitsch, 2014; Staniloiu, Markowitsch, & Kordon, 2018). Briefly, the TM states that antecedent trauma causes dissociation, in contrast to the FM's theory that states fantasy proneness or related phenomena such as suggestibility cause dissociation. Therefore, we believe that the acceptance that trauma is related to depersonalization is movement toward consensus.

Problems in the Discourse

Our central reason for writing the current paper is not to argue that all that should be known about the dissociation-trauma relationship is now known. Rather, it is a call for more scientific discourse and less "motivated skepticism" (Ditto & Lopez, 1992; discussed in more detail below) in the service of this goal. We argue against eight forms of nonscientific argumentation, largely using the Merckelbach et al. group responses as exemplars. Recognition of our critics' reliance on these forms of argumentation is crucial, in our view, to making further substantial progress in this debate.

We will address eight types of nonscientific argumentation used by the Merckelback et al. group in the current exchange which include the following: (a) Extraordinary Claims = Anything You Believe That I Do Not; (b) Ipse Dixit or the Bare Assertion Fallacy; (c) False Consensus; (d) The Ever-Shifting Goalpost; (e) Ad Hominem Arguments and Accusations of Such Arguments; (f) Motivated Skepticism; (g) The Demand for a Super Study; and (h) Arguing from Authority (Ad Verecundiam). Next, we show how each of these problematic styles of scientific discourse serve to degrade debate by obscuring evidence-based arguments from those that are not evidence-based.

Problem 1: Extraordinary Claims = Anything You Believe That I Do Not As is common in exchanges with our critics and true for the present exchange of views, any assertion that recovered memory may be accurate is labeled as an "extraordinary claim," referencing Carl Sagan's commonly cited statement that extraordinary claims require extraordinary evidence. In philosophical discussion, this is labeled the ECREE claim (e.g., Deming, 2016). The ECREE claim is embedded in the title and repeated in the first line of the Patihis et al. (2019)

reply. But Sagan's aphorism is actually quite controversial itself. In *Philosophia*, Deming (2016) described the problems that we also see in the current case. He clarified that "ambiguity in what constitutes 'extraordinary' has led to misuse of the aphorism." Deming noted that the phrase is "rhetorically employed in attempts to raise doubts concerning mainstream scientific hypotheses that have substantive support" (p. 1319). As originally defined in Hume's essay on miracles (Hume, 1748), an extraordinary claim is not merely a claim that one finds implausible, but rather one which is contradicted by overwhelming empirical data. "*For a claim to qualify as extraordinary*," Deming explained, "*there must exist overwhelming empirical data for its exact antithesis"* (p. 1319; italics added). The mere existence of a set of critics, even well-credentialed critics, is insufficient to make the claim extraordinary and thus to shut down the ordinary process of science.

A central argument within the DA debate is whether recovered memory and continuous memory are comparable in accuracy. In support of our position, we cited studies that found evidence of comparable accuracy for recovered and continuous memory using various accepted methods of comparing accuracy (e.g., Dalenberg, 1996; Williams, 1995). In response, the Merckelbach group pronounced the claim extraordinary but offered *no research* that directly supported their claim. If we accept the legitimacy of stopping debate by declaring the adversary's side of the argument "extraordinary," we end up allowing those making inappropriate characterizations in these regards in the controversy at hand to diminish the scientific validity of the opposing side's views, as well as evading the requirement of presenting their own scientific evidence.

In trying to make the case for the extraordinary nature of DA, Patihis, Merckelbach, and colleagues, for instance, required that DA must display the following characteristics (Patihis et al., 2019, p. 5).

1. The event has to be "very distant."

In fact, the onset of DA, according to the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, 2013), varies from the day of the trauma to hours, days, or decades later, and duration of the unavailable memory can range from minutes to decades (American Psychiatric Association, 2013, p. 299). The ICD-11 (International Classification of Diseases and Related and Related Health Problems; World Health Organization, 2018) explicitly recognizes that DA for recent events is most common, and resolution typically occurs within a week.

2. The loss of memory has to be complete and cannot only be for an important and salient part of the event.

However, the DSM-5 explicitly states that in some cases, "the individual can recall some, but not all of the events in a circumscribed period of time" (p. 298); the ICD-11 confirms that the extent of amnesia varies.

3. The return of memories must be a sudden, vivid, detailed account.

In fact, the DSM-5 explicitly states that individuals may "gradually recall the dissociated memories" (p. 299), and research evidence on the nature of the returned memories indicates a variety of ways in which memories are recalled. Memories of fragments of the event are more common than are "detailed accounts" (Andrews et al., 2000).

In sum, Merckelbach and colleagues defined DA in a way that is contradicted directly by both the DSM-5 and the ICD-11; did not quote a single trauma theorist or DA researcher who uses the criteria that they maintain must be met for DA to be present; and did not quote a single diagnostic manual or professional set of criteria that requires these characteristics. In fact, their description was at odds with the phenomenology of DA as described throughout the literature (cf., Staniloiu & Markowitsch, 2014; Staniloiu et al., 2018). They then argued that our examples are *not* DA, seemingly for the sole purpose of declaring the said criteria impossible to fulfill; but to repeat, they met criteria such as those adopted by expert clinicians, the authors of the DSM-5, and the authors of the ICD-11, rather than the idiosyncratic set of criteria they developed. Thus, they created a definition of DA that no trauma/dissociation expert champions, declared that only this form of DA meets criteria (i.e., their criteria), and then concluded that the evidence that DA exists is thus unsatisfactory.

In addressing this problem, we suggest that both groups of researchers recognize that individual case histories may contain extraordinary elements of the DA or false memory phenomena. Multi-victim sadistic abuse is the extreme case, but all agree that it occurs (Salter, 2013). Therapists who use extreme pressure to introduce a non-traumatized—or even traumatized—patient to "believe in" pseudo-memories that did not originate from the patient is an extreme case. Again, most would agree that this is rare and certainly falls below the standard of care for any sort of mental health treatment (Courtois, 1999). However, courtrooms are not the ideal arena to come to scientific or clinical consensus about any controversy in the mental health field, including how to handle such cases.

Examples of such a problematic situation include cases of a patient who holds on to belief in an impossible scenario, despite objective evidence to the contrary. For example, one of us (RJL) was involved in a case where a defendant therapist led a therapy group of supposed trauma patients, all of whom were also the therapist's individual psychotherapy patients. The individual psychotherapy of each patient was centered

on detailed exegesis of extreme trauma memories. In every 3 h, twice-weekly group psychotherapy, the therapist focused each group member in turn on recounting extensive, detailed trauma histories of organized, multi-perpetrator, multi-victim occultist abuse. The plaintiff alleged malpractice and creation of false memories by the defendant therapist. The plaintiff had not described any organized abuse history until she was treated by the defendant therapist, although she did report a history of paternal incest. As the "therapy" progressed, the plaintiff became convinced of the veracity of detailed childhood and adolescent "memories" of nightly multi-perpetrator/multi-victim, organized occultist abuse in the basement of her childhood home, over many years by multitudes of perpetrators, using large, complex instruments of torture. However, objective evidence showed that she had grown up in a 1500 square foot house without a basement. No family member recalled anything like the purported organized abuse history, including siblings who recalled that they and the plaintiff had been subjected to recurrent sexual, physical, and emotional abuse by their father, and witnessed his years of intimate partner violence against their mother. Eventually, the siblings were able to help the plaintiff disengage from the defendant therapist, and the organized abuse "history" receded. The patient remained phobic of any psychotherapy that could address any aspect of her trauma history. She continued to be highly impaired and described significant confusion about what had actually happened to her during her life.

On the other hand, many of us (RJL, CD, DS) have worked with forensic examinees who have been told by therapists that plausible but unprovable recovered memories could not possibly have occurred. For example, a patient brought a malpractice action against a former psychiatrist. She reported that he told her that her memories of childhood sexual, emotional, and physical abuse by her parents must be "false" because, in a prior treatment, the patient had recalled this abuse for which she previously described amnesia. The psychiatrist insisted that recovered memories and dissociative amnesia were "scientifically impossible"; that the patient's parents were "fine, upstanding people" who could not possibly have mistreated her; and that the patient's severe self-injury was "an abomination before God." The latter comment led the patient to engage in such severe self-injury that her surgeons were concerned that she would require amputation of her arm.

In less extreme recovered memory malpractice cases against therapists, the plaintiff's expert often argues that some aspect of the claim (if not the existence of the recovered memory itself) is "extraordinary" and not compatible with current literature or other evidence, and thus all elements of the recovered memory are obviously false and should have been confronted by the therapist and discarded. They might point out that certain aspects of the story are fantastic on its face. The expert for the defense of the accused therapist might disagree as to the degree of pressure from the therapist to adopt the belief, suggesting instead that the belief was offered by the client. Further, such an expert might question the scientific base for the claim that extraordinary beliefs incompatible with the client's reality and prior belief can be implanted. Therefore, the implantation theory should be discarded. An added complication is that children with verified trauma are known to weave fantastic elements into their accounts of known severe abuse and to misremember them as adults (Dalenberg, Hyland, & Cuevas, 2002; Everson, 1997). Therefore, the inclusion of a fantastic detail is not an empirical sign of a wholly false claim. That is, it is understood that children who give fantastic details within abuse narratives may not safely be placed in the known nonabused group.

In virtually all such cases, the truth turns out to be more complex. Extremely suggestive and incompetent therapists exist, and these individuals may encourage partially or entirely false narratives. Perfectly plausible recovered memory-based accounts of abuse (sometimes with later confessions by the perpetrator or other discounting evidence) also exist, and the plaintiffs in these cases often face an uphill battle in receiving a fair evaluation of this evidence (Cheit, 2014). The field needs to acknowledge and attempt to understand these phenomena and turn toward methods of (a) preventing abuse itself (rather than hiding from its most unacceptable realities (Cook, Newman, & Simiola, 2019); (b) finding more effective methods of training competent trauma therapists (rather than simply demeaning them); working on techniques to encourage and identify accurate memory disclosure; and (c) recognizing the costs of *both* missed and false identifications (Brown, Scheflin, & Hammond, 1998).

Problem 2: Ipse Dixit or the Bare Assertion Fallacy Scientists who dismiss the opposing argument as "extraordinary" conveniently position themselves such that their side of the argument requires little evidence. Thus, as we see in this extended exchange, significant time is spent either in unsupported assumptions about their opponents' beliefs or presentation of their own theories as facts. This approach to argument generally takes two forms. First, critics on either side of a debate may put words in each other's mouths based on their assumptions about the opponents' beliefs. Then, they critique these words as if they had been actually articulated, offering a straw-person argument. An example in Patihis et al. (2019) is the claim that a "point of departure" between their view and ours is that we, unlike our critics, do not believe "that expert witnesses should be transparent about their limits" (p. 3). As we have stated repeatedly, we support the recommendation for transparency by all expert witnesses such as when we discussed the importance of assessing for converging and diverging data for clinical hypotheses (p. 384 in Brand et al., 2018). However, if anyone in our group has written otherwise, then Patihis et al. should provide a citation as an example of our supposed commitment to non-transparency.

Another example of this fallacy in Otgaar et al. (2019) is the assertion that the "memory wars" were fought over the skeptics' suggestion (and our alleged disagreement with the idea) that one should not simply believe and act on all recovered memories "without reservation." This again is an example of challenging a position that we have never taken. Rather, we challenge the belief that all such memories should be *dismissed without reservation*, denying all with recovered memories a right to access to the courtroom.

The second and more common form of the Bare Assertion Fallacy is to declare one's own side of the argument to be an accepted truth, typically without any citation of research support and/or with citation to another nonempirical opinion piece (e.g., McHugh, (McHugh, 1992). For instance, where is the evidence that trauma research experts are commonly going into court and testifying that "memories of trauma may be recovered in *pristine form through therapy*," as Patihis et al. claim (Patihis & Pendergrast, 2019, p. 2, italics added)? We know that none of us have written or stated such a jejune claim. Where is the evidence for their repeated statements, without citation, that continuous memory is clearly more reliable than recovered memory (e.g., in Paris, 2012; Patihis et al., 2019), countering the multiple studies we cite that show equal accuracy for continuous and recovered memories? If studies providing this counter-evidence exist, then it would be fruitful to compare the methodologies and findings of these contradictory sets of studies. We call for science-based argumentation and decisions based on the weight of the evidence.

Problem 3: False Consensus Ross, Greene, and House (1977) demonstrated the false consensus effect, a form of social projection. False consensus is defined as a bias toward the belief that one's own opinions, no matter how unusual, represent a plurality over other opinions in the general population. Instances of false consensus are ubiquitous in the criticisms of the scientific literature supporting recovered memory, dissociative disorders, and/or dissociation in general. Repeatedly, dissociation researchers are described as a tiny group of scientific outcasts, leading our critics to "wonder about the effectiveness of a small group of authors in embedding dissociative amnesia deep into the DSM, and their success in producing lengthy review articles in favor of the concept" (Patihis et al., 2019, p. 2). The same view was presented by Paris (2012), who complained that textbooks are forced to include a chapter on dissociative disorders because DSM has endorsed it. He argued that this was due to a "a few centers" with interest in the topic. Paris lamented that the definition of DID strongly reflects the views of David Spiegel, who was described as an expert on the topic with an extensive written body of work. Paris alleged that critics who propose eliminating the category entirely were "marginalized" by the committee formed to refine the diagnostic criteria for dissociative disorders in DSM 5.

We have several responses to the most recent form of this critique. First, although only three of us (DS, RJL, BLB) were involved directly in the most recent revision of the DSM-5 diagnostic criteria for the dissociative disorders, we strongly object to the tone of disrespect to those who took on the massive scientific project of DSM-5. We do agree that the DSM-5 project managers sought out involvement from those who have done the most research and writing on the topic, but this is not unusual in the medical field. As can be verified in the manual itself (American Psychiatric Association, 2013), every portion of the DSM-5 was subject to extensive review of the evidence, discussion by experts within and outside of each subfield, review and integration of comments on websites made available to thousands of professionals worldwide, and voting by leaders in psychology and psychiatry. The process included a series of white papers and 13 scientific conferences supported by the National Institutes of Health. The Scientific Review Committee, appointed by the APA Board of Trustees, evaluated the strength of the evidence using a specific template of validators that did not differ for the dissociative disorders in comparison to other disorders. There is no cabal of dissociative researchers who sneaked dissociation into the DSM. Rather, experts and critics presented evidence to our colleagues, and the majority found the scientific evidence for the dissociative disorders, including DA, convincing. Additionally, every online comment concerning DSM-5, including any evidence or comment critical of dissociative disorders that the authors submitted, if any, was recorded by the APA and considered by the relevant committees, including any comments recorded by Drs. Paris, Patihis, Merckelbach, McHugh, Lillienfeld, Lynn, Giesbrecht, or any other critic of the current trauma/dissociation theories. It is simply untrue that any subgroup of theorists was excluded from the discussion by the dissociationist deep state. Further, DA is included in the ICD-11, as is dissociative identity disorder (DID); both were included in ICD-9 and ICD-10. This means that psychiatric experts throughout the world agree that there is compelling evidence for the existence of DA and DID.

The argument that only the aforementioned small cabal of dissociationists accept the possibility of accurate recovered memory was also presented without evidence in the Merckelbach group set of articles. In fact, across the multiple studies cited by both groups of researchers, the consensus is that most clinicians, most clinical researchers, and most pure experimentalists reject the position that is championed by false memory researchers. Dammeyer, Nightengale, and McCoy (Dammeyer, Nightingale, & McCoy, 1997) found that, when asked if memories of trauma could be forgotten and then later remembered, some degree of disagreement (1–4 on a ten point scale) was offered by 2% of pure clinicians, 5% of clinician researchers, and 15.5% of pure experimentalists. Agreement was offered by 71% of pure clinicians, 54% of clinician researchers, and 55% of experimentalists.

Thus, experimentalists were not generally agreeing with the false memory theorists; instead, they were (a) three times more likely to agree with the concept of recovered memory than to disagree and (b) more likely to state that they did not have a strong opinion on the subject. Similar results were found in Houben et al. (2019). Clinicians offered more agreement than did researchers, but, again, researchers were three times more likely to agree that memories of trauma could be forgotten and later remembered than to disagree.

Further, in a study that is cited but not described in Patihis et al. (2019) (Lalonde, Hudson, Gigante, & Pope Jr., 2001), the authors made the prediction that French-speaking psychiatrists, who were less exposed to the supposed "fad" created by American DA researchers, would be more likely than English-speaking psychiatrists to state that DA did not belong in diagnostic manuals. Lalonde et al. (2001) concluded that DA should not in fact be included in the DSM, based on the high number of psychiatrists stating that they had "reservations" about the disorder. However, neither LaLonde et al. nor Patihis et al. highlight the most direct evidence on consensus regarding DA – that 85% of psychiatrists, regardless of language, *disagreed* with the statement that DA should be excluded from the diagnostic manual. Furthermore, 91% of psychiatrists *disagreed* that there was "little evidence" for the validity of DA. There was also little difference between French- and English-speaking psychiatrists in these regards. That said, a majority of respondents, however, described the evidence as "partial" rather than "complete" or "strong." This type of statement about available evidence for a disorder is more common than the case of finding "complete" evidence (which is undefined anyway) being available or common for other psychiatric disorders.

Finally, we note that after a NATO-funded collection of experts reviewed the evidence in an 11-day meeting, the leading clinical researcher (John Briere) and the leading false memory experimentalist (Steve Lindsay) published a joint statement that:

> there is no doubt that people can and do experience the recovery of memories of previously nonremembered childhood sexual abuse. It is likely that in some such cases the recollections are essentially veridical and that in some cases they are essentially false, and both of us agree that, barring exposure to suggestive influences, the former are probably much more common. (Lindsay & Briere, 1997, p. 639)

This is the position taken by most scientific trauma organizations including the International Society for the Study of Traumatic Stress (n.d.) and the Leadership Council (Leadership Council, 2002) and professional organizations including the American Medical Association (American Medical Association Council on Scientific Affairs, 1995), American Psychological Association (1998), American Society of Clinical Hypnosis Committee on Hypnosis and Memory (1994), the Australian Psychological Society (2000), the Psychotherapy & Counseling Federation of Australia (McDonald, 2017), and the Royal Australian and New Zealand College of Psychiatrists (n.d.). Furthermore, governments also endorse this position regarding traumatic memories including the Health Council of the Netherlands (2004) and the Canadian Department of Justice (Government of Canada, 2018a, 2018b, 2018c, 2018d, 2018e). It is the position we still hold.

As is characteristic in the history of science, progress is gradually made across the years as scientists and researchers argue and test theories about the appropriate method of action or likely mechanisms behind diagnoses that have no clear biomarkers (as is true for most psychiatric diagnoses). The current consensus is identical to our own position (a) that accurate recovered memory is possible, but allegations of abuse based on memory require careful assessment, and (b) that DA is not fully understood but has sufficient evidence that it should be included in the DSM and ICD. It is unacceptable to continue to present our work and conclusions as outside the scientific mainstream. Repetition of these kinds of statements does not make them true. Also, these statements stigmatize a group of suffering patients and make it harder for them to get proper treatment (Loewenstein, 2018). It would be more productive to discuss the challenges of mental health research and offer methods to improve our designs and more convincingly test our theories. Ultimately, this will benefit testimony in court and clinical care.

Problem 4: The Ever-Shifting Goalpost The shifting soalpost tactic is also a familiar debate technique utilized when an opposing side has produced a strong counter-argument to an original critique. In our exchange with Merckelbach and colleagues, for instance, Merckelbach et al. (Merckelbach & Patihis, 2018) began by stating that they considered our supposed bias to be "more problematic, because there are, as far as we know, no field trial data about interrater reliability of dissociative disorder diagnoses" (p. 374). They noted that in order to pass the Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993) test of what constitutes admissible evidence in court, we would need to show the interrater agreement and error rate for diagnosing dissociative symptoms. Encouraged by the specificity of the request, we responded by citing six field trials testing the reliability of dissociative disorder diagnoses, as well presenting a table showing reliability figures and error rates comparable to other DSM diagnoses (Brand et al., 2018). The response in Patihis et al. (2019) is written as if our offer of data on reliability was made spontaneously, noting that "reliability is not a substitute for validity – interrater reliability tells us nothing about the reality of a syndrome" (p. 3).

Thus, Patihis et al. (2019) shifted to chastising us because our paragraph about interrater agreement and error rate did not deal with validity, when it was a response to what we believed to be their sincere but unfounded statement that reliability estimates were absent in the literature. We can assume that Patihis et al. did not really mean that reliability and validity are unrelated; virtually all researchers are aware that validity is statistically limited by reliability. Thus, their original question was relevant, as was our answer.

The shifting goalpost argument has long been used in attempts to undermine logical positions that eventually come to be accepted with little question. In the present case, the goal posts seem to be shifted as a way of avoiding scientific findings that are incongruent with claimed positions. We direct the reader to Toni Morrison's poignant quote on the use of shifting goalposts by those arguing against equality of the races:

> It keeps you explaining, over and over again, your reason for being. Somebody says you have no language, and you spend twenty years proving that you do. Somebody says your head isn't shaped properly, so you have scientists working on the fact that it is. Somebody says that you have no art, so you dredge that up. Somebody says that you have no kingdoms, and you dredge that up. None of that is necessary. There will always be one more thing. (Morrison, 1975)

Solid progress has been made by the many scientists studying false memory, recovered memory, and DA over the last two decades. Shifting goalposts undermines this progress by refusing to acknowledge that some issues have been settled (while areas of concern may still be present). We have presented substantial evidence, for instance, that dissociative disorders can be reliably diagnosed and that cases in which a survivor claims recovered memory have been proven to a degree that would be acceptable in the continuous memory case. Thus, the extreme form of the false memory argument put forward by Patihis, Merckelbach, and colleagues that argues against the possibility of reliable diagnosis and for the inherent inaccuracy of recovered memory should be discarded. It lacks scientific support and general acceptance by clinicians and researchers.

Thirty years ago, the rise of the false memory movement highlighted largely untrained therapists (with notable highly credentialed exceptions who supported empirically unproven and at times suggestive methods of accessing trauma memories) (Bikel (1995a); (Bikel, 1995b). Almost immediately, dozens of trauma experts began educating the field on the issue, writing articles and books, trying to make the research more available, and noting their disapproval of such beliefs and practices (Brown et al., 1998; Chu, 1998; Courtois, 1999; Dalenberg, 1996; Kluft, 1998; Loewenstein, 1995). In the ensuing years, these extreme therapist beliefs have almost disappeared. In Houben et al.'s (2019) survey, the majority of researchers and practitioners were satisfied that accurate recovered memory could occur. However, the respondents almost universally endorsed the possibility of confabulated memory that could be caused by some types of inappropriate suggestion by therapists, as well as by other factors, for example, a family myth, and screen memory. We attribute this to self-corrective measures within the trauma field. We put forth this type of process as an exemplar to our critics. We have yet to see a credentialed false memory theorist admit to the detrimental effect of their extreme opinions on research, training of clinicians, and on patients to whom we have an ethical duty to serve and protect (Brand & McEwen, 2016; Brewin & Andrews, 2016; Wilgus, Packer, Lile-King, Miller-Perrin, & Brand, 2015). These include the extremes to which the FM movement has gone in discrediting those with dissociative symptoms as well those who study and treat them (Calof, 1998; Salter, 1998), denying the possibility of accurate recovered memory (Cheit, 1998), moving the goalposts rather than admitting to non-confirming evidence (Patihis et al., 2019), and failing to acknowledge the growth in the scientific basis for identifying and understanding dissociation, as well as for treating dissociative disorders (Brand et al., 2016; Freyd, 1997; Freyd, DePrince, & Zurbriggen, 2001; Loewenstein, 2018; Pezdek & Freyd, 2009).

Problem 5: Ad Hominem Arguments and Accusations of Such Arguments Noting that ad hominem arguments are always a fallacy, Patihis et al. (2019) took us to task for "comparing our criticism to that of 'a minority of researchers who refuse to accept any evidence favoring global warming, evolution, or the finding that cigarette smoking related to cancer (p. 288)" (p. 4). This is unfair, they stated, because they found global warming, evolution, and cancer to have plausible mechanisms and they believed dissociation mechanisms to be implausible.

Such disagreements are not uncommon across groups of authors, in which each group accuses the other of ad hominem remarks. We accept that there are individuals who testify repeatedly that DA is not supported by the scientific literature and also accept that several of these individuals are well respected by many people. Nevertheless, we do not accept this as equal in weight to the careful tests of comparative accuracy or prospective tests of development of dissociation that have been conducted to support our position (e.g., Cardeña & Spiegel, 1993; Dancu, Riggs, Hearst-Ikeda, & Shoyer, 1996; Diseth, 2006; Eid & Morgan, 2006;Trickett, Noll, & Putnam, 2011). This, rather than an ad hominem attack, was our argument. Therefore, we would like to make a distinction that we believe would help the discussion.

Ad hominem arguments, by definition, focus the reader away from the central argument and toward a facet of their opponents' character or motives. Philosophers describe the ad

hominem fallacy as a fallacy for this reason, not as a warning that comparisons to the well-known mistakes or well-known villains of the past are always irrelevant. Our prior argument was the following:

1. Merckelbach and Patihis and colleagues cannot simply say that we and our colleagues do not believe you, and some of us are quite credentialed, and therefore you are wrong. This is not sufficient evidence.
2. Well-accepted scientific positions, such as global warming, evolution, and the connection between cigarettes and cancer, also have had their well-credentialed (and sometimes well-meaning) groups of critics.
3. Please offer us evidence of your position.

In summary, there may be critics from well-respected institutions who discount a real phenomenon. That is our point, and that is why we chose an obviously credible set of comparative phenomena that have been attacked using exactly the methods that our critics were using. In thinking about this misinterpretation of our argument, however, we have more recently considered that there may be a cultural difference underlying the misunderstandings here, in that all authors in our papers are North American, while the Merckelbach et al. authors are more diverse in country of origin. This may lead them to think that we reflect a minority view cross-culturally. But, being part of one scientific group still could reflect a worldwide consensus. In this regard, we refer Merckelbach, Patihis, and colleagues to the Petition Project (http://www.petitionproject.org/), in which over 11,000 American scholars with PhD and MD degrees have signed a statement that there is "no convincing evidence" for human contribution to global warming. We assume that Patihis et al. (2019) agree that being well-credentialed is not evidence against a more general and contradictory consensus position that supports global warming.

In contrast, if someone made the argument, as occasionally is done in the lay community, that Person X could not have engaged in Evil Deed X because he likes dogs, sings in the choir, or cares for the planet, it is not an ad hominem attack to say "Hold it. Historians have shown that Hitler was quite attached to his dogs (Sax & Fischer, 2000), and the Nazi regime introduced some of the earliest green legislation (Bruggemeier, Croc, & Zeller, 2005)." Given that we agree as to Hitler's inhumanity, it follows that liking dogs is not sufficient evidence for good character. We were not saying "and therefore you are Hitler, or "and therefore you don't believe cigarettes play a role in cancer," but rather saying, "we presume you agree that cigarettes do play a role in cancer, and therefore would concede that it is not a worthy argument to only cite the well-credentialed academic positions of those who claimed the opposite. Perhaps you would like to reconsider your logic." Such an argument may be overkill, but it exactly targets inappropriate reasoning, just as we did. Thus, it is not ad hominem.

We do not see the same care taken when Patihis et al. (2019) chose to make their point about our likeness to the witch-hunters of Salem. After requesting reliability data on diagnosis of dissociative disorders, which we had provided, Patihis et al. stated that although the witch-hunters of Salem were reliable "diagnosticians," the phenomena of witchcraft was not valid, making the point that reliability is not validity. We must admit that we find this statement (again without citation) to be hard to believe and wonder what purpose it serves to use the Salem witch trials to make this point, when they have no evidence that witchcraft can be "diagnosed" reliably. If it is truly relevant to use Salem as an example, then evidence for reliability of being "diagnosed" a witch should be offered. In support of the opposite conclusion, we would note that in the few Salem court trials in which reliability of response was measured (according to historical accounts), it was used to test the reliability of the accuser (e.g., by blindfolding the accuser and measuring reaction to touch by an alleged witch and non-witch, respectively). The expectation was that touch by a witch would cause the accuser to faint. However, this response was not found to be a reliable predictor (Geis & Bunn, 1997).

Surely our critics are aware that there is a long history of trauma therapists being labeled as "witch-hunters," independent of the degree of evidence that they presented for their positions (see Cheit (2014) and Faller (2017) for an overview). Although we continue to try to give Patihis et al. (2019) the benefit of the doubt, because we agree with their "reliability is not validity" point, we still wonder about choosing an example in which there is, in fact, no evidence of reliability concerning "diagnosis" of being a witch to make a point about the limits of reliability evidence. Is it solely another chance to use the familiar witch-hunter diversionary tactic? *This* would be ad hominem.

That said, the high social cost of both false accusations and disbelief of trauma victims is emotionally salient to many. For those who take the position that DA is a "myth," their sympathies are awakened by the distress of the accused, and some of the anger at those who support the concept of DA seeps into an intended scientific discussion. Additionally, at the height of the "memory wars," a number of the false memory advocates were tarred with pro-pedophilia statements made by a few prominent false memory experts (e.g., Underwager & Wakefield, 1993), and motivation for the work of all false memory advocates was impugned.

In contrast, for those of us who believe that memories of abuse should be treated more equitably in the courtroom, with corroborating information equally required for alleged continuous and recovered memories, the anguish of the accused is only one side of the story. We are also aware of the added disdain and heightened requirements for proof that survivors who have experienced DA determined as valid must face in addition to the burdens that they already must shoulder as trauma victims. We have sat with these clients in the aftermath of their successes, failures, or decisions not to face these further attacks. More personally, we have listened to public

statements at conferences that our practices would be targeted unless we ceased the defense of survivors (Calof, 1998; Salter, 1998) and watched as our colleagues were picketed (Calof, 1998). We have read of incidents of letters attacking the characters of recovered memory researchers being sent by false memory advocates outside their university to tenure committees (Freyd & Birrell, 2013), as well as bogus ethics charges and lawsuits being filed, along with other forms of harassment (Salter, 1998), and we have participated ourselves in cases in which legal threats were made to access the clinical records of non-litigating clients described in case studies to investigate the truth value of their recovered memories. More commonly, we have been frustrated by the experience of trying to foster a scientific discussion based on accepted methods of scholarship, citations for and explanations of conclusions, and an even playing field. We are met with criticism rather than a scientific response (Merckelbach & Patihis, 2018; Patihis et al., 2019). We continue fighting to meet these goals and keep outlining our disagreements with the nature of the argumentation and keep presenting our evidence. We believe that there are many misconceptions of each researcher "camp" as to the others' beliefs. We would like to see a more respectful movement toward a mutual search for truth.

Problem 6: Motivated Skepticism Patihis et al. (2019) stated that the evidence for DA is "fragile." We will not relitigate each of the research examples they chose to target. In general, Patihis et al. chose a few of the dozens of studies we presented as evidence and then made general assumptions about the research that contradicted the studies' crucial findings and that ran counter to the conclusions drawn by the authors of the studies. On the other hand, we could not identify an instance in which they critically examined one of the studies they cited as supporting the existence of implanted false memories, even when identical limitations were present.

Motivated skepticism, as described by Ditto and Lopez (1992), is evident when "information consistent with a preferred conclusion is examined less critically than information inconsistent with a preferred conclusion, and consequently, less information is required to reach the former than the latter" (p. 568). An example of this was Patihis et al.'s (2019) criticism of the research conducted by memory researchers Kritchevsky, Chang, and Squire (2004). Patihis et al. wrote that although we presented this publication as a case study of DA, "Kritchevsky et al. (2004) interpreted their research within the range of well-researched memory phenomena as opposed to dissociative amnesia (p. 2)." Kritchevsky and colleagues actually wrote *the opposite*: that their patients' presentations favor the interpretation that they "(excepting RW and possibly JM) had a genuine psychogenic or dissociative disorder that was not intentionally simulated" (p. 218). Further, Patihis et al. wrote that not one case in Kritchevsky et al. meets the description of "blocking due to trauma" (p. 2). In fact, Kritchevsky et al. specifically mentioned that one of their patients seemed to develop DA after witnessing a traumatic physical assault that was similar to previous repeated assaults. Why had Patihis et al. included the omissions and the distortion of the authors' conclusions in the description of the results of Kritchevsky et al.?

We would contend that in drawing a conclusion based on a study or case history, if the authors disagree with the interpretation made by the original researchers, they should at least acknowledge their disagreement and describe their reasoning. To fail to mention such disagreement leaves readers with false impressions of the original research as well as its application to arguments made by others in their scholarship.

Another example of these differing standards of examination of research, i.e., motivated skepticism, is the unquestioned acceptance of the evidence that memories can be implanted based on Loftus's implantation paradigm, while studies giving evidence for accurate recovered memories are subjected to hypercriticism. In the typical study (e.g., Loftus & Pickrell, 1995), students are told that there is evidence that an event occurred when they were very young (e.g., that an older relative recalled it) and asked to think about it. If the event is fairly benign, about 25% of the individuals will typically claim to remember the event (Hyman & Billings, 1998; Hyman Jr. & Pentland, 1996; Loftus & Pickrell, 1995). Generally unacknowledged by the DA critics is that similar or greater numbers of individuals "recover" one of the true memories supplied by the family member that they had initially failed to recall, including adding detail that is later confirmed by family members to be accurate (Hyland, 2000). If the former is a false memory, why is the latter not an accurate recovered memory? Similarly, if the latter is simply an example of respondents going along with the interviewer and succumbing to experimental demand by claiming to remember the true event, why is this not true of the false event? How do we know the former group is having false *memories* as opposed to making false *statements*? Extensive critiques of the false memory, implantation, and witch-hunter concepts are available, none of which have been cited by the DA critics (e.g., Brewin & Andrews, 2016; Cheit, 2014; Pezdek & Lam, 2007). Also relevant to our critics' argument is that false memories appear to be substantially more difficult (if not impossible) to implant if the individual does not believe that the event itself is a plausible action by the perpetrator (Pezdek, Finger, & Hodge, 1997).

The same selective attention critiques could apply to the cited Bruck, Ceci, Francoeur, and Barr (1995) finding that children interviewed after inoculations who were told that that they did not experience distress may falsely report that they cried less and experienced less pain than was the case. Thus, children's memories of distressing events can be reduced by authority figures telling them they did not experience distress during upsetting events. But if the former "false memory

studies" are considered strong evidence that memories can be "implanted," why do they not consider a study showing that memories of distressing events can be falsely denied as evidence that memories can be pushed out of consciousness, at least temporarily (e.g., Williams, 1995)? Why not examine both studies for evidence of demand characteristics, false memory, and other alternative explanations?

In parallel to warnings that clinicians should consider malingering in evaluating recovered memory, why is malingering not a consideration in allegations of false memory? (That is, why no consideration to the theory that the false memory respondents were simply trying to please the experimenter or to hide their own imperfections?) Similarly, in making the case for their belief that recovered memories are inherently unreliable, critics mentioned only the finding from Geraerts et al. (2007) that continuous memories of child sexual abuse recalled *outside* of therapy were more often corroborated by others than were "discontinuous" memories recovered *in* therapy (e.g., Otgaar et al., 2019)? Why not mention that the continuous and recovered memories recovered outside of therapy were equally accurate? This is a finding reported in the same article and is more relevant to the question of the accuracy of recovered memories, in general.

That said, we share with our critics the recognition that paradigms providing evidence for recovered memory are challenging to design. We also acknowledge that the existence of a large number of critical articles challenging false memory study conclusions does not automatically discount the theory that this mechanism can play a role in allegations of DA. Similarly, the many attacks on the DA literature by FM theorists do not *automatically* discount the theory of trauma-related dissociation and memory distortion. We are involved in the movement to develop and test the role of dissociation in mental illness (see Dalenberg & Carlson, 2012). We would welcome critical researchers who can help us identify the most salient issues and to design better tests of alternative theories of dissociative phenomena. We believe that our own theories, including a causal role for trauma in dissociation, have better empirical foundation than do the theories of our critics (e.g., iatrogenic, socio-cognitive, fantasy and sleep explanations (Dalenberg et al., 2012; Loewenstein, 2018)). However, there is much room for the study of diathesis-stress models, cumulative stress models, and complex stress models. Also, all mental illnesses are shaped by sociocultural factors; nineteenth century schizophrenics did not describe delusions of persecution by the CIA as can occur today. There are well-known cultural differences in illness behavior and idioms of distress (e.g., in some Asian societies, a common presentation of major depressive disorder is with somatic complaints, not mood complaints: (Ryder, Yang, Zhu, Yao, & S. J.,, & Bagby, R. M., 2008)).

We join Darwin (1859), who opened a chapter of *On the Origin of Species* by writing:

> Long before having arrived at this part of my work, a crowd of difficulties will have occurred to the reader. Some of them are so grave that to this day I can never reflect on them without being staggered; but, to the best of my judgment, the greater number are only apparent, and those that are real are not, I think, fatal to my theory. (p. 171)

We encourage researchers in this area to be more even-handed in their consideration of alternative explanations in both false memory and recovered memory research, building in tests of mechanisms when possible. We argue not that science should avoid skepticism in our case, but rather that scientists should apply these critical skills to all sides of the debate, and not solely to those holding theories different from one's own.

Problem 7: The Demand for a Super Study Patihis et al. (2019) disregarded study after study that we have cited in this long exchange, at times discounting the authors' own conclusions about their research. In their final commentary to us, they issued a demand that we "name one study that they feel most establishes the existence and mechanisms of dissociative amnesia" (p. 3). In issuing this demand, they implied that a single Super Study could provide definitive proof to a complex phenomenon and be methodologically so rigorous as to provide all that needs to be understood about DA and trauma-related dissociation. We fully concede that no study is flawless, including research cited by both sides in this debate. For this and other reasons, scientific knowledge must be developed over years, constructed, tested, and re-tested by multiple researchers working in different labs using a variety of methodologies. We join one of our reviewers who, after reading this section, asked whether the existence and critical mechanisms for *any* psychiatric diagnosis have been established based on the results of a single study.

Rather than mourning the absence of a single Super Study, it is scientifically acceptable to use methodologies such as systematic reviews and meta-analyses across many studies to establish impartial conclusions about the validity of empirical findings and theories. Such methodology contrasts with the publication of non-systematic, narrative reviews the conclusions of which may be more prone to author bias (e.g., Giesbrecht, Lynn, Lilienfeld, & Merckelbach, 2010; Lynn et al. 2019; Paris (2012). Meta-analysis is precisely the approach we took when we sought to assess the weight of the research underlying the TM versus the FM of dissociation in multiple meta-analyses in Dalenberg et al. (2012).

In Dalenberg et al.'s (2012) extensive review of the trauma-dissociation and suggestibility research, the authors reviewed

the studies that met rigorous inclusion criteria, including having a non-trauma control group. A meta-analysis of 38 studies found moderate effect sizes for the relationship between childhood abuse and dissociation. The relationship between trauma and dissociation was found to be consistent across cultures, research designs, and samples, as suggested by the trauma model. Four studies using non-trauma controls and individuals with dissociative disorders found that trauma-exposed individuals were four times more likely than non-traumatized individuals to have a dissociative disorder (effect size of $r = .5$). Furthermore, the researchers compared the strength of the relationships between objectively confirmed trauma versus self-reported trauma and dissociation. If the trauma-dissociation relationship was caused by fantasy proneness, false memories, and suggestibility, the relationship should have been weaker when trauma was measured with greater objectivity, but the research did not support that hypothesis. Further, when fantasy proneness was controlled, trauma history still predicted dissociation. Dalenberg et al.'s review also found that DID patients showed similar levels of fantasy proneness to healthy controls. In a meta-analysis of 34 studies examining different suggestibility paradigms, Dalenberg et al. (2012) found that, across these many studies of different types of suggestibility paradigms, and different types of suggestions, dissociation only accounted for 1–3% of variance in suggestibility.

A similar meta-analysis (using 104 studies with an overall N of 31,905 college students) was recently published by Kate, Hopwood, and Jamieson (2020). Kate et al. compared five predictions explicitly derived from the trauma versus fantasy models of dissociation. First, the authors argued that the theoretical upper limit for dissociative disorders (DD) prevalence using the Trauma Model (TM) was 12% (based the argument that DD should be found in a subset of those who are polytrauma victims). The corresponding upper limit according to the fantasy model (FM) was 4% (based on the argument that DD is found in a subset of those with high fantasy proneness). The actual prevalence figure of DD was 11%, in keeping with TM predictions.

In the second and third comparisons of predictions of the relationship between trauma and dissociation, the authors tested whether DD rates and dissociative experiences statistically related to trauma exposure rates (as predicted by the TM) or media exposure rates (as predicted by the FM). The authors noted that, using the Legatum (2016) international rating of country safety and security as a proxy, DD rates were significantly related to trauma exposure rates internationally. On the other hand, the FM prediction that DD rates would be higher in North American countries (given greater media exposure) than in countries with lower media exposure was not supported. Rates of the dissociative disorder least well-known to the public through media (Dissociative Disorder Not Otherwise Specified—DDNOS) were not reliably lower than rates of the most well-known disorder (DID).

In the fourth comparison, looking at the reported DD rates across time, the authors found these to be relative stable, an effect they considered consistent with the TM. Conversely, based on a belief that DD prevalence is a result of fluctuating media fads, the FM would predict a decreasing linear trend. Finally, the authors found that DD rates were only moderately lower in college student samples when compared with the general population, a prediction they once again considered to be consistent with the TM. The FM predicts that DD should occur only very rarely in college students.

In attempting to explain the large Q figures in the meta-analyses (a measure of variance in results), Kate et al. (2020) noted that author allegiance effects may be a partial explanation. Curiously, whereas both DD prevalence rates and quality of study methodology were found to be uncharacteristically low in research co-authored by a prominent FM proponent, mean dissociation severity was found to be overall higher in studies conducted by FM theorists in comparison to studies conducted by TM theorists. Kate et al. attributed the disparity in findings on prevalence rate to differences in methodological quality, in that the FM theorists were less likely than the TM theorists to use a validated diagnostic instrument. Differences in dissociation scores, they argued, also may be due to priming effects of administration of measures of fantasy proneness and related psychological instruments. In summary, rather than relying on a fantasized perfect Super Study, these meta-analyses illustrates that the weight of rigorous scientific evidence supports the theory that antecedent trauma plays a causal role in dissociation over the competing model that fantasy proneness is the greater and more significant cause of DD existence and prevalence.

A Quick Note on Statistics Patihis et al. (2019) wrote that they wish we would refrain from "distracting the reader with long discussions about the small correlations between trauma exposure and scores on a dissociative symptoms questionnaire" (p. 3). This is another more general disagreement between the groups of researchers. We would like more statistics supporting their side of the argument and more discussion of the factual basis for their disagreements with our position. We do not find such discussions "distracting." A discussion of the meaning of the size of a correlation also appears relevant. We therefore explain this briefly below.

The sizes of correlations that involve dichotomous variables (e.g., DD diagnosis and trauma history) are limited by the difference in the relative ratios of the group sizes and positive/negative outcome rates. Picking an example that is largely noncontroversial among scientists, the case of the success of the Salk polio vaccine, we first remind the reader that over 200,000 children were randomly assigned to receive or not to receive the vaccine. However, the base rate of polio was less than 1%, creating a large relative ratio between the polio/no polio groups, just as there is a large relative ratio between

the DID and no DID groups. (Statistics regarding polio are taken from Francis et al. (1955).) Although the vaccine was found to be a success, with 3.5 times as many children developing polio in the non-vaccinated than in the vaccinated groups, *the published correlation was 0.01*. In fact, the largest value that is statistically possible given the *N* and the relative group ratios is 0.02. As reviewed in Carlson, Dalenberg, and McDade-Montez (2012), DD base rates in the population are also small, although they are substantially higher in trauma exposed than in non-trauma exposed groups. This creates a significant correlation, but not a large magnitude correlation. Base rates for DD in trauma-exposed populations are more than three times higher than those reporting low levels of trauma (Carlson et al., 2012).

Problem 8: Arguing from Authority (Ad Verecundiam) In critiquing our review of their previous paper, Patihis et al. (2019) stated that arguing that DA must exist because it is listed in the DSM-5 is an ad verecundiam argument, an appeal to authority rather than evidence. Importantly, however, none of us have ever made the argument that the DSM-5 itself proves the existence of dissociation. We brought up DSM-5 for a number of reasons, including a response to their assertion that our opinions do not represent the clinical consensus. We also wished to provide a context for the diagnostic decision-making that was the central thrust of our first papers. Finally, as North American expert witnesses are well aware, judges and lawyers refer frequently to the DSM as "the bible of psychiatry" and rely on it for their own judgments. Thus, it is usually impossible to avoid the DSM system in writing forensic reports and in expert testimony.

Patihis et al. (2019) go on to list many "respected journals" and authorities who have "reservations" about DA. *This, unlike our position, is arguing from authority*. As stated earlier, we stand against the position that the existence of scholars who disagree with any construct should be used, by itself, as evidence against that construct.

Definitional Problems: Are All Memories Recovered Memories?

Without applying an evidentiary basis, Patihis et al. (2019) continued to caution against use of any memory evidence in the courtroom if such memories were previously inaccessible due to DA. We would respond that much scientific progress has been made since the early days of strong distinctions between "recovered" and "continuous" memories. It is now consensually accepted that no memory is truly continuous, in that memories may be rewritten each time they are accessed. The initial group of scientists (e.g., Nader, 2003) who argued that retrieval of memory creates a period of vulnerability during which the memory could be disrupted or distorted were attacked and ridiculed, much as has been the case for DA. However, careful replications and variations on the experiments achieved repeated demonstrations that memories of trauma can be blocked as well as changed immediately after retrieval, concluding that neural plasticity is enhanced in the CAI (*Cornu Ammonis)* region of the hippocampus during this period (Dupret, O'Neill, Pleydell-Bouverie, & Csicsvari, 2010). Thus, our position, fully compatible with these recent findings, is that details of the memories can be changed during this period by a suggestive other, or completely blocked, just as they can be distorted or changed at the time of encoding (Janet's, 1889 original position). This again is theoretical support for both false memories and DA.

Thus, our position here is simply expressed. There is no evidence presented by either Merckelbach, Patihis, and colleagues or ourselves that recovered memories are less likely or more likely to be accurate than allegedly continuous memories. We argue instead that no memories, recovered or continuous, should be assumed to be "pristine," but that the uncontested presentation of recovered memories as inevitably inaccurate (or particularly likely to be inaccurate) is simply inconsistent with the evidentiary base in the field. All memories are recovered memories. Most forensic authorities argue that all forensic evaluations should include evaluation of withholding and malingering (American Association of Psychiatry and the Law, 2015; Dalenberg & Briere, 2017; Rogers & Bender, 2018). If, despite agreement that suggestion, malingering, and multiple sources of evidence are relevant to assess in all forensic cases, Patihis et al. (2019) wish to hold to their argument that recovered memories should be barred from the courtroom because they can be potentially influenced by suggestion, then it should also follow, based on similar reasoning, *that all memory evidence of all types* should be barred from the courtroom. Under many circumstances, in some individuals, all memories—or memory reports—can be subject to change through external influences of many different types (Albarini, Anserrmet, & Magistretti, 2013; Anderson & Hanslmayr, 2014; Brown et al., 1998; Conway & Pleydell-Pierce, 2000; Hyman & Billings, 1998; Lisanby, Maddox, Prudic, Devanand, & Sackheim, 2000; Morgan, Southwick, Steffian, Hazlett, & Loftus, 2013). We simply do not accept this extreme view.

Broadening the Study of the Circumstances of Recovered Memory

The focus in the experimental literature on false rather than recovered memory may also explain the preoccupation of the critics of our original articles on recovered memories that surface in therapy. The condition under which previously relatively inaccessible trauma memories may become accessible is an important topic but quite different from the topics we

reviewed. We refer the reader to Wilsnack, Wonderlich, Kristjanson, Vogeltanz-Holm, and Wilsnack (2002), who presented data from the National Study of Health and Life Experiences of Women ($n = 711$) on recovered and continuous memories of abuse. Approximately one third of the women reporting extra-familial abuse stated that they experienced a period during which they did not have access to the abuse memories, but began to remember them without help or information from family, friends, or professionals. Only an additional 1.8% recovered a memory in therapy.

Despite these well-replicated findings, Patihis and Pendergrast (2019) developed a survey with a single source for recovered memory (the suggestive therapist) in mind. In their large US sample, approximately half of the adults reported that they had been in therapy before, while half had not. One major finding was that those who recovered memories in therapy were 20 times more likely to have therapists who discussed this topic at some time "during the course of therapy." This finding was interpreted in only two ways: either the therapist wrongly suggested the presence of such memories before they occurred or the therapist wrongly validated the concept by discussing it when the patient brought it up. This is an extremely odd position for any therapist to take, because it implies that merely discussing the possibility that the client may have been traumatized, even after a client prompt, is unacceptable. It implies that there is something particular about a client discussing memories of trauma and that this requires some sort of immediate censorship, as opposed to memories of a "perfect" childhood, or of being born in Canada, or having abused substances, or of having won athletic prizes. Further, this view appears to prohibit clinicians from inquiring about a trauma history in all clients, for fear of some sort of suggestion effect. Currently, however, because of the high rates of trauma in general and in clinical populations, it is considered poor practice to *fail* to take a trauma history in all clients (Felitti & Anda, 2010, 2010b; Sweeney, Filson, Kennedy, Collinson, & Gillard, 2018).

We also ask the reader to consider the causal reasoning utilized by our critics by applying it to a less "controversial" topic of therapeutic conversation. Suppose we found that those clients who had therapists who discussed heart disease were 20 times more likely to have heart disease compared to those who reported no such discussion. Would we offer with some certainty the conclusion that therapists caused the heart disease? Or, would we suggest with confidence that the patient had a false belief or memory of having heart disease? Is it not more likely that if one has heart disease and is in therapy, one might talk about it, and if one does not have heart disease, it is less likely to be a topic of interest? It is hard for us to understand why the former conclusion, blaming the iatrogenic therapist, is so much more compelling to our critics than the latter.

It also may have been reasonable to discuss the fate of those clients in the Patihis and Pendergrast survey ($n = 21$) who recovered a memory with a therapist who would not discuss it in any way. We have consulted on such cases. Frequently, the therapists report fear of litigation produced by the false memory literature, while clients generally report feeling confused and abandoned by the therapists' refusal to discuss salient life experiences. In other words, therapists may refuse to discuss trauma due to their perception that they need to prioritize protecting themselves over and above working to benefit the client, as directed by professional ethical standards. Unfortunately, this perception is not grounded either in the science of recovered memory or in any consensus regarding good clinical practice. Also, both therapists with little training in trauma and their clients may be fearful that talking about trauma may result in a clinical situation for which neither member of the therapeutic dyad is prepared. In all these cases, as well as others, the client readily picks up that trauma is not to be discussed. In some situations, this could result in *false memory of a trauma-free life* (Middleton et al., 2014). This problem is never addressed by the false memory theorists.

Given the low base rate of recovered memory in therapy, it may be unsurprising that we rarely encounter cases in which individuals enter therapy without trauma memories and seek to "recover" them (or are pushed to recover them by therapists or family members). More commonly, we encounter individuals who struggle with all-too-frequently intrusive, upsetting memories of trauma or dissociative flashbacks, often alternating with DA (as described in the DSM-5 criteria for PTSD). Most individuals do not need more memories to be uncovered and, in fact, could become significantly distressed and functionally impaired if more trauma memories become accessible too rapidly. Many of us have written extensively about this (e.g., Brand et al., 2012; Brand, Lanius, & Loewenstein, 2014; Myrick, Chasson, Lanius, Leventhal, & Brand, 2015). Our own writings therefore are contrary to this "excavation" model of trauma treatment, as are expert consensus guidelines and recommendations for highly dissociative patients (International Society for the Study of Trauma and Dissociation, 2011). These guidelines emphasize the containment of recollections of trauma, along with building patients' skills in recognizing the difference between past and present, as does an online intervention program developed and found beneficial for individuals with DD (Brand et al., 2019). The gradual, carefully titrated discussions about trauma were adapted from evidence-based models for PTSD (Resick & Schnicke, 1992; Resick, Williams, Suvak, Monson, & Gradus, 2012).

We realize that this misunderstanding about the nature of trauma treatment may stem from the training and experience differences between the prototypical FM proponent (often experimentally trained cognitive researchers) and the prototypical TM proponent (typically a social/experimentalist with

clinical training or a clinical research scientist). Further, we are aware that survey research by Patihis, Ho, Tingen, and Loftus (Patihis, Ho, Tingen, Lilienfeld, & Loftus, 2014) shows that most therapists report themselves as unlikely to support their clients in searching for sexual abuse memories. Some of us have written, in papers on evaluation and treatment of DA, that individuals who come to treatment "seeking" trauma memories are individuals likely to be suffering from factitious/malingered symptoms/disorders and should be evaluated with that framework in mind (Loewenstein, Frewen, & Lewis-Fernández, 2017).

Our remaining disagreements on this topic do not center on whether suggestion in psychotherapy still occurs (it does) or on whether an experience of suggestion might be harmful (it can). Rather, we disagree that those with recovered memory are particularly suggestible, given that recovery of memory in therapy is largely unrelated to suggestibility scores on validated tests (see Leavitt, 1999). We also disagree as to whether therapy is the primary source for recovered memory and encourage further study of the more common case of recovered memory in response to other emotional cues (Andrews et al., 2000).

Final Thoughts on Dissociative Amnesia in the Courtroom

Given the large number of criminal defendants who claim that they have limited access or full amnesia for their crimes, there is a forensic literature on amnesia, including DA, in criminal courts (e.g., Scott, 2012; Wortzel & Arciniegas, 2008). Among us are authors who have reviewed this literature (RJL, DS), which concludes that there is no single test or inventory or, combinations thereof, that can definitively "prove" that claims of amnesia for criminal conduct are accurate, malingered, or partially malingered. Also, in the US courts, claims of amnesia for crime alone are never exculpatory on their face (Loewenstein et al., 2017). However, under different state laws in the USA, there are varying standards for admission of "recovered memory" testimony in court, with more recent opinions moving states to acceptance of the concept of DA (e.g., Dixson et al. v. James Charles Beattie, Sr., 2014).

In the US criminal courts, the most common forensic questions for psychological/psychiatric opinions concern competency of the defendant to stand trial (occasionally competence to be a witness, competence to be sentenced, etc.) and opinions concerning responsibility for criminal acts. In most American courts, the standards for not guilty by reason of insanity (NGRI), also known as not criminally responsible (NCR), are based on *mens rea*, generally a variant of the McNaughton standard. This standard is that the defendant suffers from a "mental disease or defect," and "at the time of committing the act, the accused was laboring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing or, if he did know it, that he did not know what he was doing was wrong" (Gutheil & Appelbaum, 2000, p. 275). A few US states, for example, Virginia, allow an *actus reus* psychiatric defense, or that of irresistible impulse; viz., that the defendant suffers from a mental illness and that the mental illness caused the inability to control his/her actions or conform one's conduct to the law (Gravely, 1982).

Historically, a defense of diminished capacity has been raised as an alternative to an NGRI/NCR defense. A diminished capacity defense requires that, due to emotional distress, physical condition, or other factors, the defendant could not fully comprehend the nature of the criminal act he/she is accused of committing, particularly murder or attempted murder. This defense is raised to attempt to remove the element of premeditation or criminal intent and thus obtain a conviction for a lesser crime, such as manslaughter instead of murder (Xuan & Weiss, 2014). This can be used as a defense and also to provide mitigating evidence at the time of sentencing. Armstrong (2001) described the case of a man who had been convicted of the impulsive murder of his girlfriend and her roommate. She found that the defendant suffered from DID as well as a psychotic disorder, both of which significantly impaired his reality testing. Due to this finding of diminished responsibility, the defendant was sentenced to life in prison, and not to the death penalty.

Claims of amnesia, or for that matter any psychiatric disorder as related to these standards, can only be evaluated through a complete forensic psychiatric/psychological evaluation. The standard for forensic evaluation is that the forensic examiner should be neutral to the legal theories of the retaining attorney and provide a complete and honest opinion about the attorney's forensic questions, whether the examiner's opinion helps the attorney's case, harms the attorney's case, or is neutral (American Academy of Psychiatry and the Law, 2015).

In general, authorities assert—as is the standard for all forensic practice—that forensic evaluators review all the available data to come to a forensic opinion in psychological/psychiatric reports or testimony, in both civil and criminal matters (American Academy of Psychiatry and the Law, 2015; Gutheil & Appelbaum, 2000). This should include a comprehensive forensic psychological/psychiatric evaluation of the defendant, including administration of standard tests, e.g., personality testing and malingering inventories. In addition, the forensic evaluator should review all witness statements, police reports, corollary historians (family members, friends of the defendant), prior court testimony or depositions, and, of course, school, social service, military service, and medical and psychiatric records, if any are available. Further, the US standard to which forensic examiners are held in both civil and criminal matters is that of preponderance of the evidence (> 50% probability). Forensic examiners need to consider evidence for a broad range of possible psychiatric

disorders, including the possibility that the individual may have a trauma-related disorder or trauma-related damages. Failing to adequately assess for dissociation when someone alleges a history of trauma may lead to cross-examination about whether the assessor conducted a thorough assessment that is consistent with research showing that dissociation is one possible outcome of trauma. For example, an expert hired by the defense in a medical malpractice case opined that the plaintiff, who had been diagnosed with DID prior to the suit, was exaggerating her psychological symptoms. However, the defense expert did not recognize that the plaintiff's psychological testing results were consistent with the peer-reviewed literature on dissociative patients; the jury awarded a multimillion dollar settlement to the plaintiff (Rivera v. Bado, n.d. July Term 1014, No 1548). Contrary to what the skeptics argue, juries recognize the importance of trauma-related dissociation, including use of evidence of dissociation in making the NGRI judgment (People v. Henderson, 1977).

Disturbing evidence of DD in an incarcerated population was offered in a study by Lewis, Yeager, Swica, Pincus, and Lewis (1997), who examined documents from psychiatric, medical, and social service records and found evidence supporting profound early life maltreatment of 12 convicted and incarcerated murderers who were diagnosed with DID only after conviction and sentencing. The symptoms and diagnosis of DID were not considered in the legal proceedings, in that dissociation had not been recognized or assessed during the guilt or sentencing phases, making it unlikely that these symptoms or the disorder were malingered or exaggerated. The researchers found evidence of trauma that preexisted the murders, sometimes linking maltreatment to specific medical evidence, including for evidence for traumas that some individuals denied despite strong evidence to the contrary. In a recent survey of the entire prison population of Taiwan (over 83,000 subjects), the most common ICD-10 diagnoses were dissociative disorders, in both male and female inmates (Tung, Hsiao, Shen, & Huang, 2019).

A final point that is often lost in this debate is the independent nature of the questions of the accuracy of recovered memory and mechanisms of loss and return of memory. If recovered and continuous memory are equally likely to be accurate, then the role of dissociation in the loss of accessibility of the memory is likely irrelevant to the court. Several times throughout their discussions, Patihis, Merckelbach, and colleagues offered the alternative explanation that cue-dependent learning or chronic stress, rather than dissociation, may play a role in recovered memory phenomena. This may at times be true, although there is evidence that dissociation relates both to chronic stress (if severe) and to the likelihood of some types of cue-dependency (Carlson et al., 2012; Kanayama, Sato, & Ohira, 2008). Dissociation becomes relevant because (a) it is known to be related to trauma; (b) it is known to be related to likelihood of recovered memory; and (c) it allows prediction of a set of related clinical phenomena (e.g., other dissociative symptoms) that may be relevant to diagnosis and prognosis. The question of the severity of any existing dissociative symptoms, however, remains distinct from the question of whether memories recovered from DA are always or often false.

It is important to be clear that our remaining differences with Patihis, Merckelbach, and colleagues do not center on whether recovered memory evidence should be accepted without corroboration in courts, but rather on whether there should be a prejudicial weighing of the evidence in recovered memory cases. In other words, we are arguing that recovered memories should be treated as all other memories are treated—with the scientifically based knowledge that all memories can be shaped by powerful sources of suggestion, that all memories can be incomplete (e.g., due to dissociative processes, memory decay, or poor encoding), and that all statements in court should be examined for credibility and evaluated as to their fit with other available information. Merckelbach et al. (Merckelbach & Patihis, 2018) and Patihis et al. (2019) provided no support for their argument that recovered memory evidence should be subject to extraordinary skepticism.

Notes on the New Wave of Accountability for Abuse and Harassment

Patihis et al. (2019) wrote that there was an "epidemic" of lawsuits against therapists and criminal trials against parents based on recovered memories in the 1990s. A more accurate summary would add the information that many people, most of whom claim to have always recalled sexual abuse, began to be willing to talk about, and seek redress for, child abuse in the 1980s and 1990s. Thirty years ago, we did not have the research and clinical knowledge providing guidance about the assessment of trauma and dissociation that is now available, nor did we have methods for distinguishing possible malingering, exaggeration, or erroneous claims of trauma from genuine claims of trauma.

It is instructive to reconsider the narrative that there was a "witch-hunt" for child abusers during the 1990s. Cheit and his research team (Cheit, 2014) spent 15 years going across the USA to examine the police, medical, social services, and other documents related to reports of suspected childhood abuse in preschools. Cheit concluded that there was evidence of sexual abuse of children in most of these cases of suspected abuse within preschools, although in some cases, the identity of the abuser(s) was not clear. The researchers found very little evidence that supported the notion that there had been "witch-hunts" for child abusers.

In summary, there is a new wave of accountability growing in which victims are reporting and seeking redress for sexual abuse and harassment by coaches, movie directors, corporate executives, clergy, and other authority figures. There have

been government-sponsored investigations of abuse of children within political and religious institutions (e.g., Royal Commission in Australia). The Pennsylvania Grand Jury recently investigated allegations of widespread abuse by Catholic priests throughout that state and found more than 410 abusers within the Church. The Catholic website hosted by its bishops, called BishopAccountability.org, documents that the Catholic Church has provided over 3.2 billion in settlements already. This site lists only major settlements of $1 million or more, meaning that the 3.2 billion is likely a serious underestimation of the Church's settlements to date. Given the legacy of institutional neglect of sexual abuse in the Catholic Church, as one example, one could argue that there should have been more lawsuits, not fewer. It is time for forensic experts and indeed all mental health professionals, to become trained in assessing and treating trauma-related difficulties, including dissociation. In this new wave of awareness and accountability about trauma, legal judgments may be appealed or overturned in cases in which trauma and trauma-related dissociation are overlooked or misinterpreted. There could be litigation against clinicians who do not recognize or treat trauma-related dissociation, particularly if they misdiagnose it as another disorder or as malingering. Extraordinary abuse requires extraordinary attention.

Conclusions

Repeatedly, in recent years, critics of the concept of DD and dissociation lament the return to the "memory wars," noting that dissociation theorists have somehow inspired "lengthy review articles in favor of the concept" [of trauma-induced dissociation] (Patihis et al., 2019, p. 6). They are concerned about simplistic and antiscientific assumptions that we allegedly hold and worry that we champion various extreme beliefs. We do not believe, for instance, that accurate recall can occur for events close to birth. In fact, surveys show that champions of such ideas are quite rare (Patihis et al., 2014). Neither do we claim to be therapeutic wizards who use devices such as hypnosis to magically throw off the invisibility cloak revealing the memory to be reborn, "pristine and whole." We join our critics in seeing these beliefs as concerning and believe that the field has been quite successful in communicating this consensus.

We have tried to avoid the equivalent ploys that can be and have been used against false memory researchers, e.g., overemphasizing those among them who claimed that sexual abuse is not very harmful (Rind, Tromovitch, & Bauserman, 1997) or those who saw pedophilia as a legitimate lifestyle choice (Underwager & Wakefield, 1993). Showing that these views are not accepted by most scientific professionals should not be seen as evidence against our critics, and we have not made this claim (while full acknowledging that others have inappropriately done so). We simply suggest that progress would be made if Merckelbach, Patihis, McNally, and other prolific false memory researchers focused on the science and joined us in the self-correcting task of undertaking original research and replication. We also suggest a focus on clinical as well as nonclinical populations, the continued use of meta-analysis, and the further examination of strengths and weaknesses of varying clinical diagnostic inventories.

Our actual beliefs are and have always been the following:

1. Intensely negative events, including trauma, can become temporarily inaccessible to recall and can be recovered at a later time.
2. The recovered memory can be subject to all of the fallibilities of memory—bias and decay, for instance.
3. Such recovered memories should be evaluated in court using the same criteria as would be used for any other memory, i.e., evaluation within the context of corroborating and disconfirming evidence.
4. For reasons that are not fully known, trait dissociation correlates with the tendency to lose accessibility to memories of trauma.
5. Dissociation correlates with the severity of trauma exposure.
6. Dissociative symptoms are an important facet of any evaluation of trauma-related symptoms.

We strongly recommend a focus on why these lost memories become temporarily accessible in emotional circumstances, such as the work of Kanayama et al., (2008), in a nonclinical sample, showing differences in state-dependent memory in dissociative and nondissociative individuals. Follow-up work by Chiu, Lin, Yeh, and Hwu (2012) showed that affect shift has a different effect on forgetting in dissociators and nondissociators. Such research may generally inform scientific work on memory, inside and outside the trauma field. We strongly suggest that our critics turn away from mere declarations of the "extraordinary nature" of our theories and findings (a strategy that has an unfortunate history in delaying acceptance of theories that are later proven accurate) and turn instead to contributing to the scientific teamwork aimed at better understanding the role of dissociation in traumatic experience. Research integrating biological/genetic, trauma/neglect, and social/cultural contributions to dissociation also would be useful. Complex research problems often require extraordinary cooperation across disciplines.

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