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Trauma-Related Dissociation Is No Fantasy: Addressing the Errors of Omission and Commission in Merckelbach and Patihis (2018)

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Abstract

Dissociation is commonly a response to trauma that can be associated with significant impairment. In order to deal with dissociation in court from a comprehensive, scientifically informed, and valid perspective, Brand, Schielke, and Brams (Psychological Injury and Law, 10, 283-297, 2017a, b) provided a balanced view of dissociation, its characteristics, evidence base, and best assessment practices. Without an approach such as this, forensic experts risk having insufficient knowledge in its causation, phenomenology, and assessment and accordingly misunderstand trauma-related dissociation (TRD). Brand et al. (Psychological Injury and Law, 10, 283-297, 2017a, b) addressed this issue by providing an overview of TRD relevant to forensic contexts, acknowledging some of the erroneous and misinformed approaches to the topic. Merckelbach and Patihis (2018) offered a critique of Brand et al. (Psychological Injury and Law, 10, 283-297, 2017a, b) that illustrated this lack of knowledge and misunderstanding about TRD. Many of the statements made by these authors are conceptually inaccurate or scientifically misinformed. As we show, they were incorrect when they stated that research is lacking about the inter-rater reliability of dissociative disorder (DD) diagnoses. They were unaware of the error rates of tests and interviews among dissociative samples, which we present here. Merckelbach and Patihis challenged Brand et al., arguing their methods and literature review Blacked a connectivity to existing science^ (p. 3), despite extensive citations of studies with DD patients. They argued that we failed to adequately consider malingering despite our discussions of empirically supported methods for assessing it. We show that Merckelbach and Patihis overlooked research that does not support their views. As we review their comments, we illustrate their pattern of misreading and misunderstanding our papers, as well as lapses in their reasoning. The current paper reinforces that in the forensic context, experts can acquire adequate understanding of TRD and its evidence base, and put forward arguments against any harsh critique of the area that is uninformed about, misunderstands, or includes omissions and errors in critical conceptualization, state-of-the-art assessment practices, and research methodology and results.

Keywords Dissociation · Dissociative disorders · Trauma · Expert witness testimony · Bias · Malingering

Dissociation is commonly a response to trauma. However, trauma-related dissociation (TRD) is frequently misunderstood by evaluators, psychotherapists, and researchers. Dissociative symptoms predict the severity of posttraumatic stress disorder (PTSD) symptoms 3 years later (Mayou, Ehlers, & Bryant, 2002), suicide attempts (Briere, Dietrich,

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& Semple, 2016; Foote & Park, 2008; Stein, Koenen, Friedman, Hill, McLaughlin, Petukhova, & Kessler, 2013; Tamar-Gurol, Şar, Karadag, Evren, & Karagoz, 2008), non-suicidal self-injury (Ford & Gómez, 2015; Webermann, Myrick, Taylor, Chasson, & Brand, 2015), depression (Armour, Elklit, Lauterbach, & Elhai, 2014), and severe impairment (Stein et al., 2013). Further, despite occasional challenges to the dissociative disorders (see Merckelbach & Patihis, 2018), professional organizations continue to recognize their existence and recommend evaluating for these diagnoses. In fact, the subtype of dissociative PTSD has been added in the latest version of the *Diagnostic and Statistical Manual for Mental Disorder*s (5th edition; DSM, 2013), thus increasing the importance of accurate diagnosis of dissociation-related disorders. Thus, it is reasonable to argue that dissociation should be taken into consideration in the forensic context.

Unfortunately, many clinicians are inadequately trained in assessing dissociation and diagnosing dissociative disorders (e.g., see Mendez, Martinez-Taboas, & Pedrosa, 2000). For example, almost half of clinicians in a study by Perniciaro (2014) could not accurately diagnose dissociative identity disorder (DID) from a vignette that clearly spelled out DSM-based criteria for the disorder. For these reasons, Brand and colleagues (Brand, Schielke, & Brams, 2017a; Brand, Schielke, Brams, & DiComo, 2017b) addressed what they believed to be a gap in training and knowledge about dissociation and its association with trauma exposure and PTSD by providing an overview on TRD, including information that they believed would be useful to forensic professionals.

For a period of time peaking in the late 1990s, one barrier to learning for professionals in this area has been attacks on the validity of trauma-related disorders, the scientific rigor of the researchers who study them, and the character of the therapists who treat them, leading to angry and, at times, inappropriate responses. Scheflin (1999) referred to the rhetoric over recovered memory as Bthe most acrimonious, vicious, and hurtful internal controversy in the history of modern psychiatry^ (p. 1). Lindsay and Briere (1997), the former a prominent cognitive researcher and the latter a well-respected trauma scholar, made a well-publicized request for a cease-fire, calling the rhetoric Bdivisive, fierce, and destructive^ (p. 632). The vitriol began to subside, and most of the research that was cited in the Brand et al. (2017a, b) reviews was conducted toward replacing uninformed opinion and counter-opinion with scientifically based argument.

This contemporary approach to study of dissociation should continue to circumvent the Bbad old days^ of inflammatory and hostile language, and could have been acknowledged in the Merckelbach and Patihis (2018) response. Merckelbach and Patihis presented themselves as making a reasoned Bargument,^ but without citing sufficient and inclusive contemporary conceptualization and empirical research, as in Brand et al. (2017a, b), they risk presenting an opinion piece with too much omission and errors. They did not merely disagree with Brand et al.'s conclusions, but also inferred that the conclusions lacked connectivity to contemporary science (p. 3). However, unlike the substance of the claims in Merckelbach and Patihis, Brand et al. and the present response illustrate that research supports our scientific approach to TRD and dissociative disorders (DD) in court. By using an appropriate scientific tradition in our response, we will (a) avoid misinterpretation of the issues they raise, while (b) pointing out our agreements, when possible. Finally, we respectfully suggest that some of their reading of our work appears to have been influenced by a pre-existing negative frame that in our view is distorting our true position. We will therefore attempt to clarify our position while clarifying the errors of omission and commission in their response.

Trauma-Related Dissociation

The central theme of the Merckelbach and Patihis (2018) response is that the Bvery term 'trauma-related dissociation' acts as a *petitio principi*: it fuels the misunderstanding that dissociative symptoms of the claimant substantiate the presence of a traumatic history^ (p. 2). Much of the response is spent citing papers that conclude that not all dissociation is trauma-related (Dalenberg, Brand, Gleaves, Dorahy, Loewenstein, Cardeña, & Spiegel, 2012) and not all those suffering from dissociative symptoms require trauma-focused treatment (Briere & Runtz, 2015). They argued that using the term TRD is dangerous, and that the positing of TRD will somehow bias the reader into a rigid belief set that denies the existence of any other cause of dissociative symptoms, for example that both self-reported trauma history and dissociative symptoms derive from an overactive imagination on the part of the claimant (i.e., Bfantasy proneness^) or the influence of leading questions from incompetent therapists (i.e., Biatrogenic therapy^), and will further create a belief that the existence of dissociative symptoms can be used to substantiate a trauma history.

We must admit that we were puzzled by these assumptions. The existence of diabetes-related retinopathy does not imply that retinopathy cannot exist in nondiabetics, the fact that thousands of articles have described travel-related fever do not imply that one cannot develop a fever in one's one home town, and the latest fad of writers referring to Obama- or Trump-related derangement does not imply that no other provocations exist in the world. In other words, although we did attempt to show that TRD, the central focus of our paper, does exist and is a cause of dissociation, we did not take the position that trauma is the sole reason for elevated scores on dissociation measures. We agreed that the task of the forensic assessor is to weigh the evidence in favor of the most likely cause of any disorder in court. In this case, it is particularly

important to differentiate the tasks of the forensic assessor in cases where the trauma exposure is itself substantiated or not. In other words, in cases where the occurrence of a traumatic life event can be independently substantiated (e.g., external witness, physical evidence), in our view, the question of a causal role for fantasy proneness or iatrogenic therapy in the generation of false memories of trauma exposure becomes less relevant, and the hypothesis of TRD becomes increasingly favorable. In comparison, in instances where the trauma exposure cannot itself be verified, we do not believe that a high score on a dissociation test should ever be used to substantiate an otherwise unproved trauma history, and do not believe a fair reading of the Brand et al. (2017a, b) paper set would lead one to this conclusion.

In sum, we do believe, and will not repeat our arguments here given space considerations, that dissociation can be, and often is, trauma-related. Further, dissociation observed in the context of trauma history is associated with many problematic outcomes, including severity of PTSD (Carlson, Dalenberg, & McDade-Montez, 2012), higher likelihood of suicide (Briere et al., 2016; Stein et al., 2013; Tamar-Gurol et al., 2008) and non-suicidal self-injury (Ford & Gómez, 2015; Webermann et al., 2015), depression (Armour et al., 2014), severe role impairment (Stein et al., 2013), and impulsivity (Somer, Kramer, & Ginzburg, 2012). It is therefore imperative for the forensic examiner to evaluate for the presence of dissociation and to take dissociation into account in rendering forensic opinions in cases of putative or alleged trauma exposure, and consider the possible etiological role for trauma exposure in the development of dissociation, that is, TRD. We would further contend, given the substantial evidence we have presented for comorbidity of dissociation and multiple serious disorders, that there are evidence-based reasons to assess for dissociation even among those who take extreme negative positions on the trauma-dissociation connection (overall or in a given case).

Forensically, the difficulty in assessment is in disentangling past, remote, or distal trauma histories from more contemporaneous, immediate, or proximal trauma incidences and ascribing causality to any resultant dissociation/TRD/DD when both past and more present trauma factors are at issue (e.g., for a motor vehicle accident survivor having a history of sexual abuse). Proper training and adherence to professional standards and scientific guidelines and research must be used in these most difficult cases. That said, this does not deny the validity from the outset of dissociation/TRD/DD symptomatology as being possible in scenarios such as this.

Likelihood Ratios and the Study of Dissociation

Merckelbach and Patihis (2018) recommended the method of likelihood ratios to clarify the trauma-dissociation connection. This methodology essentially compares the conditional probability of dissociative symptoms (or any mental health problem) in the presence vs. absence of trauma exposure. A recent study conducted by Frewen, Brown, and Lanius (2016) did just that. The researchers demonstrated that the self-reported presence of dissociative symptoms of at least moderate severity was highly contingent on a self-reported childhood trauma history; only 2% of those found to be low on self-reported childhood trauma (i.e., below the 25th percentile) reported moderate or severe dissociative symptoms, especially in relation to the dissociative symptom of voice hearing. Importantly, however, the reverse is not true: the presence of such a history is itself not a guarantor for the development of dissociative symptoms. In fact, among those above the 75th percentile in self-reported childhood trauma exposure, Frewen and colleagues found that only approximately 14% can be expected to report dissociative symptoms of at least moderate severity.

We agree with Merckelbach and Patihis (2018) that investigation of likelihood ratios or conditional probabilities of mental health outcomes given trauma exposure rates, and the reverse, of trauma exposure rates given mental health outcomes, needs to be conducted, and agree with the limitations of correlational designs. Indeed, correlational designs can obscure these differential conditional probabilities, because maximum correlations are affected by the base rates (perhaps partially explaining the moderate average correlation in the meta-analytic work of Dalenberg et al. (2012) on the trauma exposure–dissociation connection). Further, prevalence rates for the conditional probabilities of traumatic events leading to the development of trauma- and stressor-related disorders have been developed using factor analysis (e.g., Kessler, Aguilar-Gaxiola, Alonso, Benjet, Bromet, Cardoso, & Koenen, 2017) and studies show that repetitive, chronic exposure to traumatic stress during childhood may be a particularly strong risk factor for the development of dissociative disorders. In the World Mental Health Survey study (Stein et al., 2013), more severe and earlier exposure to trauma were associated with dissociative symptoms among those with PTSD. Indeed, the Frewen et al. (2016) study established that the probability of moderate to severe dissociation is nearly zero (2%) in the absence of any significant self-reported childhood trauma history. Other kinds of traumatic events or other non-trauma antecedents, however, may show different conditional probabilities for the development of dissociative symptoms and disorders, a matter to be resolved with future research. Specifically, Merckelback and Patihis considered sleep problems (van der Kloet, Merckelbach, Giesbrecht, & Lynn, 2012), deficient affect regulation (Briere & Runtz, 2015), and response bias (Merckelbach, Giesbrecht, van Heugten-van der Kloet, Jong, Meyer, & Rietman, 2015) as possible alternative causes for dissociative symptom reports that should be ruled out if TRD is to be favored. Whereas we

reviewed a study employing the likelihood ratio (conditional probability) approach advocated by Merckelbach and Patihis to investigate the probability of trauma histories in the presence of dissociative symptoms (Frewen et al., 2016), we are aware of no prior studies that have employed similar methodology to assess the likelihood of any of these other causal factors for dissociation.

Nevertheless, Merckelbach and Patihis (2018) raised the important issue that Bseveral studies of people suffering from dissociative psychopathology found that a sizeable minority did not report a traumatic history (e.g., 24%, Duffy, 2002; 39%, Şar, Akyüz, & Doğan, 2007)^ (p. 2). Given their concern about the inaccuracy of trauma reports in other publications, however, it is curious that Merckelbach and Patihis appeared to take such reports at face value here, expressing no objection that such reports might sometimes be errors of omission. Merckelbach and Patihis seemed certain that those not reporting child abuse in their history have no such history, despite acknowledgement by at least one of the authors they cite (Duffy, 2002) that some patients could not answer the trauma questions due to lack of self-certainty about their own histories. In comparison, we would suggest a reasonable explanation for the forensic expert to consider is that self-reported trauma exposure rates may be underreported, that is, either willfully withheld, for example, due to shame, or intentional forgetting to avoid painful recollection (Koutstaal, Schacter, Johnson, Angell, & Gross, 1998), or unknowingly withheld, that is, due to dissociative processes themselves, or that they may be consciously or unconsciously over-reported. Unfortunately, although good methods of detection are available for the latter, the former is difficult to detect. We contend that dissociative amnesia represents one possible cause (among others) of non-reports of trauma exposure that requires consideration, particularly in persons reporting clinically significant dissociative symptoms.

Clinical Evaluation of Dissociation

Turning our discussion to validated tools for assessment, Merckelbach and Patihis (2018) wrote that the Bbias^ of Brand et al. (2017a, b) Bis all the more problematic because there are, as far as we know, no field trial data about the interrater reliability of the dissociative disorder diagnosis^ (p. 5). Further, Merckelbach and Patihis wrote that they would be Bsurprised^ if there was not Bsuboptimal accuracy^ in diagnosing dissociative psychopathology. We must point out that they are wrong on both counts. Six studies have assessed the reliability of diagnoses derived from the interview that is considered the gold standard diagnostic interview for dissociative disorders, the Structured Clinical Interview for Dissociative Disorders (SCID-D; Steinberg, 1993) and the SCID-D-Revised (SCID-D-R; Steinberg, 1994a, b), and found the data to have good to excellent interrater reliability (see Table 1).

For example, as discussed by Steinberg (2000), the SCID-D field trial assessed patients at baseline, 2 weeks, and 6 months. The weighted kappas for the presence as well as the severity of dissociative symptoms was good to excellent (.77 to .86) at each time point. Agreement about the presence of a DD was also excellent (.92), and has been confirmed by other researchers (e.g., Boon & Draijer, 1991; Goff, Olin, Jenike, Baer, & Buttolph, 1992; Kundakçi, Şar, Kiziltan, Yargiç, & Tutkun, 2014). Interrater agreement for type of DD was very good to excellent (.77 to .86) with depersonalization disorder having the lowest agreement and DID having the highest agreement. Test-retest reliability was very good for the overall assessment of the presence of a DD (kappa = .88). Recent studies also find the SCID-D-R to have good to excellent interrater reliability (Kundakçi et al., 2014). The error rate for diagnosing DID using the SCID-D/SCID-D-R is low, ranging from 4.4 to 11% (see Table 2).

Due to space constraints, Brand et al. (2017b) presented only a few examples of the utility statistics associated with assessment interviews and tests with DID individuals. Merckelbach and Patihis (2018) expressed curiosity about error rates for interviews and tests; we provide these in Tables 2 and 3. As indicated in the tables, the false negative rates (that is, the proportion of feigners misclassified as having genuine DID) approximate zero in the case of the SCID-D, and are also reasonably low for an empirically derived composite of Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher, Graham, Ben-Porath, Tellegen, & Dahlstrom, 2001) scales (17%) and the Test of Memory Malingering (22%; TOMM; Tombaugh, 1997). The false positive rates (i.e., the rate at which a measure misclassifies DID patients as DID feigners) have been lowest with the SCID-D (0%), the Structured Interview of Reported Symptoms-2 (SIRS-2; Rogers, Sewell & Gillard, 2010) with and without its Trauma Index (0–8%), and the TOMM (3%), but are also reasonably low for the MMPI-2-derived composite (14%).[1]

Malingering Dissociation and the Dissociative Disorders

Merckelbach and Patihis (2018) were highly concerned about malingering and over-reporting in individuals reporting dissociation, and argued that Brand et al. (2017a, b) Bsuggest

[1] As suggested by a reviewer, we would like to clarify that we are using the terms false positive and false negative here as it is typically used in the malingering literature, where the aim is to detect the malingerer.

Table 1 Interrater reliability data for SCID-D/SCID-D-R

Authors	Sample	SCID-D/SCID-D-R procedure	Interrater correlation on SCID-D symptom severity	Agreement on specific DD diagnosis	Agreement on presence vs. absence of DD
Steinberg et al., 1990	41 mixed diagnostic clinical patients, 7 healthy controls	DD expert (blind to 63% referring diagnoses) and psychiatric nurse blind to all referring clinicians' diagnoses independently conducted/scored SCID-D	.95	DID = 90% DDNOS = 82% Depersonalization disorder = 65%	96%
Boon & Draijer, 1991	44 clinical patients	Two DD experts independently conducted/scored SCID-D	NA	DID = 100%	97.7%
Boon & Draijer, 1993	45 mixed control patients, 45 DD patients (21 DID and 24 DDNOS)	Random sample of 16 SCID-D interviews rated by 3 psychologists and 3 psychiatrists (1 described himself as Bskeptical^ about DID)	Amnesia = .88 Depersonalization = .83 Derealization = .81 Identity confusion = .82 Identity alteration = .85	5 out of 6 raters had 100% agreement on DID. Skeptical rater disagreed with others twice (yet still diagnosed DDNOS and depersonalization disorder). Agreement on diagnostic categories = .70 kappa.	100% agreement on absence of DD. 97.9% agreement on presence of DD. Overall kappa = .96
Welburn et al., 2003	Clinical patients: Schizophrenia *N* =9 DID *N* = 12 Controls randomly assigned: Healthy *N* =9 DID Feigners *N* =10	Interviewers blind to study hypotheses and group status	DID = .98	92% across groups	–
Goff et al., 1992	OCD patients *N* = 100, 10 of whom had a DD	Psychiatrists were blind to the other interviewer's diagnoses and other clinical information	Depersonalization = .96 Derealization = .92 Amnesia = .92 Identity confusion = .93 Identity alteration = .85	Depersonalization disorder = 84% Dissociative amnesia = 89% DDNOS = 100% DID = 100%	NA
Kundakçi et al., 2014	DD patients *N* = 34 Mixed psychiatricpatients *N* = 34	Psychiatrists were blind to diagnoses	Severity of symptoms = .78–1.00 Total SCID-D score = .76		100%

SCID-D/SCID-D-R Structured Clinical Interview for Dissociative Disorders (Revised), *DD* dissociative disorder, *NA* not applicable

Table 2 Utility statistics SCID-D/SCID-D-R with dissociative disorder samples

Authors	Sample	Clinical diagnostic procedure	SCID-D/SCID-D-R procedure	Test or interview	Sensitivity (test's ability to correctly classify feigners)	Specificity (test's ability to correctly classify DID patients)	Error rate
Presence vs. absence of DD							
Boon & Draijer, 1993	45 mixed control patients, 45 DD patients (21 DID and 24 DDNOS)	Clinicians diagnosed DD patients with assistance from an independent DD expert;	Random sample of 16 SCID-D interviews rated by 3 psychologists and 3 psychiatrists (1 described himself as Bskeptical^ about DID)	SCID-D	100%	95.6%	4.4% of patients misclassified as having DID
DID vs. other disorder							
Welburn et al., 2003	Schizophrenia $N = 9$ DID $N = 12$ Controls randomly assigned: Healthy $N = 9$ DID Feigners $N = 10$	Psychiatrists specializing in schizophrenia or DD	Interviewers blind to study hypotheses and group status	SCID-D	100% for DID	89% DID vs. Schizophrenia (one patient in latter group classified as DDNOS rather than DID)	11% of patients misclassified as having DID

SCID-D/SCID-D-R Structured Clinical Interview for Dissociative Disorders (Revised), *DD* dissociative disorder, *TOMM* Test of Memory Malingering, *TSI-2* Trauma Symptom Inventory-2, *SIRS* Structured Interview of Reported Symptoms, *TI* Trauma Index on SIRS/SIRS-2

that in the case of dissociative individuals, a failure on tests tapping into symptom validity validates rather than invalidates symptom presentation^ (p. 4). It is very difficult to see this conclusion as fair-minded. In our original set of papers on this topic, extensive space, including a separately titled section on malingering with several subsections, was devoted to distinguishing feigned from clinical dissociative disorders. For example, the TOMM, a symptom validity test of cognitive effort, was described in Brand et al. (2017b) as Bone of the most promising measures for use in distinguishing feigned from clinical DID with respect to dissociative amnesia^ (p. 307). In comparison, the Structured Interview of Reported Symptoms (SIRS; Rogers, Bagby, & Dickens, 1992) was reported to misclassify approximately 35% of patients diagnosed with DID (Brand, McNary, Loewenstein, Kolos, & Barr, 2006). In fact, Rogers himself discovered that the SIRS misclassified 31% of patients with severe trauma histories as feigners and so developed the Trauma Index, a sum of three SIRS scales that were not endorsed at high levels by trauma survivors. This index did not over-classify complex trauma survivors as feigners in Rogers' work (Rogers, Payne, Correa, Gillard, & Ross, 2009), and accurately distinguished clinical from simulated DID in Brand, Tursich, Tzall, and Loewenstein (2014).

Given all of the information above, it was unclear why Merckelbach and Patihis (2018) would describe us not only of ignoring malingering (a term we use 23 times in the manuscripts), but also of believing symptom validity test failure to be a positive sign of the presence of dissociation. The only explanation we can find from this misreading of our work is that that we cited findings that known trauma populations and validly diagnosed dissociative populations do elevate on certain scales designed to detect malingering (Elhai, Gold, Sellers, & Dorfman, 2001; Rogers et al., 2009; Welburn et al., 2003). However, the authors of the measures have themselves cautioned that malingering scores may be false positives, and have even recommended raising cutoff points in some cases (Rogers, Sewell, Martin, & Vitacco, 2003; Rogers et al., 2009), or, as Brand et al. (2017a, b) suggested, avoiding overly facile conclusions of malingering based on single measures. We consider the problem of attempting to limit conscious distortion by respondents within forensic interviews and interpreting data in the context of exaggeration to be extremely complex, particularly given the common recommendation in test manuals to consider exaggeration as a potential Bcry for help.^ When research shows that a given test may not function as intended for a specific cultural or diagnostic group, that information must be carefully considered by the forensic evaluator. This reason, and only this reason, was the foundation for our presentation of findings that some malingering tests are not as straightforwardly applied for the present type of cases being considered compared to others in the forensic context.

Table 3 Utility statistics and error rates for measures with dissociative disorder samples

DID to DID feigning		Method of diagnosing DD		Sensitivity[a]	Specificity[b]	False negative rate[c]	False positive rate[d]
Welburn et al., 2003	DID N = 12 DID Feigners N = 10	Interviewers blind to study hypotheses and group status	SCID-D	100%	100%	0% of feigners misclassified as DID	0% of patients misclassified as feigners
Brand et al., 2006	DID N = 20 DID Feigners N = 43	Outpatient or inpatient team diagnosed with DID	SIRS	49%	65%	51%	35%
Brand et al., (2014)	DID N = 49 DID Feigners N = 77	Outpatient or inpatient team diagnosed with DID	SIRS-2 with and without Trauma Index (TI)	TI alone = .86 SIRS-2 with or without TI 56–86%	TI alone = 80% SIRS-2 with or without TI 92–100%	TI alone = 14% SIRS-2 with or without TI = 14–44%	TI alone = 20% SIRS-2 with or without TI = 0–8%
Brand & Chasson (2015)	DID N = 53 DID Feigners N =144	Outpatient or inpatient team diagnosed with DID	MMPI-2	Fp performed best among single validity scales = 79% but PPP still only 66% Best predictor: composite of predictors = 83%	Fp = 85% Composite of predictors = 86%	Fp = 21% Composite of predictors = 17%	Fp = 15% Composite of predictors = 14%
Palermo & Brand (2018)	DID N = 20 DDNOS N = 19 DID Feigners N = 51	Diagnosed by inpatient treatment team after being observed for one week	TSI-2 Atypical Response Scale	.47–.92	.49–.77	8–53%	23–51%
Brand, Webermann, Snyder, and Kaliush (2018)	DID N = 31 DID Feigners N = 74	71% were inpatients diagnosed by treatment team after being observed	TOMM	.64–.78	.87–.97	22–36%	3–13%

SCID-D/*SCID-D-R* Structured Clinical Interview for Dissociative Disorders (Revised), *DD* dissociative disorder, *TOMM* Test of Memory Malingering, *TSI-2* Trauma Symptom Inventory-2, *SIRS* Structured Interview of Reported Symptoms, *TI* Trauma Index on SIRS/SIRS-2, *PPP* positive predictive power

[a] Tests ability to correctly classify feigners

[b] Tests ability to correctly classify DID patients

[c] Proportion of feigners missed by test; 1−sensitivity

[d] Proportion of patients misclassified as feigners by test; 1−specificity

Clinical and Behavioral Signs of Dissociation

Behavioral observations are an important source among the multiple sources of data necessary for a forensic assessment. Brand et al. (2017b) emphasized the careful observation of evaluees to determine whether they show signs that might indicate dissociation. They advised assessors to keep written notes of behavioral observations in detailed transcripts of the evaluee's speech, which can assist in identifying potential cognitive and emotional shifts in response to various cues. Merckelbach and Patihis (2018) stated that such a list could be used Bto diagnose a traumatic history in every claimant^ (p. 3). But nowhere in the Brand et al. (2017a, b) work was it advised that behavioral signs should alone be used to diagnose a traumatic history or a dissociative disorder. Instead, Brand et al. (2017b) discussed the noting of behavioral signs during psychological assessment in a manner consistent with forensic evaluation of any disorder. This type of recommendation would not have been considered contentious had we been discussing major depressive disorder (MDD), suggesting that the evaluator, in addition to careful assessment with validated tests, note in the interview if the respondent lacks affective reactivity, cries easily, or moves slowly; or, in contrast, is readily responsive with smiles and laughter, and shows no psychomotor retardation. Such behavioral signs, while alone insufficient to confirm or refute diagnosis, provide either converging or diverging data supporting overall diagnostic hypotheses garnered from multiple data sources, and this approach should apply equally to dissociative disorders as any others, such as MDD.

Dissociative disorders are infrequently taught about in the professional education of psychologists, psychiatrists, and other mental health providers. Brand et al. (2017b) took the opportunity to list some of the behavioral indicators that are frequently noted by expert clinicians in their evaluative sessions with dissociative evaluees. Merckelbach and Patihis (2018) are certainly right that these indicators should receive more study before they are used as formal diagnostic indicators (a strategy Brand et al. (2017b) never recommended). They are incorrect, however, that no research has been conducted on the subject of behavioral signs of dissociation. BSpacing out^ and identity confusion observed by others, for instance, are part of the core set of dissociative symptoms that have been validated as part of the Child Dissociative Checklist (CDC; Putnam, Helmers, & Trickett, 1993). Moreover, variations in eye flutter and eye roll are one of the oldest and most studied signs of hypnotic and dissociative states (Spiegel, 1972), with eye roll capacity correlating .55 with dissociation (Torem, Egtvedt, & Curdue, 1995). Most importantly, Merckelbach and Patihis (2018) are simply incorrect in stating that Brand et al. (2017b) are suggesting that behavioral signs can alone be used as sufficient markers of a trauma history or dissociative disorder. Rather, Brand et al. (2017b) stated that Bas always, multiple sources of assessment data are necessary, including careful behavioral observations, testing with measures and interviews that have been validated for the population and issue at hand, corroboration from multiple sources, and thorough review of discovery materials, to develop an accurate assessment of an individual^ (p. 304). We re-assert this conclusion to readers of our work, such as Merckelbach and Patihis, particularly as it is standard ethical forensic practice.

Finally, although we agree that behavioral signs should not be over-weighted or used as diagnostic tools in and of themselves, we query why Merckelbach and Patihis (2018) should conclude so confidently that these behavioral signs, which they claimed (incorrectly) have not been studied, are Beasy to feign^ (p. 3). True, malingerers might show slow response time (which was not included as one of our behavioral indicators), but the fact that malingerers tend to show Btotal amnesia for personal identity and past knowledge^ (p. 3), as Merckelbach and Patihis argued, is a sign that feigning of DID is *not* easily accomplished by these individuals, given that such extensive reports of amnesia are *not* characteristic of most persons with DID (American Psychiatric Association, 2013).

The ease of simulation of DID and amnesia has indeed been researched extensively in recent years, including by Brand et al. (2017a, b). In general, differentiation of genuine from feigned DID has found that extensive claims of amnesia, particularly if they are dramatic and/or related to only Bbad^ behaviors that the person might want to avoid admitting, are suggestive of feigned amnesia and/or feigned DID (Coons & Milstein, 1994; Draijer & Boon, 1999). Consistent with the general malingering research, individuals with genuine DID do not typically claim total amnesia for their identity, and when they show shifts in knowledge, it tends to be circumscribed and fluctuates with time (Draijer & Boon, 1999; Spiegel, Loewenstein, Lewis-Fernandez, Sar, Simeon, Vermetten, & Dell, 2011). For example, while a person with genuine DID may generally lack detailed memory of a conversation or making a purchase, hours later they may report at least a vague recollection of the previously disremembered event. Further, individuals with DID do not typically flaunt their amnesia; rather, they tend to be embarrassed and anxious about it (Draijer & Boon, 1999; Steinberg, 2000). Research indicates that an absence of dissociation during interviews and a sense of ease or enjoyment when the evaluee reveals information about dissociative states is characteristic of factitious and malingered DID (Draijer & Boon, 1999). Behavioral signs of dissociation, including during the interview, and ambivalence and discomfort revealing information about dissociative symptoms such as self-states and amnesia are characteristic of genuine DID (Draijer & Boon, 1999; Steinberg, 1994a, b). A study that compared self-reported amnesia among individuals with borderline personality disorder

(BPD) to those with a SCID-D-R diagnosed DD found that the BPD group reported higher levels of amnesia than the DD group, despite the DD individuals having higher levels of amnesia, according to SCID-D-R scores (Şar, Alioğlu, Akyüz, & Karabulut, 2014). The authors concluded that the BPD group appeared to be more self-aware of amnesia that the DD group. These results suggest that the DD group did not appear to be exaggerating their reports of amnesia.

The Subjectivity of Amnesia and the Single-Cause Hypothesis

Parts of Merckelbach and Patihis's (2018) critique of our paper set represent a type of argument that is frequently faced by researchers studying DID and dissociative amnesia. Here, each study supporting the DID-related hypothesis in question is placed under a microscope. Is the *N* too small? Does it contain self-report? Was the abuse corroborated? Has it been replicated internationally in countries with less media exposure to DID? Critiques of the dissociative amnesia studies as largely self-report and retrospective led to improvements in design, such as Williams' (1995) prospective study and Dalenberg's (1996) study of corroborated abuse memories recovered in therapy. The vast array of studies and study designs conducted since the 1990s is a positive development inspired in part by researchers such as Merckelbach and Patihis.

That said, Merckelbach and Patihis's (2018) critique of our various statements regarding dissociative research were almost always accompanied by counter-statements that were presented with little critical evaluation. For example, Merckelbach and Patihis suggested that iatrogenic therapy might instead be the cause of DID, referring us to unexamined case studies compiled by an individual who declared a clear potential bias, given that he stated that his daughters accuse him of sexual abuse based on recovered memories (Pendergrast, 1996, 2017). Here, Merckelbach and Patihis's careful scientific examination of alternative hypotheses for results or potential bias in the evaluator or researcher appeared simply to vanish. We refer the reader to Ditto and Lopez's (1992) writings on Bmotivated skepticism.^ Brand et al. (2017a) refrained from extensive consideration of the iatrogenic therapy hypothesis because they could find no direct empirical support for it. They did argue for a potential role of suggestion, both in the development of symptoms prior to the forensic evaluation and in the measurement of symptoms within the evaluation, and recommended methods to reduce potential contamination.

In two other ways, Brand et al. (2017a, b) and Merckelbach and Patihis (2018) simply differ in their understanding of scientific reasoning, leading them to differing emphases. Merckelbach and Patihis opined directly that because Brand et al. (2017b) stated that recovered memories can be reliable, they were ignoring the literature that some such memories can be false. We were chastised because we did not cite studies showing that people do at times retract trauma memories that they recovered in therapy (e.g., Ost, 2017). But Brand et al. agreed with Merckelbach and Patihis that false memories can occur, inside or outside of the psychotherapy office. We do not believe, however, that if a retraction occurs, the retraction is always valid and the recovered memory is always false. We also disagree that the existence of false memories has any substantial bearing on whether recovered memories can be (or are more often) reliable. Again, we must point out to the reader how unusual Merckelbach and Patihis's argument is, and how specifically it has been applied to the trauma domain. For example, one would be hard pressed to identify any researchers arguing that, because individuals can and do lie about, misremember, and even forget for neurological reasons the number of drinks they have had over the course of the last week, that this should be taken to mean that (a) no one is accurately reporting drinking, and (b) all research relating self-reported alcohol consumption to other variables is entirely worthless. Rather, similar to those studying other variables with social desirability burdens, we recommend for research on dissociative disorders (a) studies on improvement of measurement to identify and correct for over- and under-reporting, (b) studies on the differentiation of purposefully malingering versus genuine sufferers of dissociative disorders, (c) studies that expand on self-report to examine the neurological or other psychophysiological underpinnings of the disorders, and/or (d) studies of the frequency of external corroboration of trauma reports. We do not believe that dissociation must stem from a single cause, but do not accept that even convincing evidence for iatrogenic dissociation, if it were to be developed, would negate all instances of TRD. Forensic examinees have been known to malinger psychosis and dementia, among other psychiatric diagnoses. It would be a very strange argument to assert that successful malingering of any psychiatric disorder would result in the disorder being stricken from the *Diagnostic and Statistical Manual of Mental Disorders* (DSM; APA, 2013) as no longer valid.

A second way in which we differ is in our interpretation of the meaning of Bsubjective^ versus Bobjective^ amnesia. Here, rather than holding the simplistic view that Merckelbach and Patihis (2018) suggested that we hold, we would contend that it is the *complexity* of the accepted view of dissociative disorders that Merckelbach and Patihis failed to understand. As a brief explanation of a complex topic, consider the famous example offered by Claparede in 1911 (Nicolas, 1996). In an experiment unlikely to pass modern IRB panels, Claparede hid a sharp pin in his hand when shaking the hand of a patient with Korsakov's syndrome. Later, the patient Bsubjectively^ claimed amnesia, and did not recall having met Claparede before. BObjectively,^ however, there was

evidence that the individual did have recall, in that he refused to shake Claparede's hand again, and noted that he had heard that people hid pins in their hands. In addition, there is a large, complex literature showing that Korsakov's syndrome individuals can display implicit memory and priming responses under a variety of experimental conditions, but not on others, and show different patterns of implicit memory and priming compared to patients with other forms of dementia (Hayes, Fortier, Levine, Milberg, & McGlinchey, 2012). As is true in this case, most dissociation theorists (like most memory researchers) understand the workings of multiple memory systems. In comparison, Merckelbach and Patihis stated that Brand et al. (2017a, b) Bdisregard^ the work of Huntjens, Verschuere, and McNally (2012), work that broadly showed that inter-identity amnesia may be subjective rather than objective. Beyond the fact that the work of Huntjens et al. (2012) is by no means without its critics, and other research lines have produced opposite results (e.g., Elzinga, Phaf, Ardon, & van Dyck, 2003), the objective data given in the Claparede case, like those given in the Huntjens et al. (2012) studies, does not automatically translate for us into either of the two alternatives proposed by Merckelbach and Patihis—the patients are lying and/or they have been led to their misstatements by others. Rather, these studies illustrated that subjective memory is a highly complex experience, and if it does not conform to objective evidence, may or may not reflect malingering. Out of sight does not mean out of mind. Memories not available to explicit episodic recall may well have implicit effects, as when a woman raped in an elevator refuses to enter one although she cannot recall details of the assault (Spiegel, 1997).

Similarly, when an individual with schizophrenia reports that her relatives have been kidnapped by aliens, we may have a great deal of evidence that she is wrong objectively, but her subjective belief is in and of itself evidence of the disorder. Schizophrenia is in part a set of changes in belief and brain processing that makes it seem plausible to the individual that her relatives have been kidnapped by aliens. Mental health professionals describe the delusions without believing them (Spiegel, Hunt, & Dondershine, 1988). Yet, critics of DID theory and research often attempt to prove that professionals who describe dissociation of identity, memory, and consciousness are unduly credulous. Those with DID suffer fragmentation of identity but are not, in fact, multiple instances of people. This does not invalidate DID theory any more than delusions and hallucinations invalidate the diagnosis of schizophrenia. Instead, the disorder of DID creates a subjective experience in which it seems plausible to the individual that she or he has Bmany selves^ in one body, and that plausibility is linked to differences in structure of the DID individual's psyche. Such a conclusion is in keeping with the results of Reinders, Willemsen, Vos, den Boer, and Nijenhuis (2012), for example, who showed neurobiological and psychophysiological differences between amnestic states in a DID population, and further showed that these differences could not be simulated by motivated control subjects. Nonetheless, we agree with Merckelbach and Patihis (2018) that the question of metacognitive understandings of the self in the dissociative individual is an important one.

Collateral Information and the Use of Jargon

Brand et al. (2017b) argued that Bmultiple sources of assessment data are necessary, including careful behavioral observations, testing with measures and interviews that have been validated for the population and issue at hand, corroboration from multiple sources, and thorough review of discovery materials, to develop an accurate assessment of the individual^ (p. 304). Merckelbach and Patihis (2018) suggested that because we stated in one sentence in our two manuscripts that self-reports are Bideally supplemented with collateral information,^ we were indicating the collection of collateral information was merely Bprovisional^ and that this therefore conflicts with the principle to use multiple sources of information. We will spend little time with this argument, since the quotation above illustrates definitively our recommendation for the use of multiple sources of information. Recognition that all forensic cases rest partially on self-report does not invalidate the statement that multiple sources of information are required for a comprehensive assessment in the forensic context. It is rare, for instance, for child incest cases to be fully witnessed, and many also lack DNA evidence. To take a position that collateral information is important, and should be sought, is normative forensic practice. However, to take the position that in no case may we use the testimony of the witness as part of the full evaluative process, even tentatively and with notation of source, unless there is outside corroboration, is an extreme point of view.

Merckelbach and Patihis (2018) were particularly worried by Brand et al.'s (2017b) statement that evaluators should Buse the evaluee's own words rather than professional jargon as much as possible,^ (p. 302) which they saw as antithetical to collecting collateral information. Here, we believe that our hypothesis of motivated skepticism on the part of Merckelbach and Patihis applies. It is hardly revolutionary for forensic experts to warn those attempting to communicate scientific concepts to lay audiences to avoid jargon. In fact, computer programs called De-Jargonizers now exist (Rakedzon, Segev, Chapnik, Yosef, & Baram-Tsabari, 2017) to help scientists remove the jargon from their papers, in hopes that the points will be communicated more clearly. The advice to avoid professional jargon is taken directly from numerous practice parameters for forensic professionals, e.g., the practice parameters for the forensic evaluation of adolescents and children who may have been sexually abused (American Academy of Child and Adolescent Psychiatry, 1997). We

explicitly suggested avoiding the use of jargon as a method of decreasing the possibility of exaggeration: BTo avoid inadvertently providing training to individuals who are inclined to exaggerate or malinger symptoms, assessors should not use professional language such as Bdissociation^ and Bflashbacks.^ If an evaluee uses the word dissociation, ask what he/she means^ (Brand et al., 2017b, p. 302).

Finally, Merckelbach and Patihis (2018) expressed concern that Brand et al. (2017b) Beven go so far as to state it is necessary to 'tell the story' of traumatic experiences over the plaintiff's lifespan^ (p. 302). We can only assume that there is a subtext being read into this statement of which we are not ourselves aware. It would seem that Merckelbach and Patihis believe that merely obtaining and recounting reports of traumatic experience introduces bias or undue sympathy for the survivor. We would argue that systematically excluding such information from a report or testimony introduces bias against the person who experience the trauma and in favor of those who inflicted the trauma. We believe that it is noncontroversial, and especially important to those who doubt the existence of dissociative disorders, that forensic evaluators should be informed by evidence collected across the individual's full history in making forensic judgments rather than assume the primacy only of the most recent alleged trauma. Perhaps Btelling the story^ is offensive wording for the same reason that Bavoiding jargon^ might be, but the language chosen was not an attempt to reject the importance of testing, corroboration, or skeptical inquiry. In either event, these sentences were embedded in six paragraphs that discussed ways of avoiding inadvertently teaching the evaluee about dissociative symptoms, along with a number of other methods to avoid biasing the assessment. The implication that the avoidance of jargon or the attempt to develop a chronological and understandable timeline to present to a jury is inevitably a sign of bias is inconsistent with unbiased forensic practice.

Our BLack of Connection to Science^ and Scientific BSimplifications^

In other sections of this paper, we have addressed a few of Merckelbach and Patihis's (2018) claims of a lack of a valid scientific approach in our work. Of their six examples, we have addressed our alleged failure to emphasize collateral information, our attention to malingering, and our recommendations to avoid professional jargon. In each case, Merckelbach and Patihis simply read into our paper set something that was not there (e.g., we do not worry about overreporting), despite pages of writings on the issue. We have also explained why we view the issue of Bobjective^ versus Bsubjective^ memory errors differently than do Merckelbach and Patihis. Next, we examine the issues of fantasy proneness and recovered memory.

Fantasy Proneness In our original paper (Brand et al., 2017a, p. 288), we wrote the following:

> One of the most common myths about dissociation is that it is Bfantasy-based^ rather than trauma-based. The Bfantasy model^ (FM) of dissociation claims that dissociative individuals are highly vulnerable to suggestion and cognitive errors, such as believing Bfalse memories^ of abuse and/or erroneously believing they have a DD.

Brand et al. (2017a) then cited a thorough review on the topic (Dalenberg et al., 2012), and highlighted some central findings, including the fact that meta-analytic results find that the relationship between dissociation and suggestibility is low, that no study has found support for the fantasy model of dissociation in DD samples, and that predictions made by the fantasy model have generally not been borne out. We spent a few pages on the topic, and believe that the supporting citations were fairly presented. Merckelbach and Patihis (2018) wrote that this Bhides^ from the potential expert that dissociation and fantasy proneness are correlated. They pointed out that fantasy proneness Bendows people with the talent to tell a deceptive story that makes an authentic impression^ (p. 2) and noted that Peace and Masliuk (2011) found that Bfantasy proneness is related to a stronger symptom over-reporting tendency^ (p. 3). Beginning with our agreements, we should point out that both Dalenberg et al. (2012), in which Brand was an author, and Merckelbach (Merckelbach, Horselenberg, & Schmidt, 2002), the developer of the CEQ, a fantasy measure, note that the two scales contain overlap in item content and therefore would be expected to correlate. Further, both sets of authors have conceded that trauma exposure can cause fantasy proneness (Dalenberg et al., 2012; Merckelbach, Horselenberg, & Muris, 2001). Therefore, for multiple reasons, both sets of authors expect a relationship between the two concepts.

The myth that Brand et al. (2017a, b) tried to debunk was that dissociation and fantasy proneness function similarly in their relationship to false reporting. This false belief may lead evaluators to follow Merckelbach and Patihis (2018) by (a) automatically discounting the accounts of dissociative individuals and (b) assuming all dissociative individuals are highly prone to fantasy. Merckelbach and Patihis failed to mention that dissociatives as a group do not appear to be more likely to have false memories (Dalenberg et al., 2012; Kluemper & Dalenberg, 2014; Vissia, et al., 2016).

In the research that Merckelbach and Patihis (2018) had cited as support for distrust of dissociative individuals (Peace & Masliuk, 2011), the authors did appear to find, at first glance, that fantasy proneness relates to symptom overreporting. But there are a few important details in that research that Merckelbach and Patihis did not note. First, all

participants were *asked* to malinger, were told how to simulate symptoms of trauma, and therefore did so. Second, the authors included a test of dissociation. Level of fantasy proneness predicted degree of elevation of scores when participants complied with the request to malinger on all three measures of PTSD. Level of dissociation failed to predict on two of the three measures, and on the third (the Trauma Symptom Inventory-2, Briere, 2010), it failed to predict the hallmark symptom of intrusive experiences (but did predict scores on scales that commonly are related to dissociation, such as depression and sexual problems). Thus, these findings are much more complex and confusing than Merckelbach and Patihis implied and, importantly, they have nothing to do with whether dissociative individuals routinely over-report (since they were *asked* here to over-report). Consequently, we stand by the conclusion that the bulk of the existing research does not support the supposition that dissociatives, due to fantasy proneness, have an enhanced tendency to report false information. Certainly, Merckelbach and Patihis's charged that Brand et al. (2017a, b) Black a connectivity to existing science^ (p. 3), in the face of our reliance on meta-analyses, multiple citations, and a review paper citing over one hundred studies, is inconsistent with the presented evidence.

Dissociative Amnesia Merckelbach and Patihis (2018) took a similar approach to our presentation on dissociative amnesia. Again, we can begin with agreement. Merckelbach and Patihis claimed that it would be problematic if our proposals of careful integration of testing, interview, behavioral observations, and review of collateral information Bencourage a false-positive diagnosis of dissociative amnesia in anyone who does not report being traumatized^ (p. 3). Our original articles did not encourage careless application of criteria, and indeed that would be irresponsible. We did state, however, that Bresearch has established the reliability of recovered memories of trauma^ (Brand et al., 2017b, p. 305). In contrast, Merckelbach and Patihis explicitly claimed that Bmore generally, evidence that the phenomenon of dissociative amnesia exists—i.e., experiencing a trauma, encoding memories of the trauma, yet become incapable of recalling them, precisely because the experience was emotionally devastating—is very much in doubt…Thus, it is important for expert witnesses to educate the courts that the concept of dissociative amnesia is problematic, even at the most basic level of whether it exists at all^ (p. 4). This position is not in keeping with consensual scientific thought, as the existence of the disorder in the last three editions of the *Diagnostic and Statistical Manual of Mental Disorders* makes clear (APA, 1980; APA, 1994; APA, 2013). This statement is in contradiction to our position, and Merckelbach and Patihis were correct that we would not support it. We have already addressed the point that Merckelbach and Patihis's evidence of their point—e.g., that studies support that false memories exist and therefore dissociative amnesia does not exist—is not valid scientific reasoning. Individuals falsely claiming that they have cancer, falsely claiming military injuries or honors, or falsely alleging dissociative amnesia to take advantage of the system in a courtroom do most certainly exist. But it is hard to imagine an article alleging that this is evidence that no one has cancer or that no one deserves military honors. Similarly, it is not evidence that no one has dissociative amnesia.

Unfortunately, however, this is not the place to review the voluminous literature investigating and validating the phenomenon of dissociative amnesia and recovered memory of trauma. Frankly, this was a choice based on space constraints, made because we assumed that those who wish to read a paper on appropriate assessment of dissociative amnesia were those who accepted its potential existence. For present purposes suffice it to say that large sample studies as well as experimental work by experts in memory rather than dissociation validates dissociative amnesia as a psychological phenomenon (Kritchevsky, Chang, & Squire, 2004). For example, Brown, Anda, Edwards, Felitti, Dube, and Giles (2007) showed in nearly 10,000 participants that poor recall for early life experiences including traumatic life events was actually strongly elevated among those endorsing more adverse childhood experiences, particularly childhood physical and sexual abuse. Experimental research conducted by Bergouignan, Nyberg, and Ehrsson (2014) demonstrated that encoding conditions intended to mimic depersonalization via head mounted displays produced poorer recall for life events and an alteration of left hippocampal response at retrieval in healthy participants. Prospective studies (e.g., Mechanic, Resick, & Griffin, 1998; Williams, 1995) measuring amnesia recovery over time also exist, as do studies interviewing the alleged perpetrator of the abuse (e.g., Dalenberg, 1996). Whereas Merckelbach and Patihis (2018) claimed that our former articles Bignore relevant empirical studies to an extent that is worrisome^ (p. 1), we believe that here the authors' cursory dismissal of more than a century of clinical observation and empirical research on the subject of dissociative amnesia is rather the more worrisome.

Importantly, reviews on the full range of published articles find that when accuracy of recovered and continuous trauma memory was compared, the accuracy rate was equivalent (see Dalenberg, 2006, for a review). Merckelbach and Patihis (2018) presented no data that contradicted this general finding. Yes, there are a minority of researchers who refuse to accept any evidence in favor of dissociative amnesia, just as there are a minority of scholars who refuse to accept any evidence favoring global warming, evolution, or the finding that cigarette smoking relates to cancer. Positions that imply that significant expenditure should be made to prevent disasters (e.g., positive predictions of global warming), that challenge strongly held religious views (e.g., evolution), or those likely to have forensic implications (e.g., the cancer-cigarette

connection or the trauma-dissociation connection) will always attract dissident points of view. The position rejecting the very existence of dissociative amnesia, however, has long been a minority position, as established by surveys (Dammeyer, Nightingale, & McCoy, 1997; Polusny & Follette, 1996; Pope & Tabachnick, 1995). If Merckelbach and Patihis had simply stated they themselves believed that dissociative amnesia did not exist, and that individual criticisms of the hundreds of supportive studies could be made, we would respond that although the overwhelming majority of evidence now supports the existence and validity of dissociative amnesia as a psychological phenomenon, we agree that methodological improvements can and should be implemented. To argue that none of the supporting data are science, however, and that all who accept this majority view are unconnected to science, is not a statement that can be supported. We refer Merckelbach and Patihis, as well as interested readers, to the excellent review of the experimental and clinical evidence on recovered memory by Gleaves, Smith, Butler, and Spiegel (2004).

Evidence for Other Pathways to Dissociation Throughout this reply and indeed within the original articles, we have argued in favor of considering alternative hypotheses for dissociative symptom reports. Whereas the question of response bias and symptom malingering has already been dealt with at length, we would like to consider briefly here the alternate causal pathways proposed by Merckelbach and Patihis (2018), namely sleep problems and affect regulation as causal in dissociation. In reference to sleep problems, Merckelbach and Patihis cited the study of van der Kloet et al. (2012), who examined change in dissociation in 195 of 266 psychiatric inpatients who self-reported dissociation before and after 6 to 8 weeks of mental health treatment in a private clinic employing an eclectic therapeutic approach. Van der Kloet, Merckelbach, Giesbrecht, and Lynn (2012) found that severity of childhood trauma was predictive of dissociation at both time points, despite descriptive statistics indicating that both the general level of dissociation and level of childhood maltreatment history were low. Moreover, childhood maltreatment history was predictive of sleep disturbances, specifically narcoleptic symptoms, that were, in turn, predictive of dissociative symptoms. Although the authors appropriately concluded that results were consistent with the proposal that Btraumatic experiences or the sequelae of trauma disrupt sleep, which contributes to or exacerbates dissociation^ (p. 148), their structural equation modeling further showed that childhood maltreatment history remained a strong concurrent predictor of dissociation scores independent of narcoleptic symptoms (r = .44). Therefore, their data suggested that mechanisms other than sleep disturbance likely also link childhood trauma with dissociative symptoms.

The study of van der Kloet et al. (2012) is flawed in a number of other respects. They focused on a Btentative link between narcoleptic symptoms and dissociation^ (p. 147) based on self-report rating scales. They focused on nightmares, daytime sleepiness, and hypnagogic/hypnopompic hallucinations. Narcolepsy, an uncommon neurological disorder affecting 4–6/1000 in the general population, is diagnosed by frequent REM-sleep attacks and sudden loss of skeletal muscle tone (cataplexy), under conditions of strong emotion (American Psychiatric Association, 2013). The symptoms cited by van Kloet et al. are sometimes associated with narcolepsy, but are much more common in the general population than narcolepsy (American Psychiatric Association, 2013; Ohayon, 1996; Ohayon, Priest, Caulet, & Guilleminault, 1996). Narcolepsy can only be diagnosed by polysomnogram and/or multiple sleep latency testing, as well as measurement of hypocretin deficiency as measured by cerebrospinal fluid hypocretin-1 immunoreactivity (American Academy of Sleep Medicine, 2014; American Psychiatric Association, 2013).

Nightmares are a core symptom of PTSD, which is frequently co-morbid with severe dissociative disorders (Spiegel et al., 2011). DID patients have been described as experiencing a complex sleep disorder, including PTSD and mood disorder sleep disturbances; severe phobic, posttraumatic responses to night, sleep and bed, related to reported nocturnal traumas and, in DID, self-states that are experienced as nocturnally active (Spiegel et al., 2011). Again, all the evidence points to sleep abnormalities caused by posttraumatic and dissociative factors, and not the other way around.

In their discussion of affect dysregulation, Merckelbach and Patihis (2018) rested the notion that affect dysregulation might represent an alternative causal pathway to dissociative symptoms primarily on the work of Briere and Runtz (2015) who described non-zero scores on a measure of dissociative symptoms in persons who failed to endorse any occurrence of traumatic life events, and whose severity of dissociative symptoms was in turn correlated with non-specific measures of distress (i.e., affect dysregulation). Surprisingly, Merckelbach and Patihis failed to note that Briere and Runtz (2015) reported the likelihood of clinically significant dissociation in their nontraumatized sample to be extremely low (1.3%). Surely this would be seen to weaken the claim that significant dissociative symptoms are likely to be present in the absence of any trauma exposure. Moreover, it is not surprising that symptoms of general distress, including affect dysregulation, should be correlated with measures of dissociation; indeed, both are markers of psychopathology and are predicted by measures of trauma exposure. Nevertheless, again via the method of conditional probability (likelihood ratios) that Merckelbach and Patihis recommended, measures of dissociation have been found to exhibit a more specific association with childhood trauma history as compared with measures of distress (e.g., also reported in Frewen et al., 2016). More to the point, it is unclear how Briere and Runtz's (2015) conclusion that other disruptive events might

lead to dissociation, mediated by affect dysregulation, in nontraumatized samples, could be taken to invalidate the notion of TRD. Indeed, the trauma model of dissociation holds that dissociative symptoms typically develop as attempts to regulate trauma-related distress.

Conclusion

As we have shown here and in the original papers (Brand et al., 2017a, b), TRD is a common response to trauma that can be associated with significant impairment. As such, it is appropriate for forensic experts to be sufficiently knowledgeable about TRD in order to thoughtfully consider it in cases in which trauma and dissociation may play a role. Within these three papers, we have presented an overview of TRD and assessment methods that are not leading or suggestive, relying on tests and interviews that are sufficiently validated to meet Daubert standards for admissibility of evidence to court (Daubert, 1993). Unfortunately, many authors and experts misunderstand TRD and are unaware of the large body of research related to it. The commentary by Merkelbach and Patihis (2018) is a case in point: many of the statements made by these authors reflect omissions and errors. For example, they were wrong when they stated that research is lacking in regard to the interrater reliability of DD diagnoses, and wrong to state that error rates of tests and interviews among dissociative samples are unavailable. This lack of knowledge about dissociation research is precisely one of the reasons we wrote Brand et al. (2017a, b), hoping that any commentaries would not be uninformed about critical research. As we have shown, Merckelbach and Patihis's allegation that our TRD papers Blacked a connectivity to existing science^ (p. 3) is also simply wrong. Merckelbach and Patihis (2018) overlooked research that does not support their viewpoint and they oversimplified elements of research in such a way that nuances of interpretation were lost in favor of supporting their incorrect position. Readers should examine from the perspective of our defense the pattern of misreading and misunderstanding of our papers, and Merckelbach and Patihis's lack of presentation of important TRD research. Only a thorough presentation of all relevant concepts and research on the question can allow the reader to arrive at unbiased perspectives on it. We believe our collective papers have accomplished this goal. We welcome thoughtful, unbiased critiques of our work, and research that assists in clarifying if and when trauma may have contributed to the development of dissociation.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

References

American Academy of Child and Adolescent Psychiatry. (1997). Practice parameters for the forensic evaluation of children and adolescents who may have been physically or sexually abused. *Journal of the American Academy of Child & Adolescent Psychiatry, 36*, 423–442. https://doi.org/10.1097/00004583-199703000-00026.

American Academy of Sleep Medicine. (2014). *International classification of sleep disorders – Third edition (ICSD-3)*. Darien, IL: American Academy of Sleep Medicine (AASM).

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: American Psychiatric Press.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: American Psychiatric Press.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Press.

Armour, C., Elklit, A., Lauterbach, D., & Elhai, J. D. (2014). The DSM-5 dissociative-PTSD subtype: Can levels of depression, anxiety, hostility, and sleeping difficulties differentiate between dissociative-PTSD and PTSD in rape and sexual assault victims? *Journal of Anxiety Disorders, 28*(4), 418–426. https://doi.org/10.1016/j.janxdis.2013.12.008 .

Bergouignan, L., Nyberg, L., & Ehrsson, H. H. (2014). Out-of-body-induced hippocampal amnesia. *Proceedings of the National Academy of Sciences of the United States of America, 111*(12), 4421–4446. https://doi.org/10.1073/pnas.1318801111.

Boon, S., & Draijer, N. (1991). Diagnosing dissociative disorders in the Netherlands: A pilot study with the structured clinical interview for DSM-III-R dissociative disorders. *The American Journal of Psychiatry, 148*, 458–462. https://doi.org/10.1176/ajp.148.4.458 .

Boon, S., & Draijer, N. (1993). *Multiple personality disorder in the Netherlands: A study on reliability and validity of the diagnosis.* Lisse: Swets & Zeitlinger Publishers.

Brand, B. L., & Chasson, G. S. (2015). Distinguishing simulated from genuine dissociative identity disorder on the MMPI-2. *Psychological Trauma: Theory, Research, Practice, and Policy, 7*(1), 93–101. https://doi.org/10.1037/a0035181.

Brand, B. L., McNary, S. W., Loewenstein, R. J., Kolos, A. C., & Barr, S. R. (2006). Assessment of genuine and simulated dissociative identity disorder on the structured interview of reported symptoms. *Journal of Trauma & Dissociation, 7*, 63–85. https://doi.org/10.1300/J229v07n01_06.

Brand, B. L., Schielke, H. J., & Brams, J. S. (2017a). Assisting the courts in understanding and connecting with experiences of disconnection: Addressing trauma-related dissociation as a forensic psychologist, part I. *Psychological Injury and Law, 10*, 283–297. https://doi.org/10.1007/s12207-017-9304-8 .

Brand, B. L., Schielke, H. J., Brams, J. S., & DiComo, R. A. (2017b). Assessing trauma-related dissociation in forensic contexts: Addressing trauma-related dissociation as a forensic psychologist, part II. *Psychological Injury and Law, 10*, 298–312. https://doi.org/10.1007/s12207-017-9305-7 .

Brand, B. L., Tursich, M., Tzall, D., & Loewenstein, R. J. (2014). Utility of the SIRS-2 in distinguishing genuine from simulated dissociative identity disorder. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*(4), 308–317. https://doi.org/10.1037/a0036064.

Brand, B. L., Webermann, A. R., Snyder, B. L. & Kaliush, P. R. (2018). Detecting genuine and simulated dissociative identity disorder with the Test of Memory Malingering. *Psychological Trauma: Theory, Research, Practice & Policy*. https://doi.org/10.1037/tra0000405.

Briere, J. (2010). *Trauma Symptom Inventory Professional Manual* (2nd ed.). Odessa, FL: Psychological Assessment Resources.

Briere, J., Dietrich, A., & Semple, R. J. (2016). Dissociative complexity: Antecedents and clinical correlates of a new construct. *Psychological Trauma: Theory, Research, Practice, and Policy, 8*(5), 577–584. https://doi.org/10.1037/tra0000126 .

Briere, J., & Runtz, M. (2015). Dissociation in individuals denying trauma exposure: Findings from two samples. *Journal of Nervous and Mental Disease, 203*, 439–442.

Brown, D. W., Anda, R. F., Edwards, V. J., Felitti, V. J., Dube, S. R., & Giles, W. H. (2007). Adverse childhood experiences and childhood autobiographical memory disturbance. *Child Abuse and Neglect, 31*(9), 961–969. https://doi.org/10.1016/j.chiabu.2007.02.011.

Butcher, J. N., Graham, J. R., Ben-Porath, Y. S., Tellegen, A., & Dahlstrom, W. G. (2001). *Manual for the Administration and Scoring of the MMPI–2*. Minneapolis: Minnesota University Press.

Carlson, E. B., Dalenberg, C. J., & McDade-Montez, E. (2012). Dissociation in posttraumatic stress disorder part I: Definitions and review of research. *Psychological Trauma: Theory, Research, Practice, and Policy, 4*(5), 479–489. https://doi.org/10.1037/a0027748 .

Coons, P. M., & Milstein, V. (1994). Factitious or malingered multiple personality disorder: Eleven cases. *Dissociation: Progress in the Dissociative Disorders, 7*(2), 81–85.

Dalenberg, C. (2006). Recovered memory and the Daubert criteria: Recovered memory as professionally tested, peer reviewed, and accepted in the relevant scientific community. *Trauma, Violence and Abuse, 7*, 274–310. https://doi.org/10.1177/1524838006294572 .

Dalenberg, C. J. (1996). Accuracy, timing and circumstances of disclosure in therapy of recovered and continuous memories of abuse. *Journal of Psychiatry & Law, 24*, 229–275.

Dalenberg, C. J., Brand, B. L., Gleaves, D. H., Dorahy, M. J., Loewenstein, R. J., Cardeña, E., . . . Spiegel, D. (2012). Evaluation of the evidence for the trauma and fantasy models of dissociation. *Psychological Bulletin, 138*(3), 550–588. https://doi.org/10.1037/a0027447 .

Dammeyer, M., Nightingale, N., & McCoy, M. (1997). Repressed memory and other controversial origins of sexual abuse allegations: Beliefs among psychologists and clinical social workers. *Child Maltreatment, 2*, 252–263.

Daubert, V. (1993). Merrell Dow Pharmaceuticals. 61 U.S.L.W 4805 (U.W. June 29, 1993).

Ditto, P. H., & Lopez, D. F. (1992). Motivated skepticism: Use of differential decision criteria for preferred and nonpreferred conclusions. *Journal of Personality and Social Psychology, 63*(4), 568–584. https://doi.org/10.1037/0022-3514.63.4.568 .

Draijer, N., & Boon, S. (1999). The limitations of dissociative identity disorder: Patients at risk, therapists at risk. *Journal of Psychiatry & Law, 27*(3–4), 423–458.

Duffy, C. M. (2002). Prevalence of undiagnosed dissociative disorders in an inpatient setting. (63), ProQuest Information & Learning. Retrieved from http://proxy-tu.researchport.umd.edu/login?ins=tu&url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2002-95016-373&site=ehost-live. Available from EBSCOhost psyh database.

Elhai, J. D., Gold, S. N., Sellers, A. H., & Dorfman, W. I. (2001). The detection of malingered posttraumatic stress disorder with MMPI-2 fake bad indices. *Assessment, 8*, 221–236. https://doi.org/10.1177/107319110100800210.

Elzinga, B. M., Phaf, R. H., Ardon, A. M., & van Dyck, R. (2003). Directed forgetting between, but not within, dissociative personality states. *Jounal of Abnormal Psychology, 112*(2), 237–243. https://doi.org/10.1037/0021-843X.112.2.237.

Foote, B., & Park, J. (2008). Dissociative identity disorder and schizophrenia: Differential diagnosis and theoretical issues. *Current Psychiatry Reports, 10*(3), 217–222.

Ford, J. D., & Gómez, J. M. (2015). The relationship of psychological trauma, and dissociative and posttraumatic stress disorders to nonsuicidal self-injury and suicidality: A review. *Journal of Trauma & Dissociation, 16*, 232–271. https://doi.org/10.1080/15299732.2015.989563 .

Frewen, P. A., Brown, M. F. D., & Lanius, R. A. (2016). Trauma-related altered states of consciousness (TRASC) in an online community sample: Further support for the 4-D model of trauma-related dissociation. *Psychology of Consciousness: Theory, Research, and Practice, 4*(1), 92–114. https://doi.org/10.1037/cns0000091 .

Gleaves, D. H., Smith, S. M., Butler, L. D., & Spiegel, D. (2004). False and recovered memories in the laboratory and clinic: A review of experimental and clinical evidence. *Clinical Psychology: Science and Practice, 11*(1), 3–28. https://doi.org/10.1093/clipsy/bph055 .

Goff, D. C., Olin, J. A., Jenike, M. A., Baer, L., & Buttolph, M. L. (1992). Dissociative symptoms in patients with obsessive-compulsive disorder. *Journal of Nervous and Mental Disease, 180*, 332–337. https://doi.org/10.1097/00005053-199205000-00008.

Hayes, S. M., Fortier, C. B., Levine, A., Milberg, W. P., & McGlinchey, R. (2012). Implicit memory in Korsakoff's syndrome: a review of procedural learning and priming studies. *Neuropsychological Review, 22*(2), 132–153. https://doi.org/10.1007/s11065-012-9204-3.

Huntjens, R. J., Verschuere, B., & McNally, R. J. (2012). Inter-identity autobiographical amnesia in patients with dissociative identity disorder. *PLoS One, 7*(7), e40580. https://doi.org/10.1371/journal.pone.0040580.

Kessler, R. C., Aguilar-Gaxiola, S., Alonso, J., Benjet, C., Bromet, E. J., Cardoso, G., … Koenen, K. C. (2017). Trauma and PTSD in the WHO world mental health surveys. *European Journal of Psychotraumatology, 8*(5), 1353383. https://doi.org/10.1080/20008198.2017.1353383.

Kluemper, N. S., & Dalenberg, C. (2014). Is the dissociative adult suggestible? A test of the trauma and fantasy models of dissociation. *Journal of Trauma & Dissociation, 15*(4), 457–476. https://doi.org/10.1080/15299732.2014.880772.

Koutstaal, W., Schacter, D. L., Johnson, M. K., Angell, K. E., & Gross, M. S. (1998). Post-event review in older and younger adults: Improving memory accessibility of complex everyday events. *Psychology and Aging, 13*(2), 277–296.

Kritchevsky, M., Chang, J., & Squire, L. R. (2004). Functional amnesia: Clinical description and neuropsychological profile of 10 cases. *Learning and Memory, 11*, 213–226.

Kundakçi, T., Şar, V., Kiziltan, E., Yargiç, I. L., & Tutkun, H. (2014). Reliability and validity of the Turkish version of the Structured Clinical Interview for DSM–IV Dissociative Disorders (SCID-D): A preliminary study. *Journal of Trauma & Dissociation, 15*(1), 24–34. https://doi.org/10.1080/15299732.2013.821434 .

Lindsay, D. S., & Briere, J. (1997). The controversy regarding recovered memories of childhood sexual abuse: Pitfalls, bridges and future directions. *Journal of Interpersonal Violence, 12*, 631–647. https://doi.org/10.1177/088626097012005002 .

Mayou, R. A., Ehlers, A., & Bryant, B. (2002). Posttraumatic stress disorder after motor vehicle accidents: 3-year follow-up of a prospective longitudinal study. *Behaviour Research and Therapy, 40*, 665–675. https://doi.org/10.1016/S0005-7967(01)00069-9.

Mechanic, M. B., Resick, P. A., & Griffin, M. G. (1998). A comparison of normal forgetting, psychopathology, and information-processing models of reported amnesia for recent sexual trauma. *Journal of Consulting and Clinical Psychology, 66*, 948–957.

Mendez, N., Martinez-Taboas, A., & Pedrosa, O. (2000). Experiences, beliefs and attitudes of Puerto Rican psychologists toward dissociative identity disorder. *Ciencias de la Conducta, 15*, 69–84.

Merckelbach, H., Giesbrecht, T., van Heugten-van der Kloet, D., Jong, J. D., Meyer, T., & Rietman, K. (2015). The overlap between

dissociative symptoms and symptom over-reporting. *European Journal of Psychiatry, 29*, 165–172.
Merckelbach, H., Horselenberg, R., & Muris, P. (2001). The Creative Experiences Questionnaire (CEQ): A brief self-report measure of fantasy proneness. *Personality and Individual Differences, 31*(6), 987–995. https://doi.org/10.1016/S0191-8869(00)00201-4 .
Merckelbach, H., Horselenberg, R., & Schmidt, H. (2002). Modeling the connection between self-reported trauma and dissociation in a student sample. *Personality and Individual Differences, 32*(4), 695–705. https://doi.org/10.1016/S0191-8869(01)00070-8.
Merckelbach, H., & Patihis, L. (2018). Why Btrauma-related dissociation^ is a misnomer in courts: a critical analysis of Brand et al. (2017a, b). *Psychological Injury and Law*, 1–7. https://doi.org/10.1007/s12207-018-9328-8 .
Nicolas, S. (1996). Experiments on implicit memory in a Korsakoff patient by Claparede (1907). *Clinical Neuropsychology, 13*, 1193–1199.
Ohayon, M. (1996). Epidemiological study on insomnia in the general population. *Sleep, 19*(3), 7–15.
Ohayon, M. M., Priest, R. G., Caulet, M., & Guilleminault, C. (1996). Hypnagogic and hypnopompic hallucinations: Pathological phenomena? *British Journal of Psychiatry, 169*, 459–467. https://doi.org/10.1192/bjp.169.4.459 .
Ost, J. (2017). Adults' retractions of childhood sexual abuse allegations: High-stakes and the (in)validation of recollection. *Memory, 25*, 900–909. https://doi.org/10.1080/09658211.2016.1187757.
Palermo, C. A. & Brand, B. L. (2018). Can the Trauma Symptom Inventory-2 distinguish coached simulators from dissociative disorder patients? *Psychological Trauma: Theory, Research, Practice, & Policy*. https://doi.org/10.1037/tra0000382.supp (Supplemental).
Peace, K. A., & Masliuk, K. A. (2011). Do motivations for malingering matter? Symptoms of malingered PTSD as a function of motivation and trauma type. *Psychological Injury and Law, 4*(1), 44–55.
Pendergrast, M. (1996). *Victims of memory: Incest accusations and shattered lives* (2nd edn). Hinesburg, VT: Upper Access, Inc.
Pendergrast, M. (2017). *The repressed memory epidemic: How it happened and what we need to learn from it*. New York, NY: Springer.
Perniciaro, L. A. (2014). The influence of skepticism and clinical experience on the detection of dissociative identity disorder by mental health clinicians. *Dissertation Abstracts International, 75*, 1–141.
Polusny, M., & Follette, V. (1996). Remembering childhood sexual abuse: a national survey of psychologists' clinical practices, beliefs, and personal experiences. *Professional Psychology: Research & Practice, 27*, 41–52.
Pope, K., & Tabachnick, B. (1995). Recovered memories of abuse among therapy patients: A national survey. *Ethics and Behavior, 5*, 237–248.
Putnam, F. W., Helmers, K., & Trickett, P. K. (1993). Development, reliability, and validity of a child dissociation scale. *Child Abuse & Neglect, 17*, 731–741. https://doi.org/10.1016/S0145-2134(08)80004-X.
Rakedzon, T., Segev, E., Chapnik, N., Yosef, R., & Baram-Tsabari, A. (2017). Automatic jargon identifier for scientists engaging with the public and science communication educators. *PLoS One, 12*(8), e0181742. https://doi.org/10.1371/journal.pone.0181742.
Reinders, A. S., Willemsen, A. M., Vos, H. J., den Boer, J. A., & Nijenhuis, E. S. (2012). Fact or factitious? A psychobiological study of authentic and simulated dissociative identity states. *PLoS One, 7*(6), e39279. https://doi.org/10.1371/journal.pone.0039279.
Rogers, R., Bagby, R., & Dickens, S. (1992). *Structured Interview of Reported Symptoms: Professional Manual*. Lutz: Psychological Assessment Resources, Inc.
Rogers, R., Payne, J. W., Correa, A. A., Gillard, N. D., & Ross, C. A. (2009). A study of the SIRS with severely traumatized patients. *Journal of Personality Assessment, 91*, 429–438. https://doi.org/10.1080/00223890903087745.
Rogers, R., Sewell, K. W., & Gillard, N. D. (2010). *Structured Interview of Reported Symptoms-2 (SIRS-2) Professional Manual*. Lutz, FL: Psychological Assessment Resources.
Rogers, R., Sewell, K. W., Martin, M. A., & Vitacco, M. J. (2003). Detection of feigned mental disorders: A meta-analysis of the MMPI-2 and malingering. *Assessment, 10*, 160–177. https://doi.org/10.1177/1073191103010002007 .
Şar, V., Akyüz, G., & Doğan, O. (2007). Prevalence of dissociative disorders among women in the general population. *Psychiatry Research, 149*, 169–176.
Şar, V., Alioğlu, F., Akyüz, G., & Karabulut, S. (2014). Dissociative amnesia in dissociative disorders and borderline personality disorder: self-rating assessment in a college population. *Journal of Trauma & Dissociation, 15*, 477–493. https://doi.org/10.1080/15299732.2014.902415.
Scheflin, A. W. (1999). Ground lost: The false memory/recovered memory therapy debate. *Psychiatric Times, 16*(11), Retrieved from http://www.psychiatrictimes.com/dissociative-identity-disorder/ground-lost-false-memoryrecovered-memory-therapy-debate/page/0/2 .
Somer, E., Kramer, L., & Ginzburg, K. (2012). The role of impulsivity in the association between childhood trauma and dissociative psychopathology: Mediation versus moderation. *Psychiatry Research, 196*(1), 133–137. https://doi.org/10.1016/j.psychres.2011.08.010 .
Spiegel, D. (1997). Trauma, dissociation, and memory. *Annals of the New York Academy of Sciences, 821*, 225–237.
Spiegel, D., Hunt, T., & Dondershine, H. E. (1988). Dissociation and hypnotizability in posttraumatic stress disorder. *American Journal of Psychiatry, 145*(3), 301–305.
Spiegel, D., Loewenstein, R. J., Lewis-Fernandez, R., Sar, V., Simeon, D., Vermetten, E., … Dell, P. F. (2011). Dissociative disorders in DSM-5. *Depression and Anxiety, 28*(9), 824–852. https://doi.org/10.1002/da.20874.
Spiegel, H. (1972). An eye-roll test for hypnotizability. *American Journal of Clinical Hypnosis, 15*(1), 25–28.
Stein, D. J., Koenen, K. C., Friedman, M. J., Hill, E. M., McLaughlin, K. A., Petukhova, M., et al. (2013). Dissociation in posttraumatic stress disorder: Evidence from the world mental health surveys. *Biological Psychiatry, 73*(4), 302–312.
Steinberg, M., Rounsaville, B., & Cicchetti, D. (1990). The structured clinical interview for DSM-III-R dissociative disorders: A preliminary report. *American Journal of Psychiatry, 147*, 76-82.
Steinberg, M. (1993). *The Structured Clinical Interview for DSM-III-R Dissociative Disorders (SCID-D)*. Washington, DC: American Psychiatric Press.
Steinberg, M. (1994a). *Interviewer's Guide to the Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D) (rev. ed.)*. Arlington, VA: American Psychiatric Association.
Steinberg, M. (1994b). *The Structured Clinical Interview for DSM-IV Dissociative Disorders-Revised (SCID-D-R)*. Washington, D.C.: American Psychiatric Press.
Steinberg, M. (2000). Advances in the clinical assessment of dissociation: The SCID-D-R. *Bulletin of the Menninger Clinic, 64*(2), 146–163.
Tamar-Gurol, D., Şar, V., Karadag, F., Evren, C., & Karagoz, M. (2008). Childhood emotional abuse, dissociation, and suicidality among patients with drug dependency in Turkey. *Psychiatry and Clinical Neurosciences, 62*(5), 540–547. https://doi.org/10.1111/j.1440-1819.2008.01847.x.
Tombaugh, T. N. (1997). The test of memory malingering (TOMM): Normative data from cognitively intact and cognitively impaired individuals. *Psychological Assessment, 9*(3), 260–268.
Torem, M. S., Egtvedt, B. D., & Curdue, K. J. (1995). The eye-roll sign and the PAS dissociation scale. *American Journal of Clinical*

Hypnosis, *38*(2), 122–125. https://doi.org/10.1080/00029157.1995.10403190.

Van der Kloet, D., Merckelbach, H., Giesbrecht, T., & Lynn, S. J. (2012). Fragmented sleep, fragmented mind: The role of sleep in dissociative symptoms. *Perspectives on Psychological Science*, *7*, 159–175.

Vissia, E. M., Mechteld, E. G., Chalavi, S., Nijenhuis, E. R. S., Draijer, N., Brand, B. L., & Reinders, A. A. T. (2016). Trauma or fantasy? Distinguishing dissociative identity disorder (DID), DID simulating controls, posttraumatic stress disorder and healthy controls. *Acta Psychiatrica Scandinavica*, *134*, 1–18. https://doi.org/10.1111/acps.12590.

Webermann, A. R., Myrick, A. C., Taylor, C. L., Chasson, G. S., & Brand, B. L. (2015). Dissociative, depressive, and PTSD severity as correlates of non-suicidal self-injury and suicidality in dissociative disorder patients. *Journal of Trauma & Dissociation*, *17*(1), 67–80. https://doi.org/10.1080/15299732.2015.1067941.

Welburn, K. R., Fraser, G. A., Jordan, S. A., Cameron, C., Webb, L. M., & Raine, D. (2003). Discriminating dissociative identity disorder from schizophrenia and feigned dissociation on psychological tests and structured interview. *Journal of Trauma & Dissociation*, *4*(2), 109–130. https://doi.org/10.1300/J229v04n02_07.

Williams, L. M. (1995). Recovered memories of abuse in women with documented child sexual victimization histories. *Journal of Traumatic Stress*, *8*(4), 649–673. https://doi.org/10.1002/jts.2490080408.