

Corrigendum

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The elusive search for a biomarker of dissociative amnesia: an overstated response to understated findings? – CORRIGENDUM

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This correspondence was published in *Psychological Medicine* with errors in [Table 1](#). An updated and corrected version of [Table 1](#) can be found below.

The authors apologise for this error.

Reference

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Table 1. Studies examining inter-identity amnesia in individuals with dissociative identity disorder

Authors	Title	Participants	Comorbidity		Stimulus type	Task	Results	Similarities	
			1) = Specified yes/no	2) = Analysed				1) = Participants	2) = Task/Stimuli (content)
Allen et al. (2000). <i>IJoP</i> . 38. pp.21–41	The objective assessment of amnesia in dissociative identity disorder using event-related potentials	DID = 4 Controls = 60	1) No 2) No		Non self-relevant, unrelated words	Recognition/recall of learned words between different identities	DID produced event-related potentials and behavioural evidence consistent with evidence of memory transfer between identities	1) - 2) -	
Eich et al. (1997) ¹ . <i>Recollections of Trauma</i> . PP. NY. pp.469–474	Implicit memory, interpersonality amnesia, and dissociative identity disorder: comparing patients with simulators	DID = 7 Simulators = 9	1) No 2) No		Non self-relevant, random arrangement of picture sets	An implicit test of picture fragment completion, first completed in DID then reproduced in 9 simulators	Successful repetition priming, which was as strong between different identity states as it was within the same state, evidence of memory transfer	1) - 2) -	
Huntjens et al. (2002). <i>M&C</i> . 30 (7).pp.1033–1043	Perceptual and conceptual priming in patients with dissociative identity disorder	DID = 31 Controls = 25 Simulators = 25	1) No 2) No		Non self-relevant, determining priming of novel, visual objects.	Implicit memory task examining implicit memory performance and a word-stem completion task	Priming for DID patients comparable to that of controls on a data-driven task (perceptual encoding task) and on a task allowing for only a single response on each trial (word stem completion task), evidence of memory transfer	1) Participants performed the priming tasks as part of a larger study on reported memory impairments in DID (Huntjens et al., 2003). 2) Priming (none)	
Huntjens et al. (2003). <i>JoAP</i> . 112(2).pp.290–297	Interidentity amnesia for neutral, episodic information in dissociative identity disorder	DID = 31 Controls = 25 Simulators = 25	1) No 2) No		Non self-relevant, words.	Interference paradigm involving recognition/recall of word lists presented to different identities	Neither recall nor recognition scores of patients were different from those of normal controls, patients did not use qualitatively different ways of retrieval of material learned in one identity versus the same identity, evidence of memory transfer	1) Participant numbers identical to Huntjens et al. (2002, 2003) 2) Priming (none)	
Huntjens et al. (2005). <i>C&C</i> . 14. pp.377–389	Procedural memory in dissociative identity disorder: when can inter-identity amnesia be truly established?	DID = 31 Controls = 25 Simulators = 25	1) No 2) No		Non self-relevant, determining priming of novel, visual objects.	Serial reaction time task using a learned repeated sequence	Results of DID indicated a pattern of inter-identity amnesia, however simulators were able to successfully mimic patterns of inter-identity amnesia, rendering the results impossible to interpret	1) Participants identical to Huntjens et al. (2002, 2003) 2) -	

Huntjens et al. (2005). BRaT. 43. pp.243–255	Transfer of newly acquired stimulus valence between identities in dissociative identity disorder (DID)	DID = 22 Controls = 25 Simulators = 25	1) Yes, in n = 7 2) No	Non self-relevant trauma words and positive words	An evaluative conditioning procedure and an affective priming procedure of words	There was no difference between DID, controls and simulators in the congruence effect, evidence of memory transfer	1) 9 out of 22 DID patients also participated in another (not mentioned) study on inter-identity amnesia 2) Priming (none)
Huntjens et al. (2006). PM. 36. pp.857–863	Inter-identity amnesia in dissociative identity disorder: a simulated memory impairment?	DID = 22 Controls = 25 Simulators = 25 Guessors = 25	1) Yes, in n = 7 2) No	Non self-relevant, determining priming of novel information.	Session 1: logical memory - story A (LM), the visual reproduction (VR), immediate recall tests from the Wechsler memory scale Session 2: asked to recall from session 1 in a different identity and the LM and VR delayed recall tests	Patients recall scores indicated no knowledge of the material learned in the other identity state, but on the critical recognition test, patients behaved like simulators, i.e. they relatively often provided incorrect answers, more often than the guessors who were really unfamiliar with the material, indicating that patients used their knowledge of the correct answers in determining their incorrect answers. It is therefore suggested that DID may be more accurately considered a disorder characterised by meta-memory problems, holding incorrect beliefs about their own memory functioning	1) 9 out of 22 DID patients also participated in another inter-identity amnesia study (Huntjens et al., 2002, 2003) 2) -
Huntjens et al. (2007). BRaT. 45. pp.775–789	Memory transfer for emotionally valenced words between identities in dissociative identity disorder	DID = 22 Controls = 25 Simulators = 25	1) No 2) No	Non self-relevant negative, positive and neutral words	An evaluative conditioning procedure and an affective priming procedure of words	DID showed intrusions, with the number of patients recalling negative word intrusions equal to the number of controls recalling negative word intrusions, and recognising negative words from a list learned in the other identity, evidence of memory transfer	1) 9 out of 22 DID patients also participated in another study (Huntjens et al., 2002, 2003) 2) The implicit memory tasks performed were reported elsewhere (Huntjens et al., 2005); the “remembering vs. knowing” awareness paradigm used in Huntjens et al., (2003); Priming (none)
Huntjens et al. (2012). PLoS	Inter-identity autobiographical amnesia inpatients with	DID = 11 Controls = 27	1) No 2) No	Self-relevant ² non trauma-related memories	Concealed information task - recognising autobiographical	Results showed evidence of memory transfer between identities	1) Participants also included in Huntjens et al. (2014, 2016) and

(Continued)

Table 1. (Continued.)

Authors	Title	Participants	Comorbidity		Stimulus type	Task	Results	Similarities	
			1) = Specified yes/no	2) = Analysed				1) = Participants	2) = Task/Stimuli (content)
ONE. 7(7). e40580	dissociative identity disorder	Simulators = 24				memories in DID across identities		van Heugten-van der Kloet et al., 2014) ⁴	2) -
Huntjens et al. (2014). JoAP. 123(2). pp.419–428	Autobiographical memory specificity in dissociative identity disorder	DID = 12 Controls = 31 Simulators = 26 PTSD = 27	1) No 2) No	Self-relevant ² trauma-related memories and words		Autobiographical memory test including 5 positive and 5 negative words.	No significant differences in memory specificity were found between different identity states in DID. Irrespective of identity states, DID patients were characterised by a lack of memory specificity, which was similar to PTSD	1) Participants also included in Huntjens et al. (2012, 2016), and van Heugten-van der Kloet et al., 2014) ⁴	2) Priming (none)
Huntjens et al. (2016). BRaT. 87. pp.216–224	Trauma-related self-defining memories and future goals in dissociative identity disorder	DID = 12 Controls = 31 Simulators = 26 PTSD = 27	1) No 2) No	Self-relevant ² trauma-related memories		Self-defining memory and goals retrieval while in trauma identity state or an avoidant (not aware of trauma) identity state	DID patients in trauma identities retrieved more negative and trauma-related self-defining memories than DID patients in avoidant identities. DID patients reported higher proportion of avoidance goals compared to PTSD. DID did not seem to be “shut off” from their trauma while in their avoidant identity, evidence of memory transfer	1) Most participant joined in a larger study (Huntjens et al., 2012, 2014 and van Heugten-van der Kloet. et al., 2014 ⁴)	2) -
Kong et al. (2008). JoAP. 117(3). pp.686–692	Interidentity memory transfer in dissociative identity disorder	DID = 7 Simulators = 45	1) No 2) No	Non self-relevant neutral words		Word remembering task using wordlists for explicit memory transfer between two identities	DID showed no superior ability to compartmentalise information. Memory for experimental stimuli showed evidence of memory transfer between identities	1) -	2) Priming (none)
Marsh et al. (2018). JoAP. 127(8). pp.751–757	Transfer of episodic self-referential memory across amnesic identities in dissociative identity disorder using the autobiographical implicit association test	DID = 12 Controls = 41 Simulators = 16	1) No 2) No	Self-experimental ³ trauma vignettes		Memory recall by means of the autobiographical implicit association test of vignettes between identities	DID patients were similar to the nonamnesic comparison and simulator groups, and different from the amnesic comparison group, showing evidence of memory transfer	1) Participants overlap with Marsh et al. (2021)	2) (Vignettes material identical to Dorahy et al., 2017 ⁵)
Marsh et al. (2021). PLoS ONE. 16(2). e0245849	Inter-identity amnesia for neutral episodic self-referential and autobiographical memory in dissociative identity disorder: an	DID = 12 Controls = 41 Simulators = 14	1) No 2) No	Self-experimental ³ trauma vignettes		Study 1: recall and recognition tests of episodic self-experimental autobiographical memories	Recall and recognition tasks: DID showed a memory profile of amnesia similar to simulators. On tests of recognition: DID recognised significantly more of an event	1) Participants overlap with Marsh et al. (2018)	2) Study 1 used the “remember” or

	assessment of recall and recognition				Study 2: retrieval behavioural tasks to determine impairment in memory transfer of self-experimental autobiographical experiences across identities	that occurred in another identity than did simulators and partial information comparisons, showing evidence of memory transfer. DID scored significantly lower of recognition sensitivity and showed a more conservative response bias for episodic self-referential and autobiographic stimuli encoded in another identity compared to the same identity. The performance was largely comparable to members of the general population who were exposed to only one set of stimuli (partial information comparisons)	“know” prompts/ paradigm from previous Huntjens et al., (2003, 2007) (Vignettes material identical to Dorahy et al., 2017 ⁵)
Reinders et al. (2003). NI. 20(4). pp.2119–2125	One brain, two selves	DID = 11	1) No 2) No	Self-relevant neutral and trauma-related scripts. The neutral identity state was amnesic for the events described in the trauma-related script or did not recognise these as events that happened to them personally	Script-driven imagery	Identity state-dependent brain activating patterns were found. In response to the trauma-related script, the neutral identity state showed, among others, increased rCBF in bilateral middle and right superior and medial (pre-) frontal gyrus, and bilateral intra-parietal sulcus and precuneus, whereas the trauma-related identity state showed increased rCBF in left parietal operculum and insular gyrus	1) Participants also included in Reinders et al. (2006, 2012, 2014, 2016) 2) Script driven imagery (identical)
Reinders et al. (2006). BP. 60. pp.730–740	Psychobiological characteristics of dissociative identity disorder: a symptom provocation study	DID = 11	1) No 2) No	Self-relevant neutral and trauma-related scripts. The neutral identity state was amnesic for the events described in the trauma-related script or did not recognise these as events that happened to them personally	Script-driven imagery	Psychobiological differences were found for the different identity states. RCBF data revealed different neural networks to be associated with different processing of the neutral and trauma-related memory script by neutral versus trauma identity state	1) Participants also included in Reinders et al. (2003, 2012, 2014, 2016) 2) Script driven imagery (identical)
Reinders et al. (2012). PLoS ONE. 7(6). e39279	Fact or factitious? A psychobiological study of authentic and simulated dissociative identity states	DID = 11 Simulators = 18 (10 high, 8 low fantasy prone controls)	1) No 2) No	Self-relevant neutral and trauma-related scripts. The neutral identity state was amnesic for the events described in the trauma-related script or did not recognise these as events that happened to them personally	Script-driven imagery	Differences in psychophysiological and neural activation patterns were found between the DID patients and both high and low simulating controls, showing that simulation of DID was not successful	1) Participants also included in Reinders et al. (2003, 2006, 2014, 2016) 2) Script driven imagery (identical)

(Continued)

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Authors	Title	Participants	Comorbidity		Stimulus type	Task	Results	Similarities	
			1) = Specified yes/no	2) = Analysed				1) = Participants	2) = Task/Stimuli (content)
Reinders et al. (2014a). PR:I. 223. pp.236–243	Opposite brain emotion-regulation patterns in identity states of dissociative identity disorder: a PET study and neurobiological model	DID = 11 Controls = 16	1) No 2) No		Self-relevant neutral and trauma-related scripts. The neutral identity state was amnesic for the events described in the trauma-related script or did not recognise these as events that happened to them personally	Script-driven imagery	DID patients' neutral and trauma-related identity state show opposite rCBF activation patterns. The neutral identity state activates the prefrontal cortex, cingulate, posterior association areas and parahippocampal gyri, thereby overmodulating emotion regulation; the trauma-related identity state activates the amygdala and insula as well as the dorsal striatum, thereby undermodulating emotion regulation	1) Participants also included in Reinders et al. (2003, 2006, 2012, 2014b 2016) 2) Script driven imagery (identical)	
Reinders & Willemsen (2014b) ¹ . PET and SPECT in Psychiatry. pp.411–431	Dissociative identity disorder and fantasy proneness: a PET study of authentic and enacted dissociative identity states	DID = 11 Simulators = 18 (10 high, 8 low fantasy prone controls)	1) No 2) No		Self-relevant neutral and trauma-related scripts. The neutral identity state was amnesic for the events described in the trauma-related script or did not recognise these as events that happened to them personally	Script-driven imagery	Differences in neural activation patterns were found between the DID patients and both high- and low-fantasy-prone controls. That is, the identity states in DID were not convincingly enacted by DID simulating controls	1) Participants also included in Reinders et al. (2003, 2006, 2014a, 2016) 2) Script driven imagery (identical)	
Reinders et al. (2016). JoNaMD. 204(6). pp.445–457	The Psychobiology of authentic and simulated dissociative personality states	DID = 11 Simulators = 18 (10 high, 8 low fantasy prone controls)	1) No 2) No		Self-relevant neutral and trauma-related scripts. The neutral identity state was amnesic for the events described in the trauma-related script or did not recognise these as events that happened to them personally	Script-driven imagery	In the DID group, as compared to simulators, bilateral activation of the superior frontal gyrus was found in the neutral identity state in response to the trauma-related text and of the caudate nucleus in the trauma identity state as compared with neutral identity state when processing the neutral text. The results of the new conjunction analyses confirm previous findings that DID is not due to high levels of fantasy proneness	1) Participants also included in Reinders et al. (2003, 2006, 2012, 2014a, 2014b) 2) Script driven imagery (identical)	

Silberman et al. (1985). PR. 15. pp.253–260	Dissociative states in multiple personality disorder: a quantitative study	MPD = 9 Simulators = 10	1) No 2) No	Non self-relevant non trauma words	Recognition/recall of learned related words from the same category (e.g. animals)	MPD not found to differ from controls in overall memory level. Learning information in different states did not result in greater compartmentalisation than controls. There was considerable “leakage” of information across states therefore there is no evidence of highly dissociated memory operations, but evidence of memory transfer	1) - 2) Priming (none)
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Abbreviations:

BP = Biological Psychiatry; BRaT = Behaviour Research and Therapy; C&C = Consciousness and Cognition; DID = dissociative identity disorder; IJoP = International Journal of Psychophysiology; JoAP = Journal of Abnormal Psychology; JoNaMD = Journal of nervous and mental disease; MPD = multiple personality disorder; M&C = Memory and Cognition; NI = NeuroImage; NY = New York; PET = positron emission tomography; PM = Psychological Medicine; PP = Plenum Press; PR = Psychiatry Research; PR:I = Psychiatry research: Neuroimaging; PTSD = post-traumatic stress disorder; rCBF = regional cerebral blood flow, SPECT = single photon emission computed tomography

Notes:

¹= This is a book chapter

²= Self-relevance is defined as a past autobiographical event, not experimentally related.

³= Self-experimental is defined as an experimentally learned/induced autobiographical event, a self-relevance primed autobiographical event that is independent of the traumatic personal past.

⁴= Van Heugten-van der Kloet, D., Huntjens, R., Giesbrecht, T., & Merckelbach, H. (2014). Self-reported sleep disturbances in patients with dissociative identity disorder and post-traumatic stress disorder and how they relate to cognitive failures and fantasy proneness. *Frontiers in psychiatry*, 5, 19. <https://doi.org/10.3389/fpsy.2014.00019>

⁵= Dorahy MJ, McKendry H, Scott A, Yogeewaran K, Martens A, Hanna D. Reactive dissociative experiences in response to acute increases in shame feelings. *Behav Res Ther.* 2017; 89:75–85. <https://doi.org/10.1016/j.brat.2016.11.007>