Supplemental material A: Search strategy

Embase.com

('brain injury'/exp OR 'brain injury assessment'/exp OR 'head injury'/exp OR concussion/exp OR coma/exp OR (((brain OR head OR crani* OR intracrani* OR skull* OR cerebr* OR capitis OR hemisphere*) NEAR/3 (injur* OR trauma* OR posttrauma* OR damag* OR lesion* OR fracture*)) OR concus* OR contus* OR neurotraum* OR tbi OR mtbi OR coma*):ab,ti) AND (injury/exp OR 'posttraumatic stress disorder'/exp OR accident/exp OR emergency/exp OR 'emergency care'/exp OR 'emergency ward'/exp OR violence/exp OR (trauma* OR posttrauma* OR injur* OR tbi OR mtbi OR accident* OR emergen* OR violen*):ab,ti) AND (anxiety/exp OR 'mood disorder'/de OR 'anxiety disorder'/exp OR depression/exp OR 'mental health'/de OR 'psychological well being'/de OR "Diagnostic and Statistical Manual of Mental Disorders" OR (anxi* OR ((mood OR affective) NEAR/3 (disorder* OR disturb*)) OR phobi* OR agoraphobi* OR panic OR ocd OR (obsessi* NEAR/3 compulsi*) OR depress* OR ((posttraumatic OR post-traumatic OR postconcussion* OR post-concussional OR post-concussion) NEAR/3 (stress* OR syndrom*)) OR dysthymi* OR ptsd OR ((psychologic* OR neuropsychologic* OR emotion*) NEAR/3 (outcome* OR develop* OR well-being OR wellbeing OR disabil* OR progres* OR adjust* OR function* OR consequenc* OR sequel*)) OR 'mental health' OR dsm):ab,ti) AND (prevalence/exp OR incidence/exp OR 'prediction and forecasting'/exp OR interview/exp OR epidemiology/de OR 'risk factor'/exp OR (incidenc* OR prevalen* OR predict* OR prognos* OR interview* OR (risk NEAR/3 factor*) OR epidemiolog* OR ((indicator* OR variable* OR characteristic* OR examination* OR assessment* OR measure* OR association* OR determinant*) NEAR/3 psycholog*) OR psychometric*):ab,ti) NOT ([Conference Abstract]/lim OR [Letter]/lim OR [Note]/lim OR [Conference Paper]/lim OR [Editorial]/lim) AND [english]/lim NOT ([animals]/lim NOT [humans]/lim)

Medline (OvidSP)

(exp Craniocerebral Trauma/ OR Glasgow Coma Scale/ OR coma/ OR (((brain OR head OR crani* OR intracrani* OR skull* OR cerebr* OR capitis OR hemisphere*) ADJ3 (injur* OR trauma* OR posttrauma* OR damag* OR lesion* OR fracture*)) OR concus* OR contus* OR neurotraum* OR tbi OR mtbi OR coma*).ab,ti.) AND (exp Wounds and Injuries/ OR exp Stress Disorders, Traumatic/ OR exp accidents/ OR exp Emergencies/ OR exp Emergency Treatment/ OR exp Emergency Service, Hospital/ OR exp violence/ OR (trauma* OR posttrauma* OR injur* OR tbi OR mtbi OR accident* OR emergen* OR violen*).ab,ti.) AND (exp anxiety/ OR exp mood disorders/ OR exp anxiety disorder/ OR exp depression/ OR exp mental health/ OR Personal Satisfaction/ OR "Diagnostic and Statistical Manual of Mental Disorders" OR (anxi* OR ((mood OR affective) ADJ3 (disorder* OR disturb*)) OR phobi* OR agoraphobi* OR panic OR ocd OR (obsessi* ADJ3 compulsi*) OR depress* OR ((posttraumatic OR post-traumatic OR post-concussion* OR post-concussion* OR post-concussion) ADJ3 (stress* OR

syndrom*)) OR dysthymi* OR ptsd OR ((psychologic* OR neuropsychologic* OR emotion*) ADJ3 (outcome* OR develop* OR well-being OR wellbeing OR disabil* OR progres* OR adjust* OR function* OR consequenc* OR sequel*)) OR mental health OR dsm).ab,ti.) AND (exp prevalence/ OR exp incidence/ OR Prognosis/ OR exp Interviews as Topic/ OR epidemiology/ OR epidemiology.xs. OR exp risk factors/ OR (incidenc* OR prevalen* OR predict* OR prognos* OR interview* OR (risk ADJ3 factor*) OR epidemiolog* OR ((indicator* OR variable* OR characteristic* OR examination* OR assessment* OR measure* OR association* OR determinant*) ADJ3 psycholog*) OR psychometric*).ab,ti.) NOT (letter OR news OR comment OR editorial OR congresses OR abstracts).pt. AND english.la. NOT (exp animals/ NOT humans/)

PsycINFO (OvidSP)

(exp Head Injuries/ OR Brain Damage/ OR coma/ OR (((brain OR head OR crani* OR intracrani* OR skull* OR cerebr* OR capitis OR hemisphere*) ADJ3 (injur* OR trauma* OR posttrauma* OR damag* OR lesion* OR fracture*)) OR concus* OR contus* OR neurotraum* OR tbi OR mtbi OR coma*).ab,ti.) AND (exp Injuries/ OR exp Posttraumatic Stress Disorder/ OR exp accidents/ OR exp trauma/ OR exp Emergency Services/ OR exp Emergency Management/ OR exp violence/ OR (trauma* OR posttrauma* OR injur* OR tbi OR mtbi OR accident* OR emergen* OR violen*).ab,ti.) AND (exp anxiety/ OR exp affective disorders/ OR exp anxiety disorders/ OR exp "Depression (Emotion)"/ OR exp mental health/ OR Satisfaction/ OR "Diagnostic and Statistical Manual" OR (anxi* OR ((mood OR affective) ADJ3 (disorder* OR disturb*)) OR phobi* OR agoraphobi* OR panic OR ocd OR (obsessi* ADJ3 compulsi*) OR depress* OR ((posttraumatic OR post-traumatic OR post-concussion* OR postconcussional OR post-concussion) ADJ3 (stress* OR syndrom*)) OR dysthymi* OR ptsd OR ((psychologic* OR neuropsychologic* OR emotion*) ADJ3 (outcome* OR develop* OR well-being OR wellbeing OR disabil* OR progres* OR adjust* OR function* OR consequenc* OR sequel*)) OR mental health OR dsm).ab,ti.) AND (Prognosis/ OR exp Interviews/ OR exp epidemiology/ OR exp risk factors/ OR (incidenc* OR prevalen* OR predict* OR prognos* OR interview* OR (risk ADJ3 factor*) OR epidemiolog* OR ((indicator* OR variable* OR characteristic* OR examination* OR assessment* OR measure* OR association* OR determinant*) ADJ3 psycholog*) OR psychometric*).ab,ti.) NOT book.pt. AND english.la. NOT (exp animals/ NOT humans/)

Cochrane

((((brain OR head OR crani* OR intracrani* OR skull* OR cerebr* OR capitis OR hemisphere*) NEAR/3 (injur* OR trauma* OR posttrauma* OR damag* OR lesion* OR fracture*)) OR concus* OR contus* OR neurotraum* OR tbi OR mtbi OR coma*):ab,ti) AND ((trauma* OR posttrauma* OR injur* OR tbi OR mtbi OR accident* OR emergen* OR violen*):ab,ti) AND ((anxi* OR ((mood OR affective) NEAR/3 (disorder* OR disturb*)) OR phobi* OR agoraphobi* OR panic OR ocd OR (obsessi* NEAR/3 compulsi*) OR depress* OR ((posttraumatic OR post-traumatic OR postconcussion* OR post-concussional OR post-concussion) NEAR/3 (stress* OR syndrom*)) OR dysthymi* OR ptsd OR ((psychologic* OR neuropsychologic* OR emotion*) NEAR/3 (outcome* OR develop* OR well-being OR wellbeing OR disabil* OR progres* OR adjust* OR function* OR consequenc* OR sequel*)) OR 'mental health' OR dsm):ab,ti) AND ((incidenc* OR prevalen* OR predict* OR prognos* OR interview* OR (risk NEAR/3 factor*) OR epidemiolog* OR ((indicator* OR variable* OR characteristic* OR examination* OR assessment* OR measure* OR association* OR determinant*) NEAR/3 psycholog*) OR psychometric*):ab,ti)

PubMed publisher

(Craniocerebral Trauma[mh] OR Glasgow Coma Scale[mh] OR coma[mh] OR (((brain OR head OR crani*[tiab] OR intracrani*[tiab] OR skull*[tiab] OR cerebr*[tiab] OR capitis OR hemisphere*[tiab]) AND (injur*[tiab] OR trauma*[tiab] OR posttrauma*[tiab] OR damag*[tiab] OR lesion*[tiab] OR fracture*[tiab])) OR concus*[tiab] OR contus*[tiab] OR neurotraum*[tiab] OR tbi OR mtbi OR coma*[tiab])) AND (Wounds and Injuries[mh] OR Stress Disorders, Traumatic[mh] OR accidents[mh] OR Emergencies[mh] OR Emergency Treatment[mh] OR Emergency Service, Hospital[mh] OR violence[mh] OR (trauma*[tiab] OR posttrauma*[tiab] OR injur*[tiab] OR tbi OR mtbi OR accident*[tiab] OR emergen*[tiab] OR violen*[tiab])) AND (anxiety[mh] OR mood disorders[mh] OR anxiety disorder[mh] OR depression[mh] OR mental health[mh] OR Personal Satisfaction[mh] OR "Diagnostic and Statistical Manual of Mental Disorders" OR (anxi*[tiab] OR ((mood OR affective) AND (disorder*[tiab] OR disturb*[tiab])) OR phobi*[tiab] OR agoraphobi*[tiab] OR panic OR ocd OR (obsessi*[tiab] AND compulsi*[tiab]) OR depress*[tiab] OR ((posttraumatic OR post-traumatic OR postconcussion*[tiab] OR post-concussional OR post-concussion) AND (stress*[tiab] OR syndrom*[tiab])) OR dysthymi*[tiab] OR ptsd OR ((psychologic*[tiab] OR neuropsychologic*[tiab] OR emotion*[tiab]) AND (outcome*[tiab] OR develop*[tiab] OR well-being OR wellbeing OR disabil*[tiab] OR progres*[tiab] OR adjust*[tiab] OR function*[tiab] OR consequenc*[tiab] OR sequel*[tiab])) OR mental health OR dsm)) AND (prevalence[mh] OR incidence[mh] OR Prognosis[mh] OR Interviews as Topic[mh] OR epidemiology[mh] OR epidemiology[sh] OR risk factors[mh] OR (incidenc*[tiab] OR prevalen*[tiab] OR predict*[tiab] OR prognos*[tiab] OR interview*[tiab] OR (risk AND factor*[tiab]) OR epidemiolog*[tiab] OR ((indicator*[tiab] OR variable*[tiab] OR characteristic*[tiab] OR examination*[tiab] OR assessment*[tiab] OR measure*[tiab] OR association*[tiab] OR determinant*[tiab]) AND psycholog*[tiab]) OR psychometric*[tiab])) NOT (letter[pt] OR news[pt] OR comment[pt] OR editorial[pt] OR congresses[pt] OR abstracts[pt]) AND english[la] NOT (animals[mh] NOT humans[mh]) AND publisher[sb]

Google scholar

"brain|head|cranial|cerebral injury|trauma|fracture"|concussion|contussion|coma

trauma | traumatic | posttraumatic | injury | accident anxiety | "mood disorder" | depression | "mental health" | psychological | dsm

prevalence | incidence | epidemiology | "risk factor" | prognosis

Supplemental material B: meta-analyses of univariable predictors of MDD and PTSD

B1. Meta-analyses of univariable predictors of MDD

Demographics

1. Age (continuous, in years) as predictor of MDD

	I	MDD+		N	/DD-			Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Diaz, A.P. (2012) n = 33	33.7	8.9	10	30.3	11.9	23	11.4%	3.40 [-3.95, 10.75]	-+
Fedoroff, J. P. (1992) n = 64	26.8	5.8	17	29.5	10.7	47	19.9%	-2.70 [-6.82, 1.42]	
Hibbard, M.R. (2004) n = 118	44.8	10	27	43.8	16.7	91	16.8%	1.00 [-4.10, 6.10]	
Jorge, R.E. (2004) n = 91	39.5	13.9	30	35.6	15.4	44	12.7%	3.90 [-2.84, 10.64]	
Kennedy, R.E. (2005) n = 78	37.6	11.35	23	38.4	12.6	55	15.1%	-0.80 [-6.51, 4.91]	
Rapoport, M.J. (2003b) n = 170	41.3	17.8	26	44.8	20.5	144	10.9%	-3.50 [-11.12, 4.12]	
Rapoport, M.J. (2005) n = 74	41.38	13.2	21	32.32	12.2	53	13.1%	9.06 [2.53, 15.59]	
Total (95% CI)			154			457	100.0%	1.20 [-1.96, 4.36]	+
Heterogeneity: Tau ² = 8.63; Chi ² :	= 11.74,	df = 6	(P = 0.	07); l ² =	= 49%			-	-20-10 0 10 20
Test for overall effect: Z = 0.75 (P	= 0.46)								[MDD-] [MDD+]

2. Female gender as predictor of MDD

	MDD	+	MDD)-		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Diaz, A.P. (2012) n = 33	0	10	4	23	1.5%	0.21 [0.01, 4.21]	
Fedoroff, J.P. (1992) n = 64	3	17	6	47	5.6%	1.46 [0.32, 6.65]	•
Hibbard, M.R. (2004) n = 118	55	98	34	91	30.0%	2.14 [1.20, 3.84]	_ _ _
Jorge, R.E. (2004) n = 91	17	30	18	44	13.5%	1.89 [0.74, 4.83]	+
Kennedy, R.E. (2005) n = 78	5	23	19	55	9.6%	0.53 [0.17, 1.64]	
Koponen, S. (2002) n = 60	6	16	13	44	8.6%	1.43 [0.43, 4.76]	-
Rapoport, M.J. (2003b) n = 170	13	26	46	144	16.3%	2.13 [0.92, 4.96]	
Whelan Goodinson, R. (2010) n = 100	18	46	11	54	14.9%	2.51 [1.03, 6.11]	
Total (95% CI)		266		502	100.0%	1.72 [1.19, 2.48]	•
Total events	117		151				
Heterogeneity: $Tau^2 = 0.03$; $Chi^2 = 7.70$ Test for overall effect: Z = 2.91 (P = 0.0	5, df = 7 i 004)	(P = 0.	35); l ² =	10%			0.01 0.1 1 10 100 MDD- MDD+

3. Education (continuous, in years) as predictor of MDD

	N	1DD+		М	DD-			Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Diaz, A.P. (2012) n = 33	8.5	3.7	10	10.5	4.9	23	7.2%	-2.00 [-5.04, 1.04]	
Fedoroff, J. P. (1992) n = 64	12.4	2	17	12.3	2.1	47	30.1%	0.10 [-1.02, 1.22]	-+-
Jorge, R.E. (2004) n = 91	13.1	2.6	30	13	2.2	44	29.8%	0.10 [-1.03, 1.23]	-+-
Whelan-Goodinson, R. (2010) n = 100	11.02	2.84	46	12.29	2.3	54	32.9%	-1.27 [-2.29, -0.25]	
Total (95% CI) Heterogeneity: Tau ² = 0.33; Chi ² = 5.27	, df = 3	(P = 0	103 (15); I ²	= 43%	168	100.0%	-0.50 [-1.37, 0.37]		
Test for overall effect: Z = 1.13 (P = 0.26)									[MDD-] [MDD+]

4. Caucasian race as predictor of MDD

	MDD	+	MDD)-		Odds Ratio		Odds Ratio		
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI		M-H, Random, 95	% CI	
Hibbard, M.R. (2004) n = 118	71	98	63	91	70.0%	1.17 [0.62, 2.19]				
Jorge, R.E. (2004) n = 91	29	30	42	44	4.6%	1.38 [0.12, 15.95]				
Kennedy, R.E. (2005) n = 78	15	23	40	55	25.4%	0.70 [0.25, 2.00]				
Total (95% CI)		151		190	100.0%	1.04 [0.61, 1.75]		•		
Total events	115		145							
Heterogeneity: Tau ² = 0.00; Chi ²	= 0.72,	df = 2	(P = 0.7)	0); I ² =	0%		L 01 (1 1	10	100
Test for overall effect: Z = 0.13 ((P = 0.90))					0.01 ([MDD-] [MDD-	+]	100

5. Marital status (married / relationship vs. unattached) as predictor of MDD

	MDD)+	MDD)-		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M–H, Random, 95% CI
Diaz, A.P. (2012) n = 33	7	10	8	23	5.6%	4.38 [0.88, 21.71]	+
Fedoroff, J. P. (1992) n = 64	7	19	21	47	11.9%	0.72 [0.24, 2.16]	
Hibbard, M.R. (2004) n = 118	29	98	27	91	36.5%	1.00 [0.53, 1.86]	
Jorge, R.E. (2004) n = 91	12	30	12	44	14.6%	1.78 [0.66, 4.77]	
Kennedy, R.E. (2005) n = 78	6	23	12	55	11.2%	1.26 [0.41, 3.91]	
Rapoport, M.J. (2003b) n = 170	14	26	72	144	20.3%	1.17 [0.50, 2.70]	
Total (95% CI)		206		404	100.0%	1.20 [0.82, 1.75]	•
Total events Heterogeneity: Tau ² = 0.00; Chi ² = Test for overall effect: Z = 0.95 (P	75 = 4.29, d = 0.34)	f = 5 (F	152 P = 0.51;	i; l ^z = C)%	6.	01 0.1 1 10 100 [MDD-] [MDD+]

6. Socioeconomic status (Hollinghead classes IV and V vs. lower) as predictor of MDD

	MDD	+	MDD) -		Odds Ratio		Odds Ratio		
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI		M-H, Random, 95	% CI	
Fedoroff, J. P. (1992) n = 64	13	19	34	47	39.7%	0.83 [0.26, 2.64]				
Jorge, R.E. (2004) n = 91	12	30	23	44	60.3%	0.61 [0.24, 1.56]				
Total (95% CI)		49		91	100.0%	0.69 [0.33, 1.43]		-		
Total events	25		57							
Heterogeneity: $Tau^2 = 0.00$; Ch Test for every leftest: 7 = 1.00	$hi^2 = 0.10$	5, df =	1 (P = 0	.69); I ²	= 0%		0.01 0.	1 1	10	100
Test for overall effect. $z = 1.00$	V(P = 0.5)	52)						[MDD-] [MDD+	+]	

Pre-injury variables

7. Pre-injury depression as predictor of MDD

	MDD	+	MDD)-		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Diaz, A.P. (2012) n = 33	4	10	8	23	12.2%	1.25 [0.27, 5.77]	
Hibbard, M.R. (2004) n = 118	25	98	7	91	35.7%	4.11 [1.68, 10.06]	
Jorge, R.E. (2004) n = 91	11	30	5	44	20.2%	4.52 [1.37, 14.86]	
Rapoport, M.J. (2005) n = 74	5	21	3	53	12.1%	5.21 [1.12, 24.25]	
Whelan-Goodinson, R. (2010) n = 100	13	46	4	54	19.7%	4.92 [1.48, 16.41]	
Total (95% CI)		205		265	100.0%	3.86 [2.26, 6.59]	•
Total events Heterogeneity: Tau ² = 0.00; Chi ² = 2.48 Test for overall effect: Z = 4.95 (P < 0.0	58 3, df = 4 (0001)	(P = 0.6	27 55); I ² =	0%			0.01 0.1 1 10 100 [MDD-] [MDD+]

8. Pre-injury psychiatric disorders as predictor of MDD

	MDD	+	MDD)-		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% Cl
Fedoroff, J. P. (1992) n = 64	12	17	17	46	24.2%	4.09 [1.23, 13.63]	
Hibbard, M.R. (1998) n = 100	16	48	35	52	26.9%	0.24 [0.11, 0.56]	_
Hibbard, M.R. (2004) n = 118	61	98	44	91	28.5%	1.76 [0.99, 3.14]	
Jorge, R.E. (2004) n = 91	б	30	2	44	20.4%	5.25 [0.98, 28.09]	
Total (95% CI)		193		233	100.0%	1.58 [0.42, 5.99]	
Total events	95		98				
Heterogeneity: Tau ² = 1.53; Chi ²	= 22.72	, df = 3	3 (P < 0.	0001);	$ ^2 = 87\%$		
Test for overall effect: $Z = 0.68$ ((P = 0.50)	0					[MDD-] [MDD+]

9. Pre-injury alcohol abuse as predictor of MDD

	MDD	+	MDD)-		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Jorge, R.E. (2004) n = 91	6	30	7	44	56.1%	1.32 [0.40, 4.41]	
Rapoport, M.J. (2003b) n = 170	3	26	10	144	43.9%	1.75 [0.45, 6.84]	
Total (95% CI) Total events	9	56	17	188	100.0%	1.49 [0.61, 3.69]	-
Heterogeneity: Tau ² = 0.00; Chi ² = Test for overall effect: Z = 0.87 (P	= 0.09, d = 0.38)		0.01 0.1 1 10 100 [MDD-] [MDD+]				

10. Pre-injury substance abuse as predictor of MDD

	MDD	+	MDD)-		Odds Ratio		Odds Ratio		
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	N	4-H, Random, 95% C	3	
Jorge, R.E. (2004) n = 91	6	30	3	44	44.9%	3.42 [0.78, 14.93]				
Rapoport, M.J. (2003b) n = 170	3	26	13	144	55.1%	1.31 [0.35, 4.98]		_		
Total (95% CI)		56		188	100.0%	2.02 [0.75, 5.42]				
Total events	9		16							
Heterogeneity: Tau ² = 0.00; Chi ² = Test for overall effect: Z = 1.39 (P	= 0.89, d = 0.16)	f = 1 (F	° = 0.35)	I; I ² = C)%		0.01 0.1	1 1 [MDD-] [MDD+]	10 10	ō

11. Pre-injury unemployment as predictor of MDD

	MDD)+	MDD)-		Odds Ratio		Odds Ratio	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI		M-H, Random, 95% Cl	
Jorge, R.E. (2004) n = 91	8	30	1	44	42.2%	15.64 [1.84, 133.09]		_	
Rapoport, M.J. (2003b) n = 170	19	26	96	144	57.8%	1.36 [0.53, 3.45]			
Total (95% CI)		56		188	100.0%	3.80 [0.34, 42.09]			
Total events	27		97						
Heterogeneity: Tau ² = 2.37; Chi ² =	= 4.34, d	f = 1 (F)	P = 0.04); $ ^2 = 7$	7%		0.01		100
Test for overall effect: Z = 1.09 (P	= 0.28)						0.01	[MDD-] [MDD+]	100

12. Family history of psychiatric disorders as predictor of MDD

	MDD	+	MDD)-		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M–H, Random, 95% Cl
Fedoroff, J. P. (1992) n = 64	8	17	23	47	40.1%	0.93 [0.31, 2.82]	_
Rapoport, M.J. (2003b) n = 170	8	26	40	144	59.9%	1.16 [0.47, 2.87]	
Total (95% CI)		43		191	100.0%	1.06 [0.52, 2.14]	•
Total events	16		63				
Heterogeneity: Tau ² = 0.00; Chi ² =	= 0.09, ď	f = 1 (F)	P = 0.76	$ j ^2 = 0$	1%		
Test for overall effect: Z = 0.16 (P	= 0.88)						[MDD-] [MDD+]

Clinical variables and imaging

13. Admission GCS as predictor of MDD

	MDD+ MDD-					Mean Difference	Mean Difference		
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Kennedy, R.E. (2005) n = 78	10.8	4.88	23	9.5	4.86	55	4.0%	1.30 [-1.07, 3.67]	
Rapoport, M.J. (2005) n = 74	14.38	0.7	21	13.92	1.4	52	96.0%	0.46 [-0.02, 0.94]	–
Total (95% CI)			44			107	100.0%	0.49 [0.02, 0.97]	◆
Heterogeneity. Tau ² = 0.00; Ch Test for overall effect: Z = 2.04	$i^2 = 0.40$ (P = 0.0)	5, df = 04)	1 (P =	0.50);	² = 0%	6			-4 -2 0 2 4 MDD- MDD+

14. GCS after 24h post-injury as predictor of MDD

	MDD+ MDD-					Mean Difference	Mean Difference		
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Fedoroff, J. P. (1992) n = 64	9.2	3.4	17	10	3.4	47	37.9%	-0.80 [-2.69, 1.09]	
Jorge, R.E. (2004) n = 91	12.3	2.2	30	11.6	3.1	44	62.1%	0.70 [-0.51, 1.91]	+
Total (95% CI)			47			91	100.0%	0.13 [-1.29, 1.56]	
Heterogeneity: Tau ² = 0.47; Chi ² = 1.72, df = 1 (P = 0.19); l ² = 42% Test for overall effect: Z = 0.18 (P = 0.86)									-10 -5 0 5 10 MDD- MDD+

15. CT abnormalities as predictor of MDD

	MDD)-	MDD	+		Odds Ratio		Odds Ratio	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-	H, Random, 95% Cl	1
Fedoroff, J. P. (1992) n = 64	15	17	41	47	17.3%	1.10 [0.20, 6.04]			
Rapoport, M.J. (2003b) n = 170	5	20	33	112	42.3%	0.80 [0.27, 2.37]			
Rapoport, M.J. (2005) n = 74	7	18	25	45	40.4%	0.51 [0.17, 1.55]	-		
Total (95% CI)		55		204	100.0%	0.70 [0.35, 1.43]		-	
Total events	27		99						
Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = $ Test for overall effect: Z = 0.97 (P	= 0.64, d = 0.33)	f = 2 (F	P = 0.73)	i; l ² = C)%		0.01 0.1	[MDD-] [MDD+]	0 100

16. Brain Contusion as predictor of MDD

	MDD	+	MDD) -		Odds Ratio				
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	N	I-H, Random, 95	% CI	
Fedoroff, J. P. (1992) n = 64	12	17	29	47	55.3%	1.49 [0.45, 4.93]			-	
Jorge, R.E. (2007) n = 37	10	19	б	18	44.7%	2.22 [0.59, 8.41]			—	
Total (95% CI)		36		65	100.0%	1.78 [0.73, 4.34]		-	,	
Total events	22		35							
Heterogeneity: Tau ² = 0.00; Ch	$ni^2 = 0.13$	9, df =	1 (P = 0)	.66); I²	= 0%					100
Test for overall effect: $Z = 1.27$	27 (P = 0.20)						0.01 0.1	[MDD-] [MDD+	F]	100

Post-injury variables

17. Post-injury unemployment as predictor of MDD

	MDD+		MDD	MDD-		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Diaz, A.P. (2012) n = 33	4	10	11	23	16.2%	0.73 [0.16, 3.28]	
Kennedy, R.E. (2005) n = 78	12	23	16	55	34.3%	2.66 [0.97, 7.26]	
Whelan-Goodinson, R. (2010) n = 100	24	46	17	54	49.5%	2.37 [1.05, 5.36]	
Total (95% CI)		79		132	100.0%	2.04 [1.10, 3.79]	◆
Total events	40		44				
Heterogeneity: $Tau^2 = 0.03$; $Chi^2 = 2.20$ Test for overall effect: Z = 2.25 (P = 0.0	, df = 2 (2)	P = 0.3	33); I ² =	9%			0.01 0.1 1 10 100 [MDD-] [MDD+]

18. Post-injury litigation situation as predictor of MDD

	MDD	+	MDD) -		Odds Ratio			
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	N	1-H, Random, 95%	CI
Diaz, A.P. (2012) n = 33	2	10	9	23	61.6%	0.39 [0.07, 2.26]			
Rapoport, M.J. (2003b) n = 170	1	26	4	144	38.4%	1.40 [0.15, 13.05]			
Total (95% CI)		36		167	100.0%	0.64 [0.16, 2.53]			
Total events	3		13						
Heterogeneity: Tau ² = 0.00; Chi ² =	= 0.78, d	f = 1 (F)	P = 0.38); $I^2 = C$	1%			<u>_</u>	10 100
Test for overall effect: Z = 0.64 (P	= 0.52)						0.01 0.1	[MDD-] [MDD+]	10 100

B1. Meta-analyses of univariable predictors of PTSD

Demographics

1. Age (continuous) as predictor of PTSD

	PTSD+ PTSD-						Mean Difference	Mean Difference		
Study or Subgroup	Mean	SD Total Mean S			SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI	
Alway, Y. (2015b) n = 85	35.2	14.88	15	35.91	16.91	70	6.9%	-0.71 [-9.22, 7.80]		
Barker-Collo, S. (2013) n = 296	39.94	15.04	53	37.26	18.24	243	15.9%	2.68 [-1.97, 7.33]	+	
Bryant, R.A. (2000) n = 96	34.63	13.35	26	34.16	12.72	70	11.7%	0.47 [-5.46, 6.40]		
Caspi, Y. (2005) n = 120	35	2.3	22	35.9	2.7	98	33.8%	-0.90 [-2.00, 0.20]	-	
Gil, S. (2005) n = 120	33.8	3.1	17	31	2.3	103	31.7%	2.80 [1.26, 4.34]	-	
Total (95% CI)	df 1	133	0023-18	75%	584	100.0%	1.02 [-1.46, 3.49]	•		
Test for overall effect: Z = 0.81 (P	ui = 4	(r = 0.	003); 1-	= /5%				-20 -10 0 10 20 [PTSD-] [PTSD+]		

2. Female gender as predictor of PTSD

	PTSD+ PTSD-)-		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Alway, Y. (2015b) n = 85	3	15	15	70	9.7%	0.92 [0.23, 3.67]	
Barker-Collo, S. (2013) n = 296	27	53	95	243	52.4%	1.62 [0.89, 2.94]	+∎
Caspi, Y. (2005) n = 120	10	22	39	98	21.5%	1.26 [0.50, 3.20]	
Gil, S. (2005) n = 120	6	17	44	103	16.4%	0.73 [0.25, 2.13]	
Total (95% CI)		107		514	100.0%	1.27 [0.83, 1.96]	•
Total events	46		193				
Heterogeneity: Tau ² = 0.00; Chi ² =	= 1.87, d	f = 3 (l	P = 0.60); $ ^2 = 0$)%		
Test for overall effect: Z = 1.10 (P	= 0.27)				[PTSD-] [PTSD+]		

3. Education (continuous) as predictor of PTSD

	PTSD+ PTSD-							Mean Difference	Mean Difference		
Study or Subgroup	Mean	SD	Total	fotal Mean SD			Weight	IV, Random, 95% CI	IV, Random, 95% CI		
Alway, Y. (2015b) n = 85	13.07	2.75	15	11.93	2.27	70	24.1%	1.14 [-0.35, 2.63]	+ 		
Bryant, R.A. (2000) n = 96	10.85	2.27	26	10.98	2.65	70	43.2%	-0.13 [-1.20, 0.94]			
Gil, S. (2005) n = 120	12.3	2.4	17	12.5	2.7	103	32.8%	-0.20 [-1.45, 1.05]			
Total (95% CI)			58			243	100.0%	0.15 [-0.61, 0.92]	•		
Heterogeneity: Tau ² = 0.05;	$Chi^2 = 2$										
Test for overall effect: $Z = 0$.	39(P =	0.70)							[PTSD-] [PTSD+]		

Pre-injury variables

4. Pre-injury psychiatric disorder as predictor of PTSD

	PTSD	+	PTSD)-		Odds Ratio	o	dds Ratio	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, R	andom, 95% CI	
Alway, Y. (2015b) n = 85	7	15	37	70	23.4%	0.78 [0.26, 2.39]			
Caspi, Y. (2005) n = 120	11	22	45	98	28.2%	1.18 [0.47, 2.97]			
Gil, S. (2005) n = 120	12	17	37	103	23.4%	4.28 [1.40, 13.10]			
Hibbard, M.R. (1998) n = 100	8	17	43	83	25.1%	0.83 [0.29, 2.35]	_		
Total (95% CI)		71		354	100.0%	1.32 [0.63, 2.77]		-	
Total events	38		162	_					
Heterogeneity: Tau ² = 0.28; Chi ⁴	= 5.94,	df = 3	(P = 0.1)	1); $ ^2 =$	49%		0.01 0.1	1 10	100
Test for overall effect: $Z = 0.75$	5 (P = 0.46)						PT	SD- PTSD+	

Clinical variables

5. PTA (continuous) as predictor of PTSD

Study or Subgroup	PTSD+ PTSD- Mean SD Total Mean SD				PTSD- SD	Total	Weight	Mean Difference IV, Random, 95% CI		Mean Difference IV, Random, 95% CI			
Alway, Y. (2015b) n = 85	17.79	16.58	15	23.64	23.11	70	35.6%	-5.85 [-15.84, 4.14]			+		
Barker-Collo, S. (2013) n = 296	11.21	31.69	53	26.2	41.57	243	35.5%	-14.99 [-25.00, -4.98]					
Bryant, R.A. (2000) n = 96	35.34	22.3	26	37.64	33.64	70	28.9%	-2.30 [-13.94, 9.34]			┥		
Total (95% CI)			94	-		383	100.0%	-8.07 [-15.46, -0.69]		•	•		
Heterogeneity: Tau ² = 13.93; Chi ² = 2.97, df = 2 (P = 0.23); I ² = 33% Test for overall effect: Z = 2.14 (P = 0.03)								-100	-50 [PTSD-	PTSD+	50]	100	

Post-injury variables

6. Memory of the traumatic event as predictor of PTSD

	PTSD+ PTSD-)-		Odds Ratio	Odds Ratio			
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI		M-H, Rand	om, 95% Cl	
Caspi, Y. (2005) n = 120	16	22	32	98	57.1%	5.50 [1.97, 15.39]				
Gil, S. (2005) n = 120	13	17	42	103	42.9%	4.72 [1.44, 15.48]				
Total (95% CI)		39		201	100.0%	5.15 [2.37, 11.21]				
Total events	29		74							
Heterogeneity: Tau ² = 0.00	; Chi ² = 0	0.04, d	f = 1 (P :	= 0.85)	i; l ² = 0%		L 01	01	10	100
Test for overall effect: $Z = 4$	0.000	1)				0.01	[PTSD-]	[PTSD+]	100	

Note. Total number of patients in the study and total number of patients included in the meta-analyses

may vary since for some variables, not all patients in the study were assessed (e.g. studies that included

both MDD and PTSD)

Supplemental C. Meta-analyses of univariable predictors of MDD and PTSD following Traumatic Brain

Predictor	No. of participants	Pooled effect size meta-analysis	Heterogeneity
	(No. of studies)	OR (95% CI)*	(12)
MDD			
לטא			
Age (/y, MD (95% CI))	547 (6)**	2.16 (-1.15 to 5.47	38%
Female Gender	644 (6)**	1.70 (1.05 to 2.74)	34%
Education (/y, MD (95%CI))	207 (3)**	-0.78 (-1.91 to 0.36)	47%
Caucasian race	341 (3)	1.04 (0.61 to 1.75)	0%
Marital status I	610 (6)	1.20 (0.82 to 1.75)	0%
Socioeconomic status ‡	140 (2)	0.69 (0.33 to 1.43)	0%
Pre-injury depression	470 (5)	3.86 (2.26 to 6.59)	0%
Pre-injury psychiatric disorders	363 (3)**	1.18 (0.23 to 5.95)	89%
Pre-injury alcohol abuse	244 (2)	1.49 (0.61 to 3.69)	0%
Pre-injury substance abuse	244 (2)	2.02 (0.75 to 5.42)	0%
Pre-injury unemployment	244 (2)	3.80 (0.34 to 42.09)	77%
Family history of psychiatric disorders	170 (1)**	1.16 (0.47 to 2.86)	NA
Admission GCS (MD (95% CI))	151 (2)	0.49 (0.02 to 0.97)	0%
24h GCS (MD (95% CI))	74 (1)**	0.70 (00.51 to 1.91)	NA
CT abnormalities	195 (2)**	0.64 (0.29 to 1.40)	0%

Injury with only those studies using the DSM-IV criteria

Brain contusion	37 (1)**	2.22 (0.59 to 8.41)	NA
Post-injury unemployment	211 (3)	2.04 (1.10 to 3.79)	9%
Post-injury litigation situation	203 (2)	0.64 (0.16 to 2.53)	0%
PTSD			
Age (/y, MD (95% Cl))	621 (4)**	1.10 (-1.69 to 3.88)	81%
Female gender	621 (4)	1.27 (0.83 to 1.96)	0%
Education (/y, MD (95% CI))	205 (2)**	0.41 (-0.90 to 1.71)	45%
Pre-injury psychiatric disorder	425 (4)	1.32 (0.63 to 2.77)	49%)
PTA (MD (95% CI))	381 (2)**	-10.41 (-19.37 to -1.46)	33%
Memory of the traumatic event	240 (2)	5.15 (2.37 to 11.21)	0%

*pooled OR (95% CI) unless otherwise specified

** The original meta-analyses (Supplemental material B) contained studies using other criteria then the DSM-IV (e.g. DSM-III,

ICD-10). As a consequence, these estimates changed in the sensitivity analyses with only those studies that used the DSM-IV

criteria

married/relationship vs. unattached

‡ Hollinghead classes IV and V vs. lower

Abbreviations: MD = mean difference; MDD = major depressive disorder; OR = odds ratio; TBI = traumatic brain injury; GCS =

Glasgow Coma Scale; PTA = posttraumatic amnesia; CT = computed tomography; PTSD = posttraumatic stress disorder; LOC =

loss of consciousness

Supplemental material D: Narrative synthesis of variables not included in the meta-analysis

MDD:

Variable	Study	Results
Demographics		
Age	Deb, S. (2007)	Percentage patients with young age (18-65y) in MDD+ group:
		79%, in MDD- group 72%, p>.05
	Hibbard, M. (1998)	No statistically significant differences
	Mauri, M.C. (2014)*	Mean age MDD+: 37.1 (SD = 15), MDD-: 47.5 (SD=13), p>.05
	Rao, V. (2010)*	Mean age MDD+ 52.4 (SD = unknown); MDD- 27.3 (SD =
		unknown), p<.001
	Reekum, R. (1996)*	Percentage patients under age 30: MDD+ 56%, MDD- 33%,
		p>.05
	Whelan-Goodinson, R (2010)	No statistically significant differences
Gender	Hibbard, M. (1998)	No statistically significant differences
	Rao, V. (2010)*	No statistically significant differences
	Rapoport, M.J. (2005)	No statistically significant differences
	Reekum, R. (1996)*	MDD+ 7 (78%) females, MDD- 3 (33%) females, p = .06
Education	Hibbard, M. (2004)	No statistically significant differences
	Kennedy, R.E. (2005)	In MDD+ group: less than high school 23%, high school
		graduate or some college 46%, college graduate or higher
		32%; in MDD- group: less than high school 16%, high school
		graduate or some college 56%, college graduate or higher
		27%, p = .67
	Mauri, M.C. (2014)*	Mean years of education: MDD+ 13 (SD = 2.9), MDD- 13 (SD =
		4.2), p>.05
Race	Federoff, J.P. (1992)	Percentage of black patients: MDD+ 29%, MDD= 23%, p>.05
Marital status	Rapoport, M.J. (2005)	No statistically significant differences

	Whelan-Goodinson, R.	No statistically significant differences
	(2010)	
Income	Hibbard, M. (2004)	Annual salary < 20.000 dollar: MDD+ 36%, MDD- 30%, p>.05
	Jorge, R.E. (2004)	Annual salary < 21.000 dollar: MDD+ 46%, MDD- 24%, p>.05
Location of residence	Whelan-Goodinson, R.	No statistically significant differences
	(2010)	
Pre-injury variables		
Pre-injury depression	Gould, K.R. (2011b)	OR = 5.25 (95% Cl: 1.66 to 16.64), p = .005
	Rapoport, M.J. (2003)	Chi square = 1.35 (df = 1), p = .25
Pre-injury anxiety	Jorge, R.E. (2004)	Percentage patients with pre-injury anxiety disorder: MDD+
		20%, MDD- 5%, p = .05
Pre-injury alcohol abuse	Rapoport, M.J. (2005)	No statistically significant differences
Pre-injury substance abuse	Gould, K.R. (2011)	Chi square = 3.10 (df=1, n = 114), p = .78
	Rapoport, M.J. (2005)	No statistically significant differences
Pre-injury substance- or	Federoff, P.J. (1992)	Percentage pre-injury substance or alcohol abuse: MDD+ 47%,
alcohol abuse		MDD- 24%, p > .05
Pre-injury unemployment	Rapoport, M.J. (2005)	No statistically significant differences
	Whelan-Goodinson, R.	No statistically significant differences
	(2010)	
Family history of	Jorge, R.E. (2004)	No statistically significant differences
psychiatric disorders		
	Rapoport, M.J. (2005)	No statistically significant differences
Pre-injury counselling	Gould, K.R. (2011)	Higher percentage pre-injury counselling in those with MDD:
		Chi square = 5.43 (df = 1, n = 118), p = .02
Pre-injury medical	Rapoport, M.J. (2003)	No statistically significant differences
problems		
Pre-injury TBI	Rapoport, M.J. (2003b)	Percentage pre-injury TBI: MDD+ 23%, MDD- 23%, p>.05
	Rapoport, M.J. (2005)	No statistically significant differences

Peri-injury variables		
Mechanism of injury	Kennedy, R.E. (2005)	Percentage violent injury: MDD+ 22%, MDD- 9%, p = 0.13
	Rapoport, M.J. (2003)	No statistically significant differences
	Rapoport, M.J. (2005)	MVA: MDD+ 71%, MDD- 60%, Chi Square = 0.79 (df = 1), p
		>.05
Trauma severity	Mauri, M.C. (2014)	Trauma severity score: MDD+ 2.3 (SD = 0.9), MDD- 1.4 (SD =
		0.7), p>.05
Clinical variables		
GCS (continuous)	Jorge R.E. (1993)	Mean GCS obtained at 24h post-injury: no statistically
		significant differences
	Kennedy, R.E. (2005)	Lowest GCS score: MDD+ 10.0 (SD = 4.4), MDD- 9.0 (SD = 5.0),
		p>.05
	Whelan-Goodinson, R.	No statistically significant differences (measurement = lowest
	(2010)	preintubation GCS)
GCS (division into mild,	Federoff, P.J. (1992)	MDD+: GCS12-15 35%; GCS 8-11 24%; GCS 3-7 41%
moderate and severe)		MDD-: GCS 12-15 43%; GCS 8-11 26%; GCS 3-7 32%, p>.05
	Hibbard, M. (1998)	No statistically significant differences
	Jorge, R.E. (2004)	MDD+: mild: 47%, moderate 40%, severe 13%
		MDD-: mild 48%, moderate 25%, severe 27%, p>.05
	Kennedy, R.E. (2005)	MDD+ GCS 13-15: 38%, GCS 9-12: 31%, GCS <9 31%
		MDD-: GCS 13-15 33%, GCS 9-12 18%, GCS <9 49%, p = .67
	Reekum, R. (1996)*	MDD+: severe TBI 56%, moderate TBI 22%, mild TBI 22%
		MDD-: severe TBI 56%, moderate TBI 11%, mild TBI 33%,
		p>.05
РТА	Koponen, S. (2002)	No statistically significant differences
	Rapoport, M.J. (2005)	PTA > 24h: MDD+ 43%, MDD- 53%, Chi square = 0.6 (df = 1), p
		= .32
	Whelan-Goodinson, R.	No statistically significant differences
	(2010)	

LOC	Kennedy, R.E. (2005)	MDD+: none 53%, 1-2h 26%, 3-14h 21%, >14h 0%
		MDD-: none 43%, 1-2h 12%, 3-14h 22%, >14h 22%,
		p = .10
Bodily injuries	Gould, K. R. (2011)	MDD+ more bodily injuries than MDD- , p = .049
	Rapoport, M.J. (2005)	Fractures or other significant injuries: MDD+ 60%, MDD- 67%,
		p>.05
	Whelan-Goodinson, R.	No statistically significant differences
	(2010)	
Pain	Whelan-Goodinson, R.	Percentage with pain: MDD+ 57%; MDD- 28%, OR = 3.38 (95%
	(2010)	Cl: 1.47 to 7.78), p = .004
AIS score	Jorge, R.E. (2004)	MDD+ 16.7 (SD = 5.7); MDD- 18.0 (SD = 8.1), p>.05
Comorbidities	Rapoport, M.J. (2003b)	MDD+: no comorbidity 15%, soft tissue only 50%, fractures
		35%
		MDD-: no comorbidity 22%, soft tissue 52%, fractures 26%,
		p>.05
Imaging variables		
Total brain volume	Jorge, R.E.	MDD+ 1206 (SD = 149), MDD- 1311 (SD = 132), p>.05
	Rao, V. (2010)*	MDD+ 1064 (SD = 74), MDD- 1136 (SD = 140), p>.05
MR abnormalities	Jorge, R.E. (2004)	% of gray matter at MR image - L orbitofrontal cortex: MDD+
		2.1 (SD = 0.25), MDD- 2.1 (0.25), p>.05
		% of gray matter at MR image - L medial frontal cortex: MDD+
		1.5 (SD = 0.24), MDD- 1.6 (SD = 0.37), p>.05
		% of gray matter at MR image - L lateral frontal cortex: MDD+
		5.6 (SD =0.7); MDD-: 4.5 (SD = 0.9), Chi square = 10.5, p = .001
		% of gray matter at MR image - L superior frontal gyrus:
		MDD+
		2.2 (SD = 0.4), MDD- 1.9 (SD = 0.3), p>.05
		% of gray matter at MR image - L middle frontal gyrus: MDD+
		2.2 (SD = 0.5), MDD- 1.7 (SD = 0.7), p>.05

		% of gray matter at MR image - L inferior frontal gyrus: MDD+
		1.2 (SD = 0.2); MDD- 0.9 (SD = 0.2), Chi square = 7,1, p = .008
		% of gray matter at MR image - R orbitofrontal cortex: MDD+
		2.1 (0.20); MDD- 2.1 (SD = 0.46), p>.05
		% of gray matter at MR image - R medial frontal cortex: MDD+
		1.6 (SD = 0.30), MDD- 1.7 (SD = 0.43), p>.05
		% of gray matter at MR image - R lateral frontal cortex: MDD+
		5.4 (SD = 0.7), MDD- 4.9 (SD = 1.2), p >.05
		% of gray matter at MR image - R superior frontal gyrus:
		MDD+
		2.1 (SD = 0.3); MDD+ 1.9 (0.3), p>.05
		% of gray matter at MR image - R middle frontal gyrus: MDD+
		2.2 (SD = 0.6); MDD- 2.0 (SD = 0.8), p>.05
		% of gray matter at MR image - R inferior frontal gyrus: MDD+
		1.1 (SD = 0.2), MDD- 1.0 (SD = 0.3), p>.05
Diffuse injury at CT or MRI	Jorge, R.E (2007)	Percentage diffuse injury: MDD+ 37%, MDD- 67%, p>.05
scan		
Intracranial hemorrhages	Jorge, R.E. (2007)	Percentage intracranial hemorrhages: MDD+ 32%, MDD- 22%
Frontal lesions	Jorge, R.E. (2007)	Percentage frontal lesion: MDD+ 42%, MDD- 28%
Brain volume	Rao, V. (2010)*	Total gray brain volume: MDD+ 474.98 (SD = 72.8), MDD-
		564.96 (SD = 93.9), p =.07
		Total white brain volume: MDD+ 588.08 (SD = 31.8); MDD
		590.78 (SD = 61.2), p = .91
		Total left frontal lobe: MDD+ 150.47 (SD = 14.4); MDD- 153.31
		(SD = 26.2), p = .79
		Left frontal lobe white matter: MDD+ 90.63 (SD = 10.2), MDD-
		81.1 (SD = 13.1), p = .14
		Left frontal lobe grey matter: MDD+ 59.84 (SD = 10.3); MDD
		72.19 (SD = 14.6), p =.08
	1	

Total right frontal lobe: MDD+ 155.49 (SD = 12.6); MDD-
160.55 (SD = 20.1), p = .56
Right frontal lobe white matter: MDD+ 95.13 (SD = 11.2);
MDD-84.26 (SD = 9.0), p = .07
Right frontal lobe grey matter: MDD+ 60.4 (SD = 8.9), MDD-
76.3 (SD = 13.6), p = .02
Total left limbic lobe: MDD+ 54.02 (SD = 3.5), MDD-54.9 (SD =
8.7), p = .78
White left limbic lobe: MDD+ 26.8 (SD = 3.6), MDD- 25.0 (SD =
4.5), p = .40
Gray left limbic lobe: MDD+ 27.14 (SD = 2.8); MDD-29.90 (SD
= 5.6), p = .30
Total right limbic lobe: MDD+: 50.0 (SD = 3.8); MDD- 52.03
(SD = 5.9), p = .43
White right limbic lobe: MDD+ 22.5 (SD = 2.6); MDD- 20.8 (SD
= 2.7), p = .23
Gray right limbic lobe: MDD+ 27.50 (SD = 4.4); MDD- 31.27
(SD = 4.25), p = .12
Total left occipital lobe: MDD+ 41.99 (SD = 5.2); MDD- 53.48
(SD = 7.31), p = .004
White left occipital lobe: MDD+ 24.49 (SD = 3.37); MDD- 29.65
(Sd = 6.1), p = .06
Gray left occipital lobe: MDD+ 17.50 (SD = 4.12); MDD- 23.82
(SD = 4.3), p = .01
Total right occipital lobe: MDD+ 42.57 (SD = 9.06), MDD-50.57
(SD = 8.46), p = .11
White right occipital lobe: MDD+ 24.63 (SD = 5.07); 27.66 (SD
= 6.1), p = .32

	Gray right occipital lobe: MDD+ 17.93 (SD = 5.8), MDD- 22.9
	(SD = 4.7), p = .11
	Total left temporal lobe: MDD+ 74.11 (SD = 5.7); MDD- 81.69
	(SD = 9.6), p = .08
	White left temporal lobe: MDD+ 33.96 (SD = 2.15), MDD-
	35.63 (SD = 4.96), p = .39
	Gray left temporal lobe: MDD+ 40.14 (SD = 5.4); MDD- 46.06
	(SD = 5.90), p = .07
	Total right temporal lobe: MDD+ 74.24 (SD = 9.12); MDD-
	81.60 (SD = 9.9), p = .16
	White left temporal lobe: MDD+ 33.59 (SD = 4.51); MDD-
	34.82 (SD = 5.68), p = .65
	Gray left temporal lobe: MDD+ 40.65 (SD = 6.36); MDD- 46.77
	(SD = 5.87), p = .08
	Total left parietal lobe: MDD+ 53.84 (SD = 6.37), MDD- 59.20
	(SD = 5.32), p = .11
	White left parietal lobe: MDD+ 29.56 (SD = 3.4), MDD- 29.03
	(SD = 5.1), p = .81
	Gray left parietal lobe: MDD+ 24.28 (SD = 6.16), MDD- 30.17
	(SD = 4.24), p = .06
	Total right parietal lobe: MDD+ 57.04 (SD = 9.26); MDD- 63.44
	(SD = 6.36), p = .17
	White right parietal lobe: MDD+ 31.46 (SD = 2.7), MDD- 31.09
	(SD = 6.59), p = .88
	Gray right parietal lobe: MDD+ 25.58 (SD = 6.9), MDD- 32.34
	SD = 5.06), p = .06
Jorge, R.E. (2007)	Left frontal lobe grey matter (% of TIV): MDD+ 8.9 (SD = 0.6),
	MDD- 9.4 (SD = 0.6), F = 7.8, p = .009

		Right frontal lobe grey matter (% of TIV): MDD+ 9.4 (SD = 0.9),
		MDD- 9.7 (SD = 0.6),
		Hippocampal volume (left): MDD+ group has significantly
		lower hippocampal volumes, p = .04
		Hippocampal volume (right): MDD+ group has significantly
		lower hippocampal volumes, p = .03
Choline/creatine ratio in	Rao, V. (2010)*	MDD+ 1.6 (SD = 2.0), MDD- 2.0 (SD = 0.43), p = .02
the right basal ganglia		
N-acetylaspartate/creatine	Rao, V. (2010)*	MDD+ 1.7 (SD = 0.36), MDD- 2.2 (SD = 0.68), p = .06
ratio		
Post-injury variables		
Post-injury unemployment	Hibbard, M. (1998)	No statistically significant differences
Post-injury rehabilitation	Reekum, R. (1996)*	Inpatient rehabilitation: MDD+ 33%, MDD- 56%
Post-injury depression	Gould, K.R. (2011)	Post-injury depression is related to MDD
		Measured with SCID: p = .006
		Measured with HADS: p = .031
Post-injury anxiety	Gould, K.R. (2011)	No statistically significant differences
Post-injury anxiety or	O'Donnell, M.L. (2008)	Area Under the Curve 0.72 (SE = .053, p = .001)
depression		
MDD screening instrument	O'Donnell, M.L. (2008)	Area Under the Curve 0.77 (SE .07, p <.001), cut-off of 4
(PAS-D) †		results in sensitivity of 0.7, specificity of 0.8.
Alexithymia	Koponen, S. (2005)	Score on TAS-20: MDD+ 69.0 (SD – 13.1); MDD- 52.5 (SD =
		12.6), p>.05
Neuropsychological test	Jorge, R.E. (2004)	Rey auditory verbal learning test: MDD+ 8.33 (SD = 2.77),
results		MDD- 9.93 (SD = 3.14), Cohen's d = 0.52, p >.05
		Rey complex figure test score: MDD+ 14.50 (SD = 8.10), MDD-
		17.64 (SD = 5.31), Cohen's d = 0.52, p >.05

		Wisconsin card sorting test (perseverative errors): MDD+
		13.92 (SD = 11.09), MDD- 7.95 (SD = 5.17), Cohen's d = 0.82, p
		= .03
		Wisconsin card sorting test (categories achieved): MDD+ 2.25
		(SD = 1.60), MDD- 3.33 (SD = 1.49), Cohen's d = 0.69, p>.05
		Trail making test (A): MDD+ 37.08 (SD = 15.18), MDD- 31.90
		(SD = 15.24), Cohen's d = 0.34, p >.05
		Trail making test (B/A ratio): MDD+ 3.44 (SD = 1.60), MDD-
		2.49 (SD = .80), Cohen's d = 0.87, p = .02
		Stroop test: MDD+ 31.83 (SD = 10.30), MDD- 38.05 (SD =
		9.92), Cohen's d = 0.61, p >.05
		Multilingual aphasia examination score: MDD+ 34.08 (SD =
		12.06), MDD- 36.29 (SD = 12.73), Cohen's d = 0.18, p>.05
Other		
Intelligence coefficient	Mauri. M.C. (2014)*	Mean IQ MDD+ 104 (SD = 11), MDD- 112 (SD = 15), p>.05
	Rao, V. (2010)*	Mean IQ MDD+ 105 (SD = 15); MDD- 102 (SD = 9), p=.67
	Rapoport, M.J. (2005)	No statistically significant differences
Left handedness	Federoff, J.P. (1992)	Percentage left handedness: MDD+ 6%, MDD- 9%, p>.05

*Study excluded from meta-analysis because high risk of bias or included less than 20 patients

+ Screening instrument was based on 3 pre-injury items (professional help in past, previous traumatic events, support) and 2

post-injury items (feeling irritable or angry, difficulty concentrating)

PTSD:

Variable	Study	Results
Demographics		
Age	Li, L. (2016)*	Mean age PTSD+: 35.8 (SD = 7.6), PTSD-: 36.7 (SD=7.1), p>.05
Gender	Ashman, T.A (2000)	Significantly more women than men fit the criteria for PTSD (p
		= .04)
	Li, L. (2016)*	Female: PTSD+ 12 (57%) , PTSD- 10 (45%), p > .05
Education (years)	Caspi, Y. (2005)	No statistically significant differences
	Li, L. (2016)*	Mean years of education PTSD+ 12.71 (SD = 2.8), PTSD- 13.3
		(SD = 2.9), p>.05
Ethnicity	Barker-Collo, S. (2013)	Percentage European ethnicity: PTSD+ 57%, PTSD- 68%, p =
		.38
Marital Status	Gil, S. (2005)	Percentage married: PTSD+ 52%, PTSD- 49%, p>.05
Country of origin	Gil, S. (2005)	Percentage native Israeli: PTSD+ 64%, PTSD- 68%, p >.05
Pre-injury variables		
Pre-injury employment	Bryant, R.A. (2000)	Percentage employed: PTSD+ 79%, PTSD- 81%, p > .05
Pre-injury physical injury	Gil, S. (2005)	Percentage physical injury: PTSD+ 23%, PTSD- 20%, p>.05
Pre-injury PTSD	Barker-Collo, S. (2013)	None of the patients had a pre-injury PTSD
Pre-injury depression	Barker-Collo, S. (2013)	Percentage pre-injury depression: PTSD+ 28%, PTSD- 19%, p =
		0.51
Pre-injury anxiety	Barker-Collo, S. (2013)	Percentage pre-injury anxiety disorder: PTSD+ 15%, PTSD- 6%,
		p = .05
Peri-injury variables		
Injury mechanism	Barker-Collo, S. (2013)	PTSD+: traffic 21%, fall 26%, assault 30%
		PTSD-: traffic 17%, fall 31%, assault 20%, p = .90
	Caspi, Y. (2005)	No statistically significant differences
	Li, L. (2016)*	PTSD+: traffic 67%, blows to the head 24%, falls 9%
		PTSD-: traffic 77%, blows to the head 14%, falls 9%)

Place of injury	Barker-Collo, S. (2013)	PTSD+: home 28%, street 32%, work 17%
		PTSD-: home 33%, street 28%, work 11%
Intentional injury	Barker-Collo, S. (2013)	Percentage intentional injury: PTSD+ 34%, PTSD- 22%, p = .25
Alcohol involved in injury	Barker-Collo, S. (2013)	Percentage alcohol involved: PTSD+ 25%, PTSD- 26%, p = .24
Drugs involved in injury	Barker-Collo, S. (2013)	Percentage drugs involved: PTSD+ 11%, PTSD- 6%, p = .01
Clinical variables and		
imaging		
GCS	Alway (2015b)	Mean GCS: PTSD+ 13.91 (SD = 2.22), PTSD- 14.13 (SD = 2.32), p
		= 0.43
		PTSD+:GCS 13-15: 53%, GCS 9-12: 13%, GCS 3-8 27%
		PTSD-: GCS 13-15: 33%, GCS 9-12 13%, GCS 3-8 34%, p>.01
	Barker-Collo, S. (2013)	Mean worst GCS PTSD+: 13.91 (SD = 2.22), PTSD- 14.13 (SD =
		2.32), p = 0.43
		PTSD+: mild TBI 91%, PTSD-: mild TBI 95%, p = 0.84
	Bryant, R.A. (2000)	Mean GCS: PTSD+ 6.92 (SD = 3.52), PTSD- 2.60 (SD = 1.79),
		p>.05
LOC	Roitman, P. (2013)	Percentage patients with LOC: PTSD+ 39%, PTSD- 24%, OR =
		1.72 (95% CI: 1.22-2.42)
	Barker-Collo, S. (2013)	Mean days LOC: PTSD+ 4.0 (SD = 6.16), PTSD- 9.04 (SD =
		28.57), p = .07
	Li, L. (2016)*	Minutes LOC: PTSD+ 5.7 (SD = 5.8); PTSD- 3.72 (SD = 4.1)
РТА	Li, L. (2016)*	Hours PTA: PTSD+ 3.8 (SD = 6.8), PTSD- 2.9 (Sd = 7.3)
ISS	Gil, S. (2005)	Mean ISS: PTSD+ 6.0 (SD = 3.9), PTSD- 5.8 (SD = 3.3), p>.05
CT abnormalities	Barker-Collo, S. (2013)	No lesion: PTSD+ 93%, PTSD- 96%, p = .24
MRI abnormalities	Li, L. (2016)*	PTSD+ increased mean diffusivity in subacute and chronic
		phase and decreased fractional anisotropy in chronic phase in
		several white matter regions. Most discriminant regions
		include corpus callosum, inferior fronto-occipital fasciculus,
		uniculate fasciculus, superior longitudinal fasciculus, inferior

		longitudinal fasciculus, anterior thalamic radiation, and
		corticospinal tract.
Post-injury variables		
Surgery	Barker-Collo, S. (2013)	PTSD+: neurosurgery 4%, orthopedic surgery 4%, other
		surgery 6%
		PTSD-: neurosurgery 0.4%, orthopedic surgery 4%, other
		surgery 2%, p = .18
Memory of the traumatic	Turnbull, S.J. (2001)*	No statistically significant differences
event		
Acute PTSD symptoms	Gil, S. (2005)	PTSD according to CAPS 1 wk post-injury: PTSD+ 39%, PTSD-
		32%, p >.05
		PTSD according to CAPS 1 month post-injury: PTSD+ 43%,
		PTSD- 34%, p <.01
		PTSD according to PSS 1 wk post-injury: PTSD+ 38%, PTSD-
		34%, p > .05
		PTSD according to PSS 1 month post-injury: PTSD+ 39%, PTSD-
		30%, p <.01
	Li, L. (2016)*	1 month CAPS total score: PTSD+: 34.23 (SD 3.13); PTSD- 13.81
		(SD = 3.05); p<.001.
ASD	Bryant, R.A. (1998)	Percentage patients with ASD: PTSD+ 60%, PTSD- 4%
		Percentage patients with fearful response (ASD symptom):
		PTSD+ 53%, PTSD- 27%, Chi Square = 2.46, p > .003
		Percentage patients with helplessness (ASD symptom): PTSD+
		40%, PTSD- 38%, Chi Square = 0.02, p < .003
		Percentage patients with numbing (ASD symptom): PTSD+
		67%, PTSD- 15%, Chi Square = 13.20, p < .003
		Percentage patients with reduced awareness (ASD symptom):
		PTSD+ 53%, PTSD- 15%, Chi square = 7.44, p > .003

	Percentage patients with derealization (ASD symptom): PTSD+
	67%, PTSD- 21%, Chi square = 9.07, p > .003
	Percentage patients with depersonalization (ASD symptom):
	PTSD+ 47%, PTSD- 4%, Chi square = 13.57, p <.003
	Percentage patients with dissociative amnesia (ASD
	symptom): PTSD+ 100%, PTSD- 100%
	Percentage patients with recurrent images and thoughts (ASD
	symptom): PTSD+ 47%, PTSD- 6%, Chi square = 11.12, p <.003
	Percentage patients with nightmares (ASD symptom): PTSD+
	40%, PTSD- 8%, Chi square = 6.37, p > .003
	Percentage patients with sense of reliving the trauma (ASD
	symptom): PTSD+ 20%, PTSD- 2%, Chi square = 3.52, p > .003
	Percentage patients with distress on exposure (ASD
	symptom): PTSD+ 67%, PTSD- 21%, Chi square = 9.07, p > .003
	Percentage patients with avoidance of thoughts or talk (ASD
	symptom): PTSD+ 60%, PTSD- 8%, Chi square = 15.61, p <.003
	Percentage patients with avoidance of places of people (ASD
	symptom): PTSD+ 67%, PTSD- 13%, Chi square = 14.95, p
	<.003
	Percentage patients with insomnia (ASD symptom): PTSD+
	87%, PTSD- 27%, Chi square = 14.37, P < .003
	Percentage patients with irritability (ASD symptom): PTSD+
	73%, PTSD- 23%, Chi square = 10.66, p < .003
	Percentage patients with poor concentration (ASD symptom):
	PTSD+ 67%, PTSD- 29%, Chi square = 5.32, p > .003
	Percentage patients with hypervigilance (ASD symptom):
	PTSD+ 87%, PTSD- 52%, Chi square = 4.36, p > .003
	Percentage patients with exaggerated startle response (ASD
	symptom): PTSD+ 53%, PTSD- 13%, Chi square = 8.79, p > .003

		Percentage patients with motor restlessness (ASD symptom):
		PTSD+ 33%, PTSD- 0%, Chi square = 13.12, p < .003
	O'Donnell, M.L. (2008)	ASDI 8d: Sensitivity 0.82, Specificity 0.19, correctly classifies
		75% of the participants
Dissociative reactions	Gil, S. (2005)	No statistically significant differences
Post-injury depression	Gil, S. (2005)	More post-injury depression in those with PTSD compared to
		those without PTSD post-injury
Post-injury anxiety	Gil, S. (2005)	More post-injury anxiety in those with PTSD compared to
		those without PTSD post-injury
PTSD screening instrument	O'Donnell, M.L. (2008)	Area Under the Curve 0.91 (SE .07, p <.001), cut-off of 16
(PAS-P)ŧ		results in sensitivity of 0.8, specificity of 0.8.
Pending compensation	Harvey, A.G. (2000)	No statistically significant differences

*Study excluded from meta-analysis because high risk of bias or included less than 20 patients

+ Screening instrument was based on 4 pre-injury items (professional help in past, previous traumatic events, support, talking about own thoughts), 2 peri-injury items (feeling terrified helpless or horrified and thinking about going to die) and 4 postinjury items (feeling irritable or angry, difficulty concentrating, confidence and acceptance)