

AIMS Neuroscience, 8(1): 47–73. DOI: 10.3934/Neuroscience.2021003

Received: 27 August 2020 Accepted: 23 November 2020 Published: 25 November 2020

http://www.aimspress.com/journal/aimsph

Review

The extent of the neurocognitive impairment in elderly survivors of war suffering from PTSD: meta-analysis and literature review

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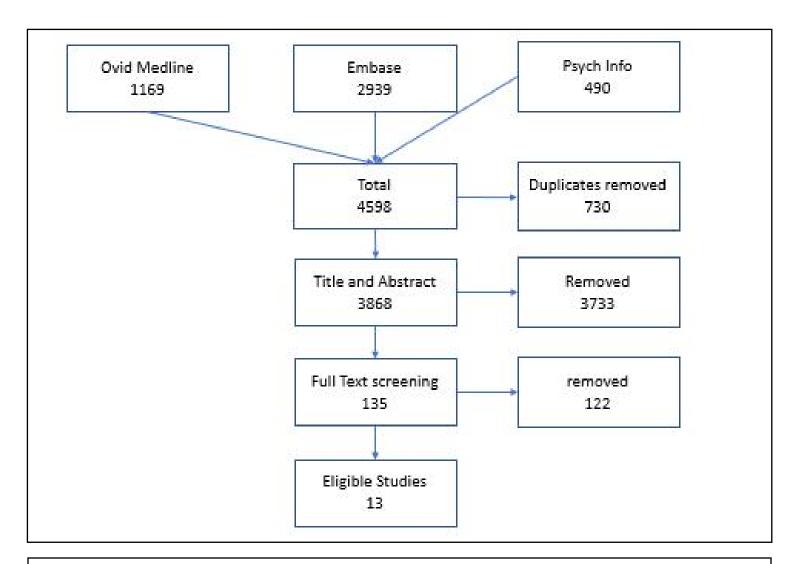


Figure 1: PRISMA Flow Chart showing the number of articles collected for the screening process

ttention and Information processing			urvivors of			urvivors of		- ALMERICA AND	Mean Difference	Mean Difference
peed	Study or Subgroup	Mean	SD	Total	Mean	SD			IV, Random, 95% CI	IV, Random, 95% CI
peed	Green 2016	29.3	7.3	33	37.5	11.7	55 7	62.1%	-8.20 [-12.17, -4.23]	
	Hart 2008 Jelinek 2013	48 44.46	18.1 11.93	11 24	56.3 45.25	16.3 14.12	20	8.7% 29.1%	-8.30 [-24.43, 7.83] -0.79 [-8.61, 7.03]	
	Jeilliek 2013	44.40	11.55	24	45.25	14.12	20	23.170	-0.79 [-0.01, 7.03]	
Figure 2 (a) TAAT A (DTCD) are DTCD	Total (95% CI)			68			82	100.0%	-6.05 [-11.04, -1.06]	
Figure 2 (a): TMT-A (PTSD+ vs. PTSD-	Heterogeneity: Tau² =	6.33; Chi ^z :	= 2.78, df=	2(P = 0	.25); I ^z = 2	8%				-20 -10 0 10 20
survivors of war)	Test for overall effect:	Z = 2.38 (P	= 0.02)							PTSD+ survivors of war PTSD- survivors of war
		DTSD. s	urvivors of	fwar	DTSD+	survivors o	of war		Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD	Total	Mean	SD		Weight	IV, Fixed, 95% CI	IV. Fixed, 95% CI
	Hart 2008	11.2	1.9	11	11	5.2	7			
	Jelinek 2013	7	2.09	24	7.1	2.02	20		-0.10 [-1.32, 1.12]	
	I Semicical	8.0	2.00	500 2 ,5 1 55		2.02	20	01.070	0.10[1.02, 1.12]	the state of the s
	Total (95% CI)			35			27	100.0%	-0.07 [-1.24, 1.09]	*
Figure 2 (b): Digit Span Forward (PTSD+ vs.	Heterogeneity: Chi²=	0.02, $df = 1$	(P = 0.89)	; I ² = 0%					25	-20 -10 0 10 20
PTSD- survivors of war)	Test for overall effect:	Z = 0.13 (P	r = 0.90							-20 -10 0 10 20 PTSD+ survivors of war
,		0.0	860							1 10D · Sulvivois of wai 1 10D - Sulvivois of wai
	1									
xecutive function	1									
			rvivors of			irvivors of			Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD	Total	Mean	SD		Weight	IV, Random, 95% CI	IV, Random, 95% CI
	Green 2016 Hart 2008	68.5 94.3	24.1 30.3	33	88.8 147.2	52.7 36.7		45.4% 21.3% -	-20.30 [-36.47, -4.13] -52.90 [-85.45, -20.35]	
	Jelinek 2013	97.27	41.17	11 24	113.23	35.71		33.3%	-52.90 [-85.45, -20.35] -15.96 [-38.68, 6.76]	
	Jeilliek 2013	37.27	41.17	24	113.23	33.74	20	33.370	-13.90 [-36.06, 6.76]	
	Total (95% CI)			68			82	100.0%	-25.80 [-43.70, -7.89]	
Figure 3 (a): TMT-B (PTSD+ vs. PTSD-	Heterogeneity: Tau² =	115.93; Ch	$i^2 = 3.71$, dt	f = 2 (P =	0.16); $I^2 =$	46%				-50 -25 0 25 50
survivors of war)	Test for overall effect: 2	Z= 2.82 (P	= 0.005)							PTSD+ survivors of war PTSD- survivors of war
				4099000			2000		C2 ************************************	256 S 461 Z 452 N 558 N 558
			urvivors o			survivors o			Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD	Total	Mean	SD		Weight	The second secon	IV, Fixed, 95% CI
	Hart 2008	5.1	1.8	7	6.6	1.6	11			
	Jelinek 2013	5.4	1.54	20	6	1.59	24	75.6%	-0.60 [-1.53, 0.33]	
	Total (95% CI)			27			35	100.0%	-0.82 [-1.63, -0.01]	
Figure 3 (h) Digit area	TO SECURE A SECURITION OF THE PARTY OF THE P	0.00 46-4	/D = 0.00				33	100.0%	-0.02 [-1.03, -0.01]	
Figure 3 (b): Digit span backward (PTSD+ vs.	Heterogeneity: Chi ² =			, 1= 0%						-20 -10 0 10 20
	Test for overall effect: .	Z= 1.99 (F	= 0.05)							PTSD+ survivors of war PTSD- survivors of war
PTSD- survivors of war)				0.000	DTCD+c	urvivors of	MOF		Mean Difference	Mean Difference
PTSD- survivors of war)		DTCD ou	minore of				wai		wean billerence	
PTSD- survivors of war)	Study or Subgroup		rvivors of					Moight		
PTSD- survivors of war)	Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
PTSD- survivors of war)	Green 2016	Mean 36.2	SD 11.8	Total 33	Mean 44.5	SD 27	Total 55	99.0%	IV, Fixed, 95% CI -8.30 [-16.49, -0.11]	IV, Fixed, 95% CI
PTSD- survivors of war)	2010 000000	Mean 36.2	SD	Total	Mean	SD	Total	99.0%	IV, Fixed, 95% CI	IV, Fixed, 95% CI
PTSD- survivors of war)	Green 2016 Wittekind 2010	Mean 36.2	SD 11.8	33 24	Mean 44.5	SD 27	55 22	99.0% 1.0%	IV, Fixed, 95% CI -8.30 [-16.49, -0.11] -12.90 [-93.38, 67.58]	IV, Fixed, 95% CI
,	Green 2016 Wittekind 2010 Total (95% CI)	Mean 36.2 287.48	SD 11.8 164.85	33 24 57	Mean 44.5	SD 27	55 22	99.0%	IV, Fixed, 95% CI -8.30 [-16.49, -0.11]	IV, Fixed, 95% CI
Figure 3 (c): Stroop color word test (PTSD+	Green 2016 Wittekind 2010 Total (95% CI) Heterogeneity: Chi² = (Mean 36.2 287.48 0.01, df = 1	SD 11.8 164.85 (P = 0.91);	33 24 57	Mean 44.5	SD 27	55 22	99.0% 1.0%	IV, Fixed, 95% CI -8.30 [-16.49, -0.11] -12.90 [-93.38, 67.58]	-20 -10 0 10 20
,	Green 2016 Wittekind 2010 Total (95% CI)	Mean 36.2 287.48 0.01, df = 1	SD 11.8 164.85 (P = 0.91);	33 24 57	Mean 44.5	SD 27	55 22	99.0% 1.0%	IV, Fixed, 95% CI -8.30 [-16.49, -0.11] -12.90 [-93.38, 67.58]	IV, Fixed, 95% CI

T 1		PISU+ Sui	vivors of v	var P	SD- surv	VIVORS O	fwar		Mean Difference	Mean Difference
Learning and memory	Study or Subgroup	Mean	SD		/lean	SD		Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
· ·	Golier 2002	9.08	2.08	31 1	0.19	1.65	16	34.5%	-1.11 [-2.20, -0.02]	-
	Yehuda 2006	3.71	1.1	14	4.06	1	13	65.5%	-0.35 [-1.14, 0.44]	•
	Total (95% CI)			45			20	100.0%	-0.61 [-1.25, 0.03]	•
Figure 4 (a): Explicit memory high pair	Heterogeneity: Chi ² = 1	22 df = 1 (F	P = 0.27): P	10 10 Table			20	100.070	-0.01 [-1.25, 0.05]	<u> </u>
associate- PTSD+ vs. PTSD-	Test for overall effect: Z									-20 -10 0 10 20 PTSD+ survivors of war PTSD- survivors of war
4330clate 1 13D 1 43.1 13D		ð.	183.							PTSD+ SUIVIVOIS OF WAIT PTSD- SUIVIVOIS OF WAI
		PTSD+ sui	rvivors of v	var P	SD- surv	vivors o	f war		Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD		Mean	SD		35473233342	IV, Fixed, 95% CI	IV, Fixed, 95% CI
	Golier 2002	3.76	2.89	31	6.84	3.16			-3.08 [-4.93, -1.23]	
	Yehuda 2006	2.25	1.7	14	3.28	1.5	13	70.2%	-1.03 [-2.24, 0.18]	•
	Total (95% CI)			45			29	100.0%	-1.64 [-2.65, -0.63]	•
Figure 4 (b): Explicit memory low pair	Heterogeneity: Chi² = 3	30, df = 1 (6)	P = 0.07); P	= 70%					-	-20 -10 0 10 20
associate- PTSD+ vs. PTSD-	Test for overall effect: Z									-20 -10 0 10 20 PTSD+ survivors of war PTSD- survivors of war
3330clate 1 13D - V3. 1 13D		-24	.09							
			survivors			hy Con		100-1	Mean Difference	Mean Difference
	Study or Subgroup	Mean			Mean		0.000	Weight		IV, Fixed, 95% CI
	Golier 2002 Yehuda 2006	9.08 3.71	2.08 1.1	31 14	10.83 5	1.24	35		-1.75 [-2.59, -0.91] -1.29 [-1.99, -0.59]	
	Tendda 2000	3.71	31.1	14	3	0.5	13	30.7 %	-1.25 [-1.55, -0.55]	_
	Total (95% CI)			45			54	100.0%	-1.48 [-2.02, -0.94]	•
			4 (0 0 4	13. 12 - 000						-20 -10 0 10 20
Figure 4 (c): Explicit memory high pair	Heterogeneity: Chi²=									
	Heterogeneity: Chi ^z = Test for overall effect:									PTSD+ survivors of war Healthy Control
		Z= 5.38 (F	₽ < 0.0000	11)			ere a second			PTSD+ survivors of war Healthy Control
	Test for overall effect:	Z = 5.38 (I	e di 0.0000 Survivors	of war	Healt	hy Con		187-1-64	Mean Difference	PTSD+ survivors of war Healthy Control Mean Difference
	Test for overall effect: Study or Subgroup	Z= 5.38 (I PTSD+ Mean	Survivors	of war Total	Healti Mean	SD	Total	Weight	IV, Fixed, 95% CI	PTSD+ survivors of war Healthy Control
	Test for overall effect: Study or Subgroup Golier 2002	Z = 5.38 (I PTSD+ Mean 3.76	survivors SD 2.89	of war Total	Health Mean 7	SD 3.12	Total 35	38.4%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79]	PTSD+ survivors of war Healthy Control Mean Difference
	Test for overall effect: Study or Subgroup	Z= 5.38 (I PTSD+ Mean	survivors SD	of war Total	Health Mean 7	SD	Total		IV, Fixed, 95% CI	PTSD+ survivors of war Healthy Control Mean Difference
associate- PTSD+ vs. Control	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI)	Z= 5.38 (I PTSD+ Mean 3.76 2.25	survivors SD 2.89 1.7	of war Total 31 14	Health Mean 7 2.84	SD 3.12	35 19	38.4% 61.6%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79]	PTSD+ survivors of war Healthy Control Mean Difference
associate- PTSD+ vs. Control Figure 4 (d): Explicit memory low pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² =	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df=	survivors SD 2.89 1.7	of war Total 31 14 45 05); = 83	Health Mean 7 2.84	SD 3.12	35 19	38.4% 61.6%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI
associate- PTSD+ vs. Control Figure 4 (d): Explicit memory low pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI)	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df=	survivors SD 2.89 1.7	of war Total 31 14 45 05); = 83	Health Mean 7 2.84	SD 3.12	35 19	38.4% 61.6%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI
associate- PTSD+ vs. Control Figure 4 (d): Explicit memory low pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² =	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I	survivors SD 2.89 1.7 1 (P = 0.0	of war Total 31 14 45 05); I ² = 8;	Healti Mean 7 2.84	SD 3.12	35 19 54	38.4% 61.6%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20
associate- PTSD+ vs. Control Figure 4 (d): Explicit memory low pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² =	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I	survivors SD 2.89 1.7 1 (P = 0.0 P = 0.0005	of war Total 31 14 45 05); ² = 8;	Healti Mean 7 2.84	3.12 1.6	Total	38.4% 61.6% 100.0%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control
associate- PTSD+ vs. Control Figure 4 (d): Explicit memory low pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect:	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I PTSD-	2.89 1.7 1 (P = 0.00 survivors	of war Total 31 14 45 05); ² = 8;) of war Total	Healti Mean 7 2.84	3.12 1.6	Total	38.4% 61.6% 100.0% Weight 86.7%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI -0.64 [-1.55, 0.27]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference
associate- PTSD+ vs. Control Figure 4 (d): Explicit memory low pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect: Study or Subgroup	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I PTSD- Mean	2.89 1.7 1 (P = 0.00 9 = 0.0005 survivors 5D	of war Total 31 14 45 05); ² = 8;) of war Total	Healt Mean 7 2.84 7% Healt Mean 10.83	3.12 1.6	Total	38.4% 61.6% 100.0% Weight 86.7%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference
associate- PTSD+ vs. Control Figure 4 (d): Explicit memory low pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect: Study or Subgroup Golier 2002 Yehuda 2006	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I PTSD- Mean 10.19	2.89 1.7 1 (P = 0.00 9 = 0.0005 survivors 5D	of war Total 31 14 45 05); I² = 8;) of war Total 13	Health Mean 7 2.84 7% Health Mean 10.83 2.84	3.12 1.6 thy Con SD 1.24	Total 35 19 54 trol Total 35 19	38.4% 61.6% 100.0% Weight 86.7% 13.3%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI -0.64 [-1.55, 0.27] 1.22 [-1.09, 3.53]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference
Figure 4 (c): Explicit memory high pair associate- PTSD+ vs. Control Figure 4 (d): Explicit memory low pair associate- PTSD+ vs. Control	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect: Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI)	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I PTSD- Mean 10.19 4.06	2.89 1.7 1 (P = 0.000 survivors 5.0000 survivors 5.0 1.65	of war Total 31 14 45 05); I ² = 8;) of war Total 13	Healtt Mean 7 2.84 7% Healtt Mean 10.83 2.84	3.12 1.6 thy Con SD 1.24	Total 35 19 54 trol Total 35 19	38.4% 61.6% 100.0% Weight 86.7% 13.3%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI -0.64 [-1.55, 0.27]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI
Figure 4 (d): Explicit memory low pair associate- PTSD+ vs. Control Figure 4 (e): Explicit memory high pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect: Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² =	Z= 5.38 (FPTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (FPTSD- Mean 10.19 4.06 : 2.15, df=	2.89 1.7 1 (P = 0.000 survivors 1.65 1 (P = 0.1	of war Total 31 14 45 05); I ² = 8;) of war Total 13	Healtt Mean 7 2.84 7% Healtt Mean 10.83 2.84	3.12 1.6 thy Con SD 1.24	Total 35 19 54 trol Total 35 19	38.4% 61.6% 100.0% Weight 86.7% 13.3%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI -0.64 [-1.55, 0.27] 1.22 [-1.09, 3.53]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20
Figure 4 (d): Explicit memory low pair associate- PTSD+ vs. Control Figure 4 (e): Explicit memory high pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect: Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI)	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I PTSD- Mean 10.19 4.06 : 2.15, df= : Z= 0.91 (2.89 1.7 1 (P = 0.006 survivors P = 0.0006 survivors SD 1.65 1 1 (P = 0.1	of war Total 31 14 45 05); I ² = 8;) of war Total 13	Healtt Mean 7 2.84 7% Healtt Mean 10.83 2.84	3.12 1.6 thy Con SD 1.24	Total 35 19 54 trol Total 35 19	38.4% 61.6% 100.0% Weight 86.7% 13.3%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI -0.64 [-1.55, 0.27] 1.22 [-1.09, 3.53] -0.39 [-1.24, 0.45]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control
Figure 4 (d): Explicit memory low pair associate- PTSD+ vs. Control Figure 4 (e): Explicit memory high pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect: Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I PTSD- Mean 10.19 4.06 : 2.15, df= : Z= 0.91 (2.89 1.7 1 (P = 0.006 survivors P = 0.0006 survivors SD 1.65 1 1 (P = 0.1	of war Total 31 45 05); Total 16 13 29 4); PTSE	Healtt Mean 7 2.84 7% Healtt Mean 10.83 2.84	3.12 1.6 thy Con SD 1.24 5	Total	38.4% 61.6% 100.0% Weight 86.7% 13.3% 100.0%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI -0.64 [-1.55, 0.27] 1.22 [-1.09, 3.53] -0.39 [-1.24, 0.45] Mean Difference	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference
Figure 4 (d): Explicit memory low pair associate- PTSD+ vs. Control	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect: Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I PTSD- Mean 10.19 4.06 : 2.15, df= : Z= 0.91 (I Healthy Mean	survivors 2.89 1.7 1 (P = 0.0 P = 0.0006 survivors SD 1.65 1 1 (P = 0.1 (P = 0.36) v Control SD Tot	of war Total 31 45 05); Total 16 13 29 4); PTSI al Mes	Health Mean 7 2.84 7 % Health Mean 10.83 2.84 %	3.12 1.6 thy Con SD 1.24 5	Total 35 19 54 trol Total 35 19 54 war Total	38.4% 61.6% 100.0% Weight 86.7% 13.3% 100.0%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI -0.64 [-1.55, 0.27] 1.22 [-1.09, 3.53] -0.39 [-1.24, 0.45] Mean Difference IV, Fixed, 95% CI	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control
Figure 4 (d): Explicit memory low pair associate- PTSD+ vs. Control Figure 4 (e): Explicit memory high pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect: Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect Study or Subgroup Golier 2002 Yehuda 2006	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I PTSD- Mean 10.19 4.06 2.15, df= Z= 0.91 (I Healthy Mean 7	survivors 2.89 1.7 1 (P = 0.0 P = 0.0000 survivors SD 1.65 1 1 (P = 0.36) / Control SD Tot 3.12	of war Total 31 14 45 05); Total 16 13 29 4); PTSI al Med	Healti Mean 7 2.84 7% Healt Mean 10.83 2.84 %	3.12 1.6 thy Con SD 1.24 5	Total	38.4% 61.6% 100.0% Weight 86.7% 13.3% 100.0% Weight 25.4%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI -0.64 [-1.55, 0.27] 1.22 [-1.09, 3.53] -0.39 [-1.24, 0.45] Mean Difference IV, Fixed, 95% CI 0.16 [-1.70, 2.02]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 20 PTSD- survivors of war Healthy Control Mean Difference
Figure 4 (d): Explicit memory low pair associate- PTSD+ vs. Control Figure 4 (e): Explicit memory high pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect: Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I PTSD- Mean 10.19 4.06 2.15, df= Z= 0.91 (I Healthy Mean 7	survivors 2.89 1.7 1 (P = 0.0 P = 0.0006 survivors SD 1.65 1 1 (P = 0.1 P = 0.36) / Control SD Tot 3.12	of war Total 31 14 45 05); Total 16 13 29 4); PTSI al Med	Healti Mean 7 2.84 7% Healt Mean 10.83 2.84 %	3.12 1.6 thy Con SD 1.24 5	Total	38.4% 61.6% 100.0% Weight 86.7% 13.3% 100.0% Weight 25.4%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI -0.64 [-1.55, 0.27] 1.22 [-1.09, 3.53] -0.39 [-1.24, 0.45] Mean Difference IV, Fixed, 95% CI	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference
associate- PTSD+ vs. Control Figure 4 (d): Explicit memory low pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect: Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect Study or Subgroup Golier 2002 Yehuda 2006	Z= 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df= Z= 3.51 (I PTSD- Mean 10.19 4.06 2.15, df= Z= 0.91 (I Healthy Mean 7	survivors 2.89 1.7 1 (P = 0.0000 survivors 5D 1.65 1 1 (P = 0.10 P = 0.36) / Control SD Tot 3.12 1.6	of war Total 31 14 45 05); Total 16 13 29 4); PTSI al Med	Healti Mean 7 2.84 7% Healt Mean 10.83 2.84 %	3.12 1.6 thy Con SD 1.24 5	Total	38.4% 61.6% 100.0% Weight 86.7% 13.3% 100.0% Weight 25.4% 74.6%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI -0.64 [-1.55, 0.27] 1.22 [-1.09, 3.53] -0.39 [-1.24, 0.45] Mean Difference IV, Fixed, 95% CI 0.16 [-1.70, 2.02]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference
Figure 4 (d): Explicit memory low pair associate- PTSD+ vs. Control Figure 4 (e): Explicit memory high pair	Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect: Study or Subgroup Golier 2002 Yehuda 2006 Total (95% CI) Heterogeneity: Chi² = Test for overall effect Study or Subgroup Golier 2002 Yehuda 2006 Study or Subgroup Golier 2002 Yehuda 2006	Z = 5.38 (I PTSD+ Mean 3.76 2.25 7.90, df = Z = 3.51 (I PTSD- Mean 10.19 4.06 2.15, df = Z = 0.91 (I Healthy Mean 7 2.84	survivors 2.89 1.7 1 (P = 0.006 survivors 5D 1.65 1 1 (P = 0.16 P = 0.36) / Control SD Tot 3.12 1.6	of war Total 31 45 05); = 8;) of war Total 16 13 29 4); = 54 PTSI al Me: 15 6: 9 3::	Health Mean 7 2.84 7 % Health Mean 10.83 2.84 % 9 Surviva an 34 3 28	3.12 1.6 thy Con SD 1.24 5	Total	38.4% 61.6% 100.0% Weight 86.7% 13.3% 100.0% Weight 25.4% 74.6%	IV, Fixed, 95% CI -3.24 [-4.69, -1.79] -0.59 [-1.73, 0.55] -1.61 [-2.51, -0.71] Mean Difference IV, Fixed, 95% CI -0.64 [-1.55, 0.27] 1.22 [-1.09, 3.53] -0.39 [-1.24, 0.45] Mean Difference IV, Fixed, 95% CI 0.16 [-1.70, 2.02] -0.44 [-1.53, 0.65]	PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD+ survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference IV, Fixed, 95% CI -20 -10 0 20 PTSD- survivors of war Healthy Control Mean Difference

		PTSD- surv	ivors of wa	er PT	SD+ surv	vivors of	war		Mean Difference	Mean Difference
Learning and memory	Study or Subgroup	Mean			lean	SD		Weight		IV, Fixed, 95% CI
, , , , , , , , , , , , , , , , , , ,	Yehuda 2005	43.2	15	16	50	12.5	19		-6.80 [-16.05, 2.45]	9
	Yehuda 2006	5.08	2.2	13	5.33	1.4	14	97.8%	-0.25 [-1.65, 1.15]	a 🚾
	Total (95% CI)			29			33	100.0%	-0.40 [-1.78, 0.99]	
Figure 5 (a): Implicit memory high pair	Heterogeneity: Chi ² = 1	98 df=1 (F					33	100.070	-0.40 [-1.70, 0.55]	
associate- PTSD+ vs. PTSD-	Test for overall effect: Z			- 47 70						-20 -10 Ó 10 20
4550Clate- F 13D+ V5. F 13D-			2.3							PTSD+ survivors of war PTSD- survivors of war
		PTSD- surv	ivors of wa	ır PT	SD+ surv				Mean Difference	Mean Difference
	Study or Subgroup	Mean			lean	SD		Weight		IV, Fixed, 95% CI
	Yehuda 2005	42.2	12.3	16	48	16.8	19		-5.80 [-15.46, 3.86]	
	Yehuda 2006	5	2.4	13	5.75	2.1	14	97.0%	-0.75 [-2.46, 0.96]	
	Total (95% CI)			29			33	100.0%	-0.90 [-2.58, 0.78]	•
Figure 5 (b): Implicit memory low pair	Heterogeneity: Chi² = 1	.02, df = 1 (P	= 0.31); (2:						7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	1 1 1 1
associate- PTSD+ vs. PTSD-	Test for overall effect: Z									-20 -10 0 10 20 PTSD+ survivors of war
associate- r 13D+ vs. r 13D-		86	800							1 TOD Sulvivois of war 1 TOD Sulvivois of war
			survivors o			hy Con			Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD		Mean			Weight		IV, Fixed, 95% CI
	Yehuda 2005 Yehuda 2006	48.2 5.31	20.5 2.4	28 19		12.5 1.4	19 14	1.9% 98.1%	-1.80 [-11.25, 7.65] -0.02 [-1.32, 1.28]	
	Telluda 2000	3.31	2.4	13	0.00		00 E.H	30.1 70	-0.02 [-1.32, 1.20]	
	Total (95% CI)			47			33	100.0%	-0.05 [-1.35, 1.24]	•
Figure 5 (c): Implicit memory high pair	Heterogeneity: Chi² =); $I^2 = 0\%$,	-20 -10 0 10 20
associate- PTSD+ vs. Control	Test for overall effect	Z = 0.08 (P)	' = 0.94)							PTSD+ survivors of war Healthy Control
4444	<u> </u>	DTCD+	survivors	ofwar	Hoalf	thy Cont	rol		Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD		Mean			Weight		IV. Fixed, 95% CI
	Yehuda 2005	44.6	19.4	28			19		-3.40 [-13.83, 7.03]	111111111111111111111111111111111111111
	Yehuda 2006	4.95	2.5	19			14	97.8%	[1] - [1] -	
							-		15.0.51 193 133	
Figure 5 /d\. Installab manager law pair	Total (95% CI)	2.22 46-7		47			33	100.0%	-0.86 [-2.41, 0.70]	
Figure 5 (d): Implicit memory low pair	Heterogeneity: Chi ² = Test for overall effect); I*= U%						-20 -10 0 10 20
associate- PTSD+ vs. Control	Test for overall enect	. Z = 1.00 (i	= 0.20)							PTSD+ survivors of war Healthy Control
		PTSD-s	urvivors o	of war	Healt	hy Con			Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD		Mean			Weight	Water with the property of the property of	IV, Fixed, 95% CI
	Yehuda 2005	43.2	1.5	16			28		-5.00 [-12.63, 2.63]	
	Yehuda 2006	5.08	2.2	13	5.31	2.4	19	95.7%	-0.23 [-1.84, 1.38]	
	Total (95% CI)			29			47	100.0%	-0.43 [-2.01, 1.14]	_
	Heterogeneity: Chi ² =	- 1 44 df-	4 /P = 0.21	CENTRAL PROPERTY			41	100.070	-U.43 [-Z.U I, I. I+]	
Figure 5 (e): Implicit memory high pair	Test for overall effect			1), 1 = 30	70					-20 -10 0 10 20
associate- PTSD- vs. Control	1 60t lot over all once.	. Z = 0.5+ v	- 0.557							PTSD- survivors of war Healthy Control
		PTSD-s	urvivors o	of war	Healt	hy Cont	rol		Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD	Total	Mean			Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
	Yehuda 2005	42.2	12.3	16		19.4	28		-2.40 [-11.78, 6.98]	5
	Yehuda 2006	5	2.4	13	4.95	2.5	19	96.7%	0.05 [-1.67, 1.77]	—
	Total (95% CI)			29			47	100.0%	-0.03 [-1.72, 1.66]	
Figure 5 (f): Implicit memory Low pair	Heterogeneity: Chi ² =	- 0.25 df= 1	1 (P = 0.61				41	100.070	-0.03 [-1.72, 1.00]	—
	Test for overall effect),1 - 0 %						-20 -10 0 10 20
associate- PTSD- vs. Control	3,001,01,01,01,01,01	. 2 - 0.00	- 0.0.,							PTSD- survivors of war Healthy Control
	_									

-										
Learning and memory		PTSD+ sur	vivore of	war	PTSD- sur	wivore o	fwar		Mean Difference	Mean Difference
(verbal memory)	Study or Subgroup	Mean	SD	Total	Mean	SD		Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
(verbar memory)	Freeman 2016	8.7	2.2	10	8.6	2.5	10	505 SS S S S S S S S S S S S S S S S S S		
	Yehuda 2004	7.9	3.3	36	9.2	3.1	26			-
5'	Total (95% CI)			46			36	100.0%	-0.77 [-2.04, 0.50]	•
Figure 6 (a): RAVLT- Immediate Recall (PTSD+ vs. PTSD-)	Heterogeneity: Chi ^z = 1 Test for overall effect: Z			I ² = 9%						-20 -10 0 10 20 PTSD+ survivors of war PTSD- survivors of war
	 	PTSD+ sur	vivors of	war	PTSD- sur	vivors o	war		Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD	Total	Mean	SD		Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
	Freeman 2016	33.3	6.9	10	34.1	10.1	10	1.2%	-0.80 [-8.38, 6.78]	
	Green 2016 Yehuda 2004	7.4 8.2	2.9 3.6	55 36	8.1 9.8	1.9 3.7	33 26	66.7% 19.7%	-0.70 [-1.70, 0.30] -1.60 [-3.45, 0.25]	
	Yehuda 2004	8.5	3.6	14	10	2.5	13		-1.50 [-3.82, 0.82]	
	Total (95% CI) Heterogeneity: Chi ² = 0	00 df = 27	0 = 0.000	115			82	100.0%	-0.98 [-1.80, -0.16]	<u> </u>
Figure 6 (b): RAVLT- Delayed Recall (PTSD+ vs. PTSD-)	Test for overall effect: Z			1 - 070						-20 -10 0 10 20 PTSD+ survivors of war
	·	- 44	160	_			2.072.5			
	Study or Subgroup	Mean	survivor: SI		tal Mean	thy Cont		Weight	Mean Difference IV, Random, 95% CI	Mean Difference IV, Random, 95% CI
	Freeman 2016	8.7	2.2		10 8.7		6	24.8%	0.00 [-2.29, 2.29]	TV, Namaoin, 55% Ci
	Wessel 2002	4.9	1.8		25 5.3		15	39.7%	-0.40 [-1.51, 0.71]	→
	Yehuda 2004	7.9	3.3	3	36 10.5	3	40	35.5%	-2.60 [-4.02, -1.18]	
	Total (95% CI)				71		61	100.0%	-1.08 [-2.70, 0.54]	
Figure 6 (c): RAVLT- Immediate Recall (PTSD+ vs.	Heterogeneity: Tau ² =	= 1.40: Chi²	= 6.67. 0			= 70%		100.070	1.00 [2.7 0, 0.0 1]	
Healthy Control)	Test for overall effect:									-20 -10 0 10 20 PTSD+ survivors of war Healthy Control
	'	PTSD+ sur	vivors of	war	PTSD- surv	vivors of	war		Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD	Total	Mean	SD		Weight	IV, Random, 95% CI	IV, Random, 95% CI
	Freeman 2016	33.3	6.9	10	34.5	8.9	6	1.5%	-1.20 [-9.51, 7.11]	
	Wessel 2002 Yehuda 2004	8.3 8.2	2.8 3.6	25 36	9.5 10.5	2.3 3	15 40	39.4% 44.9%	-1.20 [-2.80, 0.40] -2.30 [-3.80, -0.80]	
	Yehuda 2006	8.5	3.6	14	10	4.2	19	14.2%	-1.50 [-4.17, 1.17]	-
	1			85						
E: C(1) DAY ((T D) 10 11 (DTCD	Total (05% CI)						90	100.0%	174 [274 073]	▲
Figure 6 (d): RAVLT- Delayed Recall (PTSD+ vs.	Total (95% CI) Heterogeneity: Tau ² = 0	.00; Chi² = 1	.02, df=		(0); I² = 0%		80	100.0%	-1.74 [-2.74, -0.73]	•
Figure 6 (d): RAVLT- Delayed Recall (PTSD+ vs. Healthy Control)	Total (95% CI) Heterogeneity: Tau² = 0 Test for overall effect: Z				30); I² = 0%		80	100.0%	-1.74 [-2.74, -0.73] —	-20 -10 0 10 20 PTSD+ survivors of war
	Heterogeneity: Tau² = 0 Test for overall effect: Z	= 3.39 (P = PTSD- s	0.0007) survivors	3 (P = 0.8	Heal	thy Con	trol		Mean Difference	PTSD+ survivors of war PTSD- survivors of war Mean Difference
	Heterogeneity: Tau² = 0 Test for overall effect: Z Study or Subgroup	= 3.39 (P = PTSD- s Mean	0.0007) survivors SI	3 (P = 0.8 s of war D To	Heal	SD.	trol Total	Weight	Mean Difference IV, Fixed, 95% CI	PTSD+ survivors of war PTSD- survivors of war
	Heterogeneity: Tau² = 0 Test for overall effect: Z	= 3.39 (P = PTSD- s	0.0007) survivor: S I 2.	3 (P = 0.8 s of war D To 5	Heal	SD 2.3	trol		Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31]	PTSD+ survivors of war PTSD- survivors of war Mean Difference
	Heterogeneity: Tau ² = 0 Test for overall effect: Z Study or Subgroup Freeman 2016 Yehuda 2004	PTSD- s Mean 8.6	0.0007) survivor: S I 2.	3 (P = 0.8 s of war D To 5 1	Heal Mean 10 8.7 26 10.5	SD 2.3	trol Total 6 40	Weight 28.3% 71.7%	Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31] -1.30 [-2.81, 0.21]	PTSD+ survivors of war PTSD- survivors of war Mean Difference
Healthy Control)	Heterogeneity: Tau ² = 0 Test for overall effect: Z Study or Subgroup Freeman 2016 Yehuda 2004 Total (95% CI)	PTSD- s Mean 8.6 9.2	0.0007) survivor: Si 2. 3.	3 (P = 0.8 s of war D To 5	Heal Mean 10 8.7 26 10.5	SD 2.3	trol Total 6 40	Weight 28.3%	Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31] -1.30 [-2.81, 0.21]	PTSD+ survivors of war PTSD- survivors of war Mean Difference
Healthy Control) Figure 6 (e): RAVLT- Immediate Recall (PTSD- vs.	Heterogeneity: Tau ² = 0 Test for overall effect: Z Study or Subgroup Freeman 2016 Yehuda 2004 Total (95% CI) Heterogeneity: Chi ² =	PTSD-8 Mean 8.6 9.2 = 0.69, df =	0.0007) survivor: \$1 2. 3.	3 (P = 0.8 s of war D To 5 1 41); I ^z =	Heal Mean 10 8.7 26 10.5	SD 2.3	trol Total 6 40	Weight 28.3% 71.7%	Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31] -1.30 [-2.81, 0.21]	PTSD+ survivors of war PTSD- survivors of war Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20
Healthy Control)	Heterogeneity: Tau ² = 0 Test for overall effect: Z Study or Subgroup Freeman 2016 Yehuda 2004 Total (95% CI)	PTSD-8 Mean 8.6 9.2 = 0.69, df =	0.0007) survivor: \$1 2. 3.	3 (P = 0.8 s of war D To 5 1 41); I ^z =	Heal Mean 10 8.7 26 10.5	SD 2.3	trol Total 6 40	Weight 28.3% 71.7%	Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31] -1.30 [-2.81, 0.21]	PTSD+ survivors of war PTSD- survivors of war Mean Difference IV, Fixed, 95% CI
Healthy Control) Figure 6 (e): RAVLT- Immediate Recall (PTSD- vs.	Heterogeneity: Tau ² = 0 Test for overall effect: Z Study or Subgroup Freeman 2016 Yehuda 2004 Total (95% CI) Heterogeneity: Chi ² = Test for overall effect	PTSD- 9 Mean 8.6 9.2 = 0.69, df = t: Z = 1.47 (0.0007) survivors SI 2. 3. 1 (P = 0.14) survivors	3 (P = 0.8 s of war D To 5 1 41); I ^z =) s of war	Heal tal Mean 10 8.7 26 10.5 36 0%	2.3 3 3	trol Total 6 40 46	Weight 28.3% 71.7% 100.0%	Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31] -1.30 [-2.81, 0.21] -0.96 [-2.24, 0.32] Mean Difference	PTSD+ survivors of war PTSD- survivors of war Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference
Healthy Control) Figure 6 (e): RAVLT- Immediate Recall (PTSD- vs.	Heterogeneity: Tau² = 0 Test for overall effect: Z Study or Subgroup Freeman 2016 Yehuda 2004 Total (95% CI) Heterogeneity: Chi² = Test for overall effect Study or Subgroup	PTSD-8 Mean 8.6 9.2 = 0.69, df = t: Z = 1.47 () PTSD-8 Mean	0.0007) survivors Si 2. 3. 1 (P = 0.14) survivors SI	3 (P = 0.8 s of war D To 5 1 41); I ^z =) s of war D Tot	Healt Mean 10 8.7 26 10.5 36 0% Healt Mean	2 2.3 3 3 thy Cont	trol Total 6 40 46 rol Total	Weight 28.3% 71.7% 100.0%	Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31] -1.30 [-2.81, 0.21] -0.96 [-2.24, 0.32] Mean Difference IV, Random, 95% CI	PTSD+ survivors of war PTSD- survivors of war Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control
Healthy Control) Figure 6 (e): RAVLT- Immediate Recall (PTSD- vs.	Heterogeneity: Tau² = 0 Test for overall effect: Z Study or Subgroup Freeman 2016 Yehuda 2004 Total (95% CI) Heterogeneity: Chi² = Test for overall effect Study or Subgroup Freeman 2016	PTSD-s Mean 8.6 9.2 = 0.69, df= t: Z= 1.47 (PTSD-s Mean 34.1	0.0007) survivors Si 2. 3. 1 (P = 0.14) survivors SI 10.1	3 (P = 0.8 s of war D To 5 1 41); ==) s of war D Tot	Healt Mean 10 8.7 26 10.5 36 0% Healt tal Mean 10 34.5	2 2.3 3 3 thy Cont SD 8.9	trol Total 6 40 46 rol Total 6	Weight 28.3% 71.7% 100.0%	Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31] -1.30 [-2.81, 0.21] -0.96 [-2.24, 0.32] Mean Difference IV, Random, 95% CI -0.40 [-9.88, 9.08]	PTSD+ survivors of war PTSD- survivors of war Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference
Healthy Control) Figure 6 (e): RAVLT- Immediate Recall (PTSD- vs.	Heterogeneity: Tau² = 0 Test for overall effect: Z Study or Subgroup Freeman 2016 Yehuda 2004 Total (95% CI) Heterogeneity: Chi² = Test for overall effect Study or Subgroup Freeman 2016 Yehuda 2004	PTSD-s Mean 8.6 9.2 = 0.69, df = t: Z = 1.47 (I PTSD-s Mean 34.1 9.8	0.0007) survivors 2. 3. 1 (P = 0.14) survivors SI 10.1 3.7	3 (P = 0.8 s of war D To 5 1 41); = =) s of war D To 1	Healt Mean 10 8.7 26 10.5 36 0% Healt tal Mean 10 34.5 26 10.5	2.3 3 3 thy Cont SD 8.9 3	trol Total 6 40 46 rol Total 6 40	Weight 28.3% 71.7% 100.0% Weight 2.1% 63.9%	Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31] -1.30 [-2.81, 0.21] -0.96 [-2.24, 0.32] Mean Difference IV, Random, 95% CI -0.40 [-9.88, 9.08] -0.70 [-2.40, 1.00]	PTSD+ survivors of war PTSD- survivors of war Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference
Healthy Control) Figure 6 (e): RAVLT- Immediate Recall (PTSD- vs.	Heterogeneity: Tau² = 0 Test for overall effect: Z Study or Subgroup Freeman 2016 Yehuda 2004 Total (95% CI) Heterogeneity: Chi² = Test for overall effect Study or Subgroup Freeman 2016	PTSD-s Mean 8.6 9.2 = 0.69, df= t: Z= 1.47 (PTSD-s Mean 34.1	0.0007) survivors Si 2. 3. 1 (P = 0.14) survivors SI 10.1	3 (P = 0.8 s of war D To 5 1 41); = =) s of war D To 1	Healt Mean 10 8.7 26 10.5 36 0% Healt tal Mean 10 34.5	2.3 3 3 thy Cont SD 8.9 3	trol Total 6 40 46 rol Total 6	Weight 28.3% 71.7% 100.0%	Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31] -1.30 [-2.81, 0.21] -0.96 [-2.24, 0.32] Mean Difference IV, Random, 95% CI -0.40 [-9.88, 9.08]	PTSD+ survivors of war PTSD- survivors of war Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference
Healthy Control) Figure 6 (e): RAVLT- Immediate Recall (PTSD- vs.	Heterogeneity: Tau² = 0 Test for overall effect: Z Study or Subgroup Freeman 2016 Yehuda 2004 Total (95% CI) Heterogeneity: Chi² = Test for overall effect Study or Subgroup Freeman 2016 Yehuda 2004	PTSD-s Mean 8.6 9.2 = 0.69, df = t: Z = 1.47 (I PTSD-s Mean 34.1 9.8	0.0007) survivors 2. 3. 1 (P = 0.14) survivors SI 10.1 3.7	3 (P = 0.8 s of war D To 5 1 41); I ^z =) s of war D Tot I	Healt Mean 10 8.7 26 10.5 36 0% Healt tal Mean 10 34.5 26 10.5	2.3 3 3 thy Cont SD 8.9 3	trol Total 6 40 46 rol Total 6 40 19	Weight 28.3% 71.7% 100.0% Weight 2.1% 63.9%	Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31] -1.30 [-2.81, 0.21] -0.96 [-2.24, 0.32] Mean Difference IV, Random, 95% CI -0.40 [-9.88, 9.08] -0.70 [-2.40, 1.00]	PTSD+ survivors of war PTSD- survivors of war Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference
Healthy Control) Figure 6 (e): RAVLT- Immediate Recall (PTSD- vs.	Heterogeneity: Tau² = 0 Test for overall effect: Z Study or Subgroup Freeman 2016 Yehuda 2004 Total (95% CI) Heterogeneity: Chi² = Test for overall effect Study or Subgroup Freeman 2016 Yehuda 2004 Yehuda 2006	PTSD-8 Mean 8.6 9.2 = 0.69, df = t: Z = 1.47 (PTSD-8 Mean 34.1 9.8 10	0.0007) survivors 2. 3. 1 (P = 0.14) survivors SE 10.1 3.7 2.6	3 (P = 0.8 s of war D To 5 1 41); I ^z =) s of war D To 1	Healt Mean 10 8.7 26 10.5 36 0% Healt tal Mean 10 34.5 10.5 13 10	thy Cont SD 8.9 3 4.2	trol Total 6 40 46 rol Total 6 40 19	Weight 28.3% 71.7% 100.0% Weight 2.1% 63.9% 34.1%	Mean Difference IV, Fixed, 95% CI -0.10 [-2.51, 2.31] -1.30 [-2.81, 0.21] -0.96 [-2.24, 0.32] Mean Difference IV, Random, 95% CI -0.40 [-9.88, 9.08] -0.70 [-2.40, 1.00] 0.00 [-2.33, 2.33]	PTSD+ survivors of war PTSD- survivors of war Mean Difference IV, Fixed, 95% CI -20 -10 0 10 20 PTSD- survivors of war Healthy Control Mean Difference

Learning and memory														
(verbal memory- cued recall)		PTSD+ sui	vivors of	war	PTSD- sur	vivors of	war		Mean Difference	Mean Difference				
	Study or Subgroup	Mean	SD	Total	Mean	SD	Total		IV, Fixed, 95% CI	IV, Fixed, 95% CI				
	Yehuda 2004	9.57	3.2	14	10.23	2.2	13							
	Yehuda 2006	9.2	3.4	36	10.5	3.4	26	59.0%	-1.30 [-3.02, 0.42]					
	Total (95% CI)	22 46 4 0		50			39	100.0%	-1.04 [-2.36, 0.28]	•				
Figure 7 (a): CVLT- Short Recall (PTSD+ vs. PTSD-	Heterogeneity: Chi≅ = 0 Test for overall effect: Z			I= U%						-20 -10 0 1'0 2'0 PTSD+ survivors of war PTSD- survivors of war				
		PTSD+ sur	vivors of	war	PTSD- sur	vivors of	war		Mean Difference	Mean Difference				
	Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI				
	Yehuda 2004	12.9	2.9	36	14	1.8	26	80.1%	-1.10 [-2.27, 0.07]	i i				
	Yehuda 2006	9.57	3.8	14	10.78	2.3	13	19.9%	-1.21 [-3.56, 1.14]					
	T-4-L/OFN CD			50			20	400.00	4 42 5 2 4 7 0 0 77	2				
	Total (95% CI)	04 46 4 4	0.000	50			39	100.0%	-1.12 [-2.17, -0.07]					
Figure 7 (b): CVLT- Delayed Recall (PTSD+ vs. PTSD-)	Heterogeneity: Chi ^z = 0 Test for overall effect: Z			r= U%					20-	-20 -10 0 10 20 PTSD+ survivors of war				
	 	DTSD+	survivors	e of wa	r Heal	thy Con	rol		Mean Difference	Mean Difference				
	Study or Subgroup	Mean	SE		otal Mean			Weight		IV, Fixed, 95% CI				
	Yehuda 2004	9.2	3.4		36 11.7		40	72.2%	-2.50 [-3.87, -1.13]	-				
	Yehuda 2006	9.57	3.2		14 10.2		19	27.8%	-0.63 [-2.84, 1.58]					
									35 35 52					
5: 7/\0\47.61 \0.0 11/0760 \0.11	Total (95% CI)				50		59	100.0%	-1.98 [-3.14, -0.81]	•				
Figure 7 (c): CVLT- Short Recall (PTSD+ vs. Healthy	Heterogeneity: Chi ^z =				50%				555	-20 -10 0 10 20				
Control)	Test for overall effect: Z = 3.33 (P = 0.0009) PTSD+ survivors of war Healt													
		DTCD.	survivors	ofino	r Heal	thy Con	rol		Mean Difference	Mean Difference				
	Study or Subgroup	Mean	SULVIVOES		otal Mean			Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI				
	Yehuda 2004	12.9	2.9		36 14.2		40	84.8%		1V, 11X6U, 55% CI				
	Yehuda 2004 Yehuda 2006	9.57	3.8		14 10.47		19	15.2%	-0.90 [-3.49, 1.69]					
	1011444 2000	0.01	0.0	•	14 10.46	0.1		10.20	0.00 [0.40, 1.00]					
5' 7' (1) C' (17 D. 10 H (DTCD) 11 H 11	Total (95% CI)				50		59	100.0%	-1.24 [-2.25, -0.23]	•				
Figure 7 (d): CVLT- Delayed Recall (PTSD+ vs. Healthy	Heterogeneity: Chi ^z =	0.08, df=	1 (P = 0.7)	78); I==	0%				333	-20 -10 0 10 20				
Control)	Test for overall effect	Z = 2.40 (F	P = 0.02							PTSD+ survivors of war Healthy Control				
				_										
	Study or Subgroup	Mean	Control SD To		TSD- surviv Mean	Ors of t		Weight	Mean Difference	Mean Difference IV, Fixed, 95% CI				
	Yehuda 2004	10.5		26	11.7	2.6	40	59.8%		1V, FIXEU, 95% CI				
	Yehuda 2004 Yehuda 2006	10.23		13	10.2	3.2	19	40.2%	** ** ' ' : - ' :					
	Terruda 2000	10.25	2.2	13	10.2	3.2	11.3	40.2 %	0.03 [1.04, 1.80]	T				
	Total (95% CI)			39			59	100.0%	-0.71 [-1.89, 0.48]	◆				
Figure 7 (e): CVLT- Short Recall (PTSD- vs. Healthy	Heterogeneity: Chi* =	0.99, df=	1 (P = 0.	32); I² =	0%									
Control)	Test for overall effect									-20 -10 Ö 1Ö 2Ö Healthy Control PTSD- survivors of war				
		4	12 0	×.			assort.							
	Study or Sub-		Control		TSD- surviv			10/	Mean Difference	Mean Difference				
	Study or Subgroup	Mean	SD To		Mean	SD		Weight	A STATE OF THE STA	IV, Fixed, 95% CI				
	Yehuda 2004	14		26	14.2	1.8	40	84.6%						
	Yehuda 2006	10.78	2.3	13	10.47	3.7	19	15.4%	0.31 [-1.77, 2.39]					
	Total (95% CI)			39			59	100.0%	-0.12 [-0.94, 0.70]	•				
Figure 7 (f): CVLT- Delayed Recall (PTSD- vs. Healthy	Heterogeneity: Chi² =	0.20. df=		Contract of the Contract of	0%									
Control)	Test for overall effect									-20 -10 Ö 1Ö 2Ö Healthy Control PTSD- survivors of war				
Control		- 1	a 8	61						Healting Control F13D-Survivors of Walf				

Learning and memory-Recognition memory

		PTSD+ sur	vivors	of war	PT	TSD- surv	vivors o'	war		Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD	Tota	al I	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
	Freeman 2016	38.8	5.7	1	10	41.2	2.9	10	28.8%	-2.40 [-6.36, 1.56]	
	Hart 2008	39.2	3.4		7	41.2	2.9	11	48.7%	-2.00 [-5.05, 1.05]	
	Yehuda 2004	87.8	8.1	3	36	91.2	9.4	26		-3.40 [-7.88, 1.08]	-
	Total (95% CI)				53			47	100.0%	-2.43 [-4.56, -0.30]	•
Figure 8 (a): CVLT Recognition memory (PTSD+ vs. PTSD-)	Heterogeneity: Tau² = 0 Test for overall effect: Z				= 0.88);	; I² = 0%				150	-20 -10 0 10 20 PTSD+ survivors of war
		PTSD+ s	survive	ors of v	war	Health	hy Contr	rols	7	Mean Difference	Mean Difference
	Study or Subgroup	Mean	7	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
	Freeman 2016	38.8	, T	5.7	10	38.7	2.4	6	44.0%	0.10 [-3.92, 4.12]	Control Control
	Yehuda 2004	87.8	f	8.1	36	95.2	7.7	40	56.0%		3.5
Figure 8 (b): CVLT Recognition memory (PTSD+ vs.	Total (95% CI)				46			46	100.0%	-4.10 [-6.77, -1.43]	•
	Heterogeneity: Chi² =	지하는 이번에 가장하면 되었다.			$I^2 = 87$	%				7	-20 -10 0 10 20
Healthy Control)	Test for overall effect:	Z = 3.01 (P	'= 0.01	03)							PTSD+ survivors of war Healthy Controls
		Healthy	y Cont	trol	PTSI	D- survi	vors of	rs of war		Mean Difference	Mean Difference
	Study or Subgroup	Mean	SD	Total	Mea	an	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
	Freeman 2016	38.7	2.4	6	41	1.2	2.9	11	10.7%	-2.50 [-5.07, 0.07]	
ı	Yehuda 2004	14.2	1.8	40	. 9	14	1.8	26	89.3%	0.20 [-0.69, 1.09]	-
	Total (95% CI)			46				37	100.0%	-0.09 [-0.93, 0.75]	•
Figure 8 (c): CVLT Recognition memory (PTSD- vs.	Heterogeneity: Chi²=				$1^2 = 74$	4%				-	-20 -10 0 10 20
Healthy Control)	Test for overall effect	z = 0.20 (P = 0.6	84)							PTSD- survivors of war Healthy Control
	-1										

Verbal and non verbal											
Intelligence	***************************************	PTSD+ sur			PTSD- sur				Mean Difference	Mean Difference	
	Study or Subgroup Golier 2003	Mean 11	SD 2.9	Total 31	Mean 13.4	SD 2.1	Total 31		-2.40 [-3.66, -1.14]	IV, Random, 95% CI	
	Yehuda 2004	11	2.9	31 36	13.4 13.7	2.1 2.5	31 26			-	
	Yehuda 2007	7.2	2.5	17	9.4	2.4	16			-	
	Total (95% CI)			84			73	100.0%	-2.46 [-3.27, -1.66]		22.0
Figure 9 (a): WAIS- Verbal IQ (PTSD+ vs. PTSD-)	Heterogeneity: Tau² = 0 Test for overall effect: Z				89); I² = 0%	j.			15	-20 -10 0 10 PTSD+Survivor of War PTSD+ survivors	20 of war
,		DTCD.			01.110.						
	Study or Subgroup	Mean	survivors SD		otal Mean	n SD		Weight	Mean Difference IV, Random, 95% CI	Mean Difference IV, Random, 95% CI	
	Golier 2003	11			31 14.3		34	34.6%			
	Yehuda 2004	11	2.8	8	36 14.2	2 3.2	40	37.9%	-3.20 [-4.55, -1.85]	-	[/
ı	Yehuda 2005	10.5	2.5	5	19 14.5	5 3	28	27.6%	-4.00 [-5.58, -2.42]		[/
Figure 0 /h): WAIS Workel IO (DTSD) vs. Hoolthy	Total (95% CI)				86		102	100.0%	-3.46 [-4.29, -2.63]	•	
Figure 9 (b): WAIS- Verbal IQ (PTSD+ vs. Healthy	Heterogeneity: Tau² =				/= 0.73); I²	= 0%				-20 -10 0 10	20
Control)	Test for overall effect:	. Z = 8.16 (r	0.000 ≻ ۲	/01)						PTSD+Survivor of War Healthy Contro	ol
	**************************************		y Control		TSD- surviv				Mean Difference	Mean Difference	
	Study or Subgroup Golier 2003	Mean 13.4	SD Tot 2.1 1		Mean 14.3	SD 2.9	Total 34	Weight 34.1%	IV, Random, 95% CI	IV, Random, 95% CI	
I	Yehuda 2004	13.4			14.3	3.2	40	34.1% 36.0%			[/
I	Yehuda 2005	13.7			14.5	3	28	29.9%			[/
	Total (95% CI)		3	58			102	100.0%	520 140, 105	•	
Figure 9 (c): WAIS- Verbal IQ (PTSD- vs. Healthy	Heterogeneity: Tau ² =	= 0 00: Chi			2 = 0.92): F	²= 0%	102	100.0%	-0.73 [-1.33, 0.10]		
Control)	Test for overall effect:				-20 -10 0 10 PTSD- survivors of war Healthy Contro	20 al					
	4	PTSD+ SI	irvivors of	fwar	PTSD- S/	urvivors o	of war		Mean Difference	Mean Difference	
	Study or Subgroup	Mean	SD	Total		SD		al Weight		IV, Fixed, 95% CI	
	Yehuda 2004	9.7	3.3	36		2.3	26	6 71.7%	% -1.60 [-2.99, -0.21]		
	Yehuda 2007	10.3	3.5	17	10.7	3	16	6 28.3%	% -0.40 [-2.62, 1.82]		
	Total (95% CI)			53	1		4	2 100.09	% -1.26 [-2.44, -0.08]	•	
	Heterogeneity: Chi² = 0			$I^2 = 0\%$	4					-20 -10 0 10	20
Figure 9 (a): WAIS- Non verbal IQ (PTSD+ vs. PTSD-)	Test for overall effect: Z	1= 2.09 (P =	: 0.04)							PTSD+Survivor of War PTSD- Survivor of	
			survivors			althy Con			Mean Difference	Mean Difference	
	Study or Subgroup	Mean			Total Mear			Weight		IV, Fixed, 95% CI	
	Yehuda 2004 Yehuda 2005	9.7 8.6			36 11.3 19 10.6				THE SECTION OF THE PROPERTY OF		['
	Yehuda 2007	10.3			17 10.7						
lr	Total (95% CI)				72		84	100.0%	6 -1.46 [-2.46, -0.47]	•	[
Figure 9 (b): WAIS- Non verbal IQ (PTSD+ vs.	Heterogeneity: Chi²=	= 1.21, df=	2 (P = 0.4	55); I² =					35	-20 -10 0 10	20
Healthy Control)	Test for overall effect:	: Z= 2.89 (P = 0.004	4)						PTSD+Survivor of War Healthy Contro	
			y Control		PTSD- survi				Mean Difference	Mean Difference	
	Study or Subgroup	Mean	SD To	C112-C11-C	Mean	SD	Total			IV, Fixed, 95% CI	
	Yehuda 2004 Yehuda 2005	11.3 10.6		40 28	11.3 10.9	2.3 1.9	26 16		5	-	[
									100.01 100		
Figure 9 (c): WAIS- Non verbal IQ (PTSD- vs. Healthy	Total (95% CI) Heterogeneity: Chi ² =	- 0 10 df-		68 75): 13 -	- 004		42	100.0%	% -0.13 [-1.03, 0.78] -		
Control)	Test for overall effect				U%o					-20 -10 0 10 PTSD- Survivor of War Healthy Control	2'0
			Ea vo							1 St.	



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