

Detection of Feigned Posttraumatic Stress Disorder:

A Meta-Analysis of the Minnesota Multiphasic Personality Inventory-2 (MMPI-2)

Supplemental Table 1

Demographic and Methodological Characteristics for 22 Studies Using the MMPI-2 for Feigning PTSD

Citation	Country	Design	MMPI-2 Scales	Sample	n	Comparison Group	Age	% Male	Classification Accuracy
Arbisi, et al. (2006)	US	SIM	F F _B FBS F _P F _{PTSD} K L	VA Outpatients	55	Honest control (PTSD)	61.3 (14.8)	100%	✓
				VA Outpatients	35	Simulator (uncoached)	57.7 (15.2)	100%	
Berry et al. (2001)	US	SIM	F F _B FK F _P Ds	Outpatient	31	Honest control (Clinical, non-PTSD specific)	31.4 (9.1)	30%	—
				Outpatient	29	Simulator (symptom-coached)	30.7 (7.3)	38%	
Bury & Bagby (2002)	CAN	SIM	F F _B FBS F-K F _P Ds Obv	Litigants	61	Honest control (PTSD)	40.0 (9.34)	82%	✓
				Students*	35	Simulator (uncoached)	22.3 (5.2) ^a	59% ^a	
				Students [^]	29	Simulator (symptom-coached)	22.3 (5.2) ^a	59% ^a	
				Students ⁺	30	Simulator (validity-scale-coached)	22.3 (5.2) ^a	59% ^a	
				Students [#]	37	Simulator (combined coached)	22.3 (5.2) ^a	59% ^a	
Eakin et al. (2006)* [^]	US	SIM	F F _B F _P Ds	Students*	23	Honest control (PTSD)	19.6 (1.2) ^a	31% ^a	✓
				Students [^]	30	Honest control (non-clinical)	19.6 (1.2) ^a	31% ^a	
				Students	29	Simulator (combined-coached)	19.6 (1.2) ^a	31% ^a	

Citation	Country	Design	MMPI-2 Scales	Sample	<i>n</i>	Comparison Group	Age	% Male	Classification Accuracy
Efendov et al.(2008)*^	CAN	SIM	F F _B FBS F _P	Litigants	84	Honest control (PTSD)	41.1 (9.6)	69%	✓
				Litigants*	29	Simulator (uncoached)	43.8 (11.7) ^a	38% ^a	
				Litigants^	31	Simulator (validity-scale coached)	43.8 (11.7) ^a	38% ^a	
Elhai et al. (2000)	US	SIM	F FBS F-K F _P K L O-S DsR Obv	VA Outpatients	124	Honest control (PTSD)	45.7 (6.5)	100%	✓
				Students ³	79	Simulator (symptom coached)	29.8 (9.8)	32%	
Elhai et al. (2001)	US	SIM	F FBS F _P O-S DsR Obv	Outpatient	64	Honest control (PTSD)	31.2 (8.7)	14%	✓
				Students	80	Simulator (symptom-coached)	29.7 (9.8)	32%	
Elhai et al. (2004)	US	SIM	F F _P F _{PTSD}	Outpatient	38	Honest control (PTSD)	33.7 (10.3)	7%	--
				Students	38	Simulator (symptom coached)	19.5 (3.1)	49%	
Elhai et al. (2002)	US	SIM	F FB F _P	VA Outpatient	940	Honest control (PTSD)	48.97 (2.26)	100%	✓
				Students ¹	85	Simulator (symptom-coached)	29.7 (9.8)	32%	
Franklin et al. (2002)	US	KG	F K L	VA Outpatient (compensation seeking)	98	Honest control (PTSD)	53.7 (nr)	95% ^a	--
				VA Outpatient (compensation seeking)	29	Suspected Overreporters (Criterion: “overreporting,” MMPI-2 F(p) ≥ 7)	49.6 (nr)	95% ^a	

¹ Same simulation sample as Elhai et al. (2001)

Citation	Country	Design	MMPI-2 Scales	Sample	<i>n</i>	Comparison Group	Age	% Male	Classification Accuracy
Frueh et al. (2003)	US	DP	F FK F _P	VA Outpatients (non-compensation seeking)	45	Honest control (clinical PTSD)	50.2 (8.2)	100%	--
				VA Outpatients (compensation seeking)	126	Suspected Overreporters	49.0 (5.8)	100%	—
Frueh et al. (1997)	US	DP	F F _B FBS FK F _P O-S Ds DsR	VA Outpatients (non-compensation seeking)	38	Honest control (clinical PTSD)	47.8 (8.5)	nr	✓
				VA Outpatients (compensation seeking)	87	Suspected Overreporters	46.0 (6.2)	nr	
Frueh & Kinder (1994)	US	SIM	F F-K K L	VA Outpatient*	20	Honest control (PTSD)	45.0 (3.6)	100%	--
				Students^	20	Honest control (non-clinical)	22.0 (2.2)	100%	--
				Students	20	Simulator (symptom coached)	24.6 (7.0)	100%	
Frueh et al. (1996)	US	DP	F K L	VA Outpatient (non-compensation seeking)	44	Honest control (PTSD)	45.7 (7.0) ^a	nr	--
				VA Outpatient (compensation seeking)	98	Suspected Overreporters	45.7 (7.0) ^a	nr	
Lange et al. (2010)	AUS	SIM	F F _B FBS F-K F _P F _{PTSD} O-S DsR	Students	20	Honest control (non-clinical)	22.7 (8.2) ^a	24% ^a	✓
				Students	15	Simulator (symptom-coached)	22.7 (8.2) ^a	24% ^a	

Citation	Country	Design	MMPI-2 Scales	Sample	<i>n</i>	Comparison Group	Age	% Male	Classification Accuracy
Lees-Haley (1992)	US	KG	F FBS F-K O-S	Litigants	64	Honest control ("pseudo-PTSD" clinical litigants)	39.1 (11.3)	42%	✓
				Litigants	55	Suspected Overreporters (Criterion: (1) claimed to be suffering a psychological injury (2) that was disabling (3) due to implausible experience for PTSD criterion, and (4) scored $\geq T = 65$ on MMPI-2 PK and PS)	38.9 (10.0)	58%	
Marshall & Bagby (2006)	CAN	SIM	F F _B F _P F _{PTSD}	Outpatient (compensation seeking)*	186	Honest control (PTSD)	40.5 (9.2)	74%	✓
				Students [^]	73	Honest control (non-clinical)	22.5 (5.8)	61%	
				Students ²	67	Simulator (35 uncoached & 32 symptom-coached)	22.5 (5.8)	61%	
Tolin et al. (2004) ³	US	DP	F F _B F-K F _P Ds O-S	VA Outpatients (non-compensation seeking)	88	Honest control (PTSD)	45.6 (7.2)	100%	✓
				VA Outpatients Litigants (compensation seeking)	300	Suspected Overreporters	47.9 (9.5)	100%	

² Same simulation sample as Bury and Bagby (2002).

³ Full data and statistics for the PTSD compensation seeking and non-compensation seeking samples was gathered from communication with author.

Citation	Country	Design	MMPI-2 Scales	Sample	<i>n</i>	Comparison Group	Age	% Male	Classification Accuracy
Tolin et al. (2010) ^b	US	DP	F F _B FBS F-K F _p F _{PTSD} DsR K L	VA Outpatients (non-compensation seeking)	87	Honest control (PTSD)	45.4 (7.0)	100%	✓
				VA Outpatients Litigants (compensation seeking)	290	Suspected Overreporters	47.9 (9.6)	100%	
Veltri & Williams (2013)	US	SIM (within)	F F _B FBS F _p	Students	265	Honest control (non-clinical)	18.8 (1.3) ^a	32%	✓
				Students*	46	Simulator (combined coached)	18.8 (1.3) ^a	32%	
				Students [^]	45	Simulator (uncoached)	18.8 (1.3) ^a	32%	
Wetter & Deitsch (1996)	US	SIM	F F _B F-K F _p K L Ds	Students	32	Honest control (non-clinical)	18.8 (1.9)	44%	--
				Students	30	Simulator (symptom-coached)	19.8 (3.3)	43%	
Wetter et al. (1993)	US	SIM	F F _B F-K K L Ds	VA Inpatient, VA Outpatients	20	Honest control (PTSD)	39.4 (7.1)	70%	✓
				Community Volunteers	20	Simulator (symptom coached)	34.8 (7.5)	40%	

Notes. ^aOverall means and percentages reported before group assignment/identification. ^bDuplicate data to Tolin et al. (2004) were removed from meta-analysis (e.g., scales F, F_B, F_p, and F-K) *[^]Indicates multiple comparison groups (e.g., >1 control group, or >1 feigning group). US = United States, CAN = Canada, AUS = Australia. SIM = Simulation design, KG = Known-group design, DP = Differential prevalence design. nr = not reported.

Supplemental Table 2

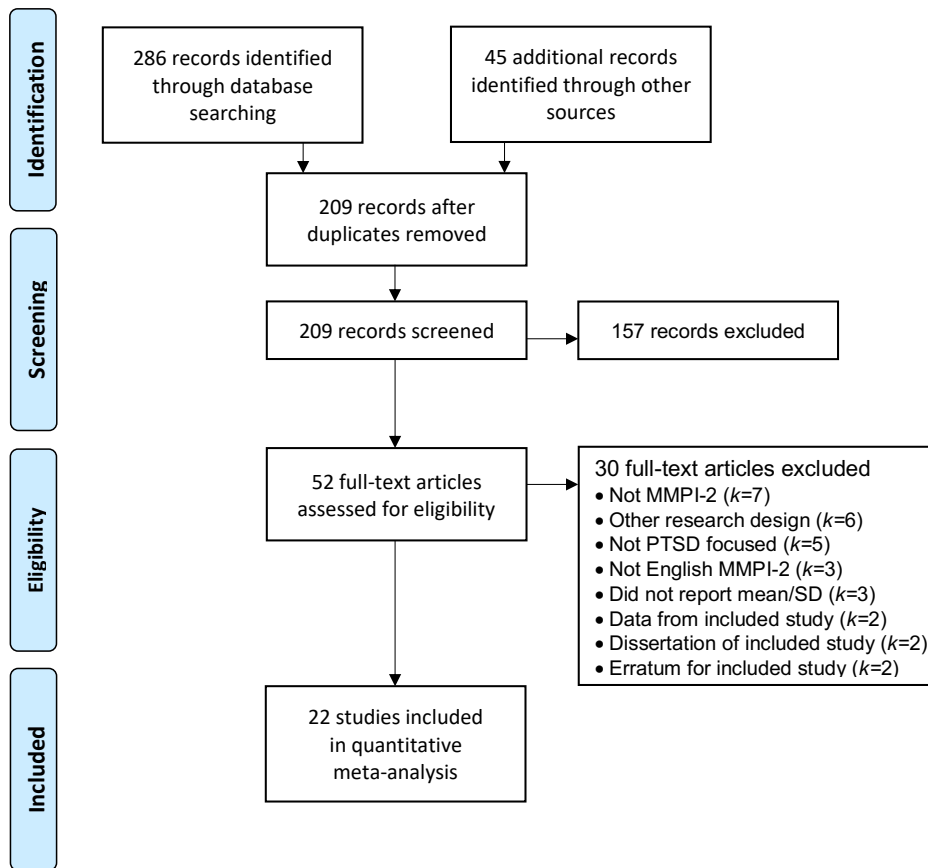
Validity Scale Effect Sizes (Hedges' g) Across Studies

Citation	Design	Sample Comparison	F	F _B	F _P	F-K	FBS	F _{PTSD}	Ds	O-S
Arbisi et al. (2006)	SIM	Honest control (PTSD) vs simulator	1.56	1.25	2.01		0.52	1.63		
Berry et al. (2001)	SIM	Honest control (Clinical, non-PTSD specific) vs simulator	1.86	2.06	1.14	1.44			1.87	
Bury & Bagby (2002)*	SIM	Honest control (PTSD) vs. simulator (uncoached)	1.05	1.17	1.31	1.01	0.42		1.38	
Bury & Bagby (2002)^	SIM	Honest control (PTSD) vs. simulator (symptom coached)	1.05	1.36	1.24	0.96	0.02		1.61	
Bury & Bagby (2002)+	SIM	Honest control (PTSD) vs. simulator (validity coached)	0.68	0.65	0.93	0.67	0.19		0.91	
Bury & Bagby (2002)#	SIM	Honest control (PTSD) vs. simulator (symptom & validity coached)	0.94	0.90	1.12	0.85	0.33		0.98	
Eakin et al. (2006)*	SIM	Honest control (PTSD) vs. simulator	0.86	1.01	0.94				0.82	

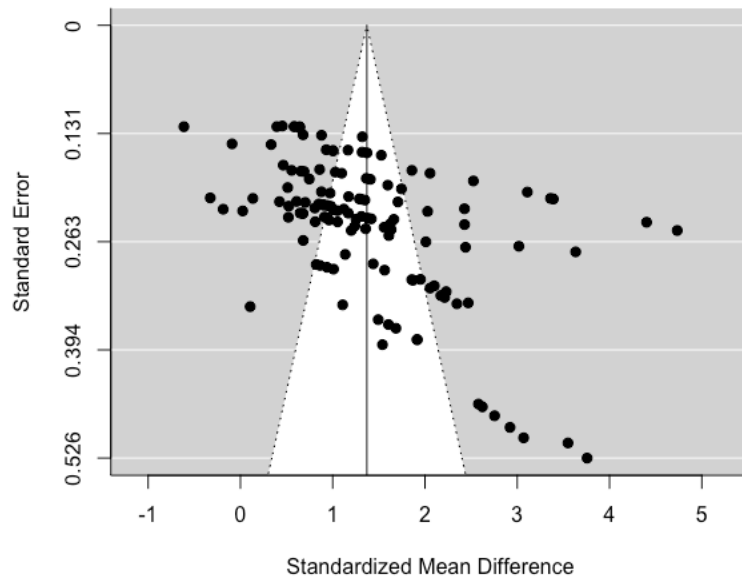
Citation	Design	Sample Comparison	F	F _B	F _P	F-K	FBS	F _{PTSD}	Ds	O-S
Eakin et al. (2006)^	SIM	Honest control (non-clinical) vs. simulator	2.21	2.35	1.56				2.17	
Efendov et al. (2008)*	SIM	Honest control (PTSD) vs simulator (uncoached to validity scales)	1.63	1.42	2.44		0.81			
Efendov et al.(2008)^	SIM	Honest control (PTSD) vs. simulator (coached to validity scales)	0.70	0.61	0.90		0.13			
Elhai et al. (2004)	SIM	Honest control (PTSD) vs simulator	0.52		1.20			0.81		
Elhai et al. (2000)	SIM	Honest control (PTSD) vs simulator	0.93		1.00	1.00	0.09			0.33
Elhai et al. (2001)	SIM	Honest control (PTSD vs. simulator	1.10		1.41	1.36	0.46		1.03	0.86
Elhai et al. (2002)	SIM	Honest control (PTSD) vs. simulator	0.88	0.68	1.32					
Franklin et al. (2002)	KG	Honest control (PTSD) vs. suspected overreporters	1.66							

Citation	Design	Sample Comparison	F	F _B	F _P	F-K	FBS	F _{PTSD}	Ds	O-S
Frueh et al. (1996)	DP	Honest control (PTSD) vs. suspected overreporters	0.75							
Frueh & Kinder (1994)*	SIM	Honest control (PTSD) vs. simulator	1.92			1.91				
Frueh & Kinder (1994)^	SIM	Honest control (non-clinical) vs simulator	3.55			3.76				
Frueh et al. (2003)	DP	Honest control (clinical PTSD) vs. suspected overreporters	0.66		0.56	0.69				
Frueh et al. (1997)	DP	Honest control (clinical PTSD) vs. suspected overreporters	1.31	1.17	0.97	1.29	0.51		0.88	1.35
Lange et al. (2010)	SIM	Honest control (nonclinical) vs simulator	3.07	2.58	1.54	2.62	2.75	0.11		2.92
Lees-Haley (1992)	KG	Honest control (clinical litigants) vs. suspected overreporters	2.03			2.43	1.71			3.02
Marshall & Bagby (2006) *	SIM	Honest control (PTSD) vs. simulator	1.17	1.37	1.53			1.32		

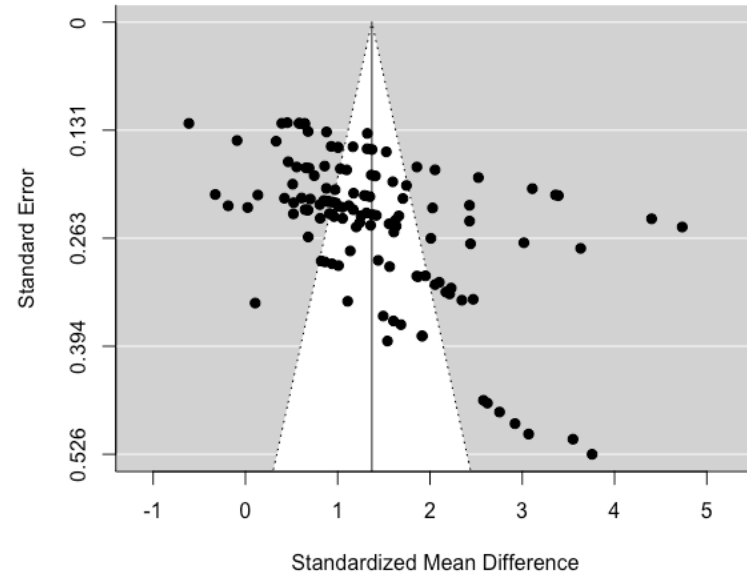
Citation	Design	Sample Comparison	F	F _B	F _P	F-K	FBS	F _{PTSD}	Ds	O-S
Marshall & Bagby (2006) *	SIM	Honest control (nonclinical) vs. simulator	2.43	3.63	1.75			1.60		
Tolin et al. (2004)	DP	Honest control (PTSD) vs. suspected overreporters	0.58	0.58	0.45	0.64			0.61	0.64
Tolin et al. (2010)	DP	Honest control (PTSD) vs. suspected overreporters					0.64	0.39		
Veltri & Williams (2013)*	SIM	Honest control (non-clinical) vs simulator (coached)	2.52	3.11	1.86		2.05			
Veltri & Williams (2013)^	SIM	Honest control (non-clinical) vs simulator (uncoached)	4.40	4.73	3.36		3.39			
Wetter & Deitsch (1996)	SIM	Honest control (non-clinical) vs. simulator	2.10	2.23	1.95	0.68			2.47	
Wetter et al. (1993)	SIM	Honest control (PTSD) vs. simulator	1.49	1.11		1.60			1.68	



Supplemental Figure 1. PRISMA Four-Phase Search Strategy Flow Diagram



2A. Egger's Regression Test



2B. Publication Bias: Random-Effects Model - Trim and Fill Analysis

Supplemental Figure 2. Publication Bias