

History and Evidence of Traumatic Head Injury

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Why THI/TBI is not readily identified and treated in torture survivors

1. Primary care practitioners are not trained to identify and refer THI/TBI patients.
2. No simple, valid and reliable screening instruments with good psychometric properties

3. The patient and/or family does not recognize THI and the resulting symptoms of TBI as a medical problem. In many cultures a “folk diagnosis” does not exist for the presence of an organic brain syndrome. The symptoms of TBI are usually considered as “emotional” or as a negative character trait that is under the person’s willful control.

4. The most common enduring symptoms of THI/TBI overlap with other psychiatric problems such as PTSD and depression:

- Poor executive functioning: planning, organizing, learning
- Impaired concentration
- Memory problems
- Easily confused
- Headache
- Photosensitivity
- Fatigue
- Depression symptoms
- Irritability
- Anxiety symptoms

5. THI/TBI diagnosis can be hidden behind the diagnosis of PTSD, depression, anxiety disorders, and substance abuse
6. Strategies for treatment have not been developed for primary health care and community-based torture treatment centers.

7. Linkages of primary health care and community-based torture treatment centers to specialized THI/TBI government-provided resources (state, VA) are weak, especially for non-English speaking patients.

The Norwegian Investigation 1964

- | N = 227 concentration camp survivors (out of 2500)
- | 44% (N = 124) systematically tortured
- | Most common torture: blows and kicks to the head, often with serious sequelae (e.g. loss of consciousness)
- | Defined for the first time the “concentration camp syndrome”

Symptomatology of the Concentration Camp Syndrome

- | Failing memory and difficulty concentrating
- | Nervousness, irritability and restlessness
- | Fatigue
- | Sleep disturbances
- | Headaches
- | Emotional instability
- | Dysphoric moodiness
- | Vertigo
- | Loss of initiative
- | Feelings of insufficiency

Concentration Camp Syndrome in relation to conditions during imprisonment

	<u>Patients with > 6 sx</u>
No torture	66%
Severe torture	82% *
Very severe torture	86%
No known head injuries	65%
Single head injury	78%*
Repeated head injuries	89%
Weight loss of 30% or more	83% *
Weight loss less than 30%	56%

* P < .01

The Norwegian Investigation 1964

- | THI highly correlated with concentration camp syndrome
- | 84% (n = 167) of the sample had abnormal pneumoencephalographic findings

Traumatic Head Injury/Traumatic Brain Injury (THI/TBI)

An injury to the brain, whether or not it is associated with lasting functional impairment. The exact nature of the symptoms depends upon the type and severity of the injury. Injuries include penetrating injuries, closed head injuries, and exposure to blasts. Disruptions in brain functioning can include a decreased level of consciousness, amnesia, or other neurological or neuropsychological abnormalities.

Mechanisms of Injury

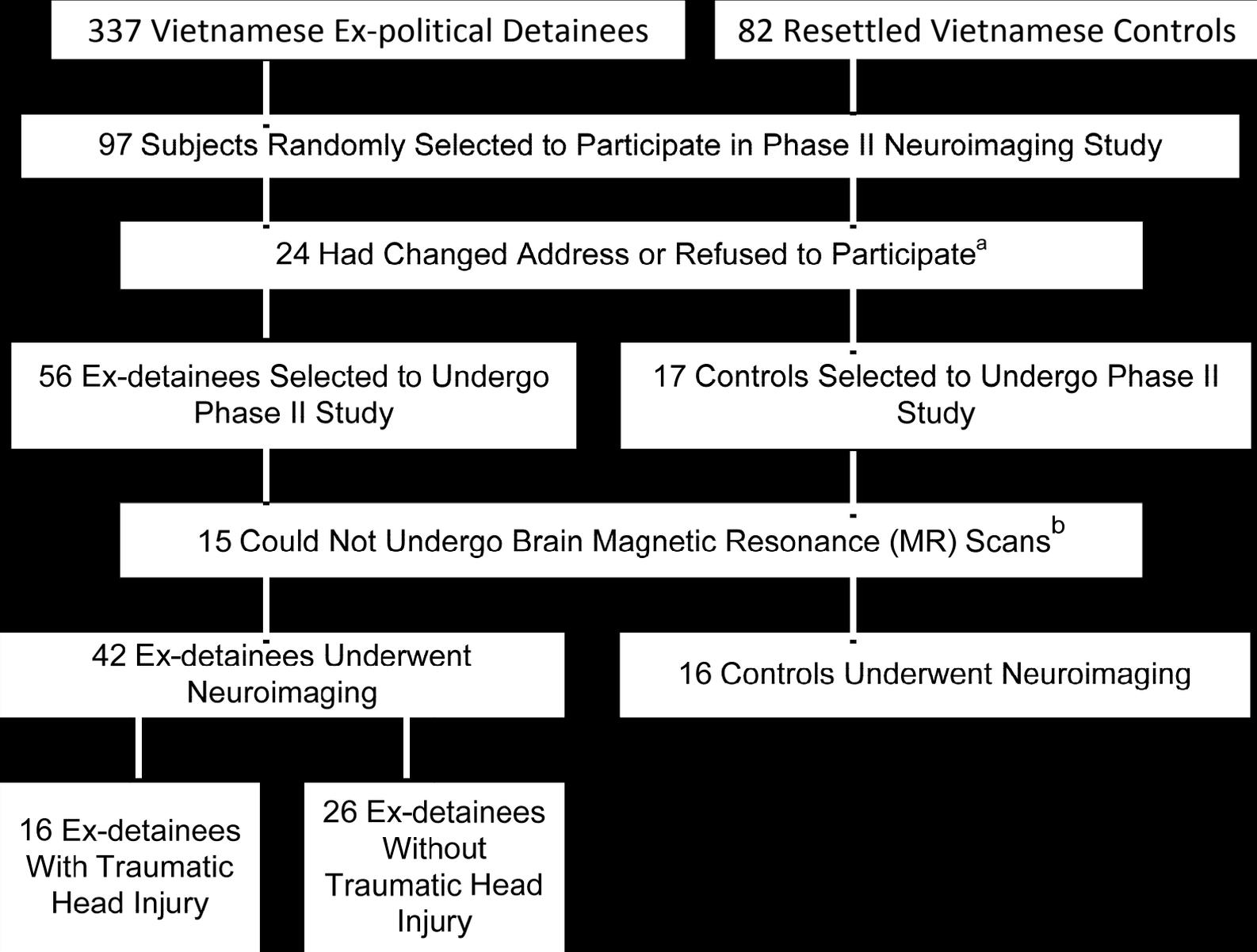
	Injury with loss of consciousness (n=124)	Injury with altered mental status (n=260)	Other injury (n=435)	No injury (n=1706)
Blast or explosion	79%	72.7%	23.2%	-
Bullet	4.8%	0.8%	1.6%	-
Fragment or shrapnel	25%	18.5%	8%	-
Fall	30.6%	28.1%	43.7%	-
Vehicle accident	30.6%	18.1%	13.3%	-
Other	12.9%	8.8%	33.8%	-

Hoge CW, McGurk D, et al. (2008). Mild traumatic brain injury in US soldiers returning from Iraq. *N Engl J Med*; 358(5): 453-63.

	Injury with loss of consciousness (n=124)	Injury with altered mental status (n=260)	Other injury (n=435)	No injury (n=1706)
PTSD	44%	27%	16%	9%
Depression	23%	8%	7%	3%

Hoge CW, McGurk D, et al. (2008). Mild traumatic brain injury in US soldiers returning from Iraq. *N Engl J Med*; 358(5): 453-63.





Vietnamese Study Definition

We considered a participant to be head-injured if they reported at least one head injury during any time period. However to qualify, the head injury had to be associated with memory problems, loss of consciousness and a least one other neurological symptom (trouble walking, talking, thinking, seeing or feeling ill).

Demographics of Study Participants

Variable	Control (n=85)	Ex- Detainees (n=337)	P- value	Ex-Detainees w/o THI (n=210)	Ex-Detainees w/ THI (n=127)	P- value
Age	62.2	60.5	.26	61.2	59.4	.10
Marital Status (%)						
•Married	76.5	79.8	.011	81	78	.012
•Div/Sep	9.4	13.4		11	17.3	
•Widowed	4.7	4.7		4.8	4.7	
•Single	9.4	2.1		3.3	0	
Years of Education	8.6	11.2	<.001	11.5	10.9	<.001

Trauma and Torture Histories

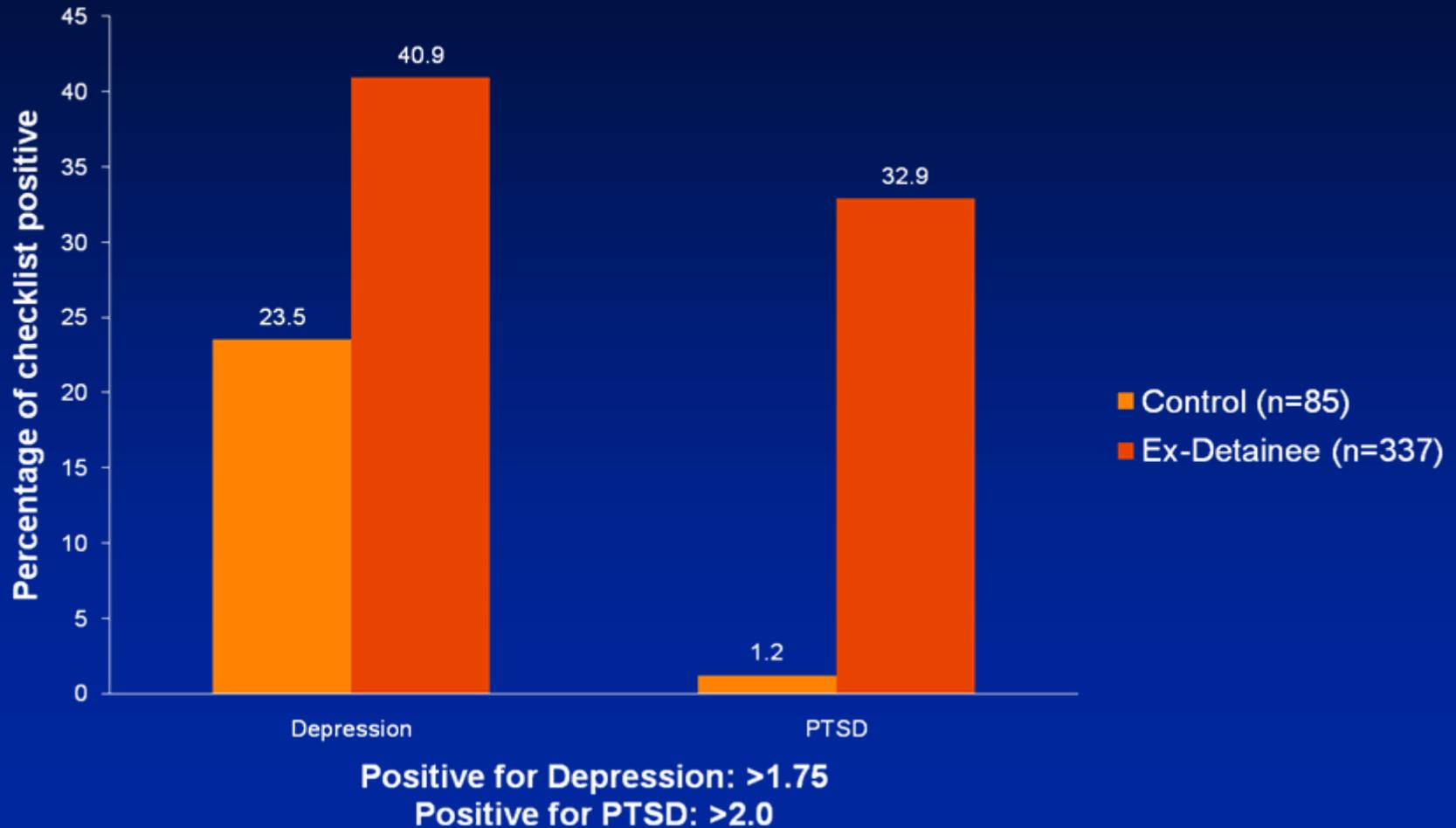
Variable	Control (n=85)	Ex-Detainee (n=337)	P-value	Ex-Detainees w/o THI (n=210)	Ex-Detainees w/ THI (n=127)	P-value
Years in Re-education Camps (Mean)	N/A	6.5	N/A	6.6	6.3	.549
# Trauma Events (Median)	1	13	<.001	12	15	<.001
# Torture Events (Median)	0	7	<.001	6	10	<.001
# Events of Torture and Trauma (Median)	1	20	<.0001	17.5	25	<.0001

Mechanisms of Injury Ex-Political Detainees

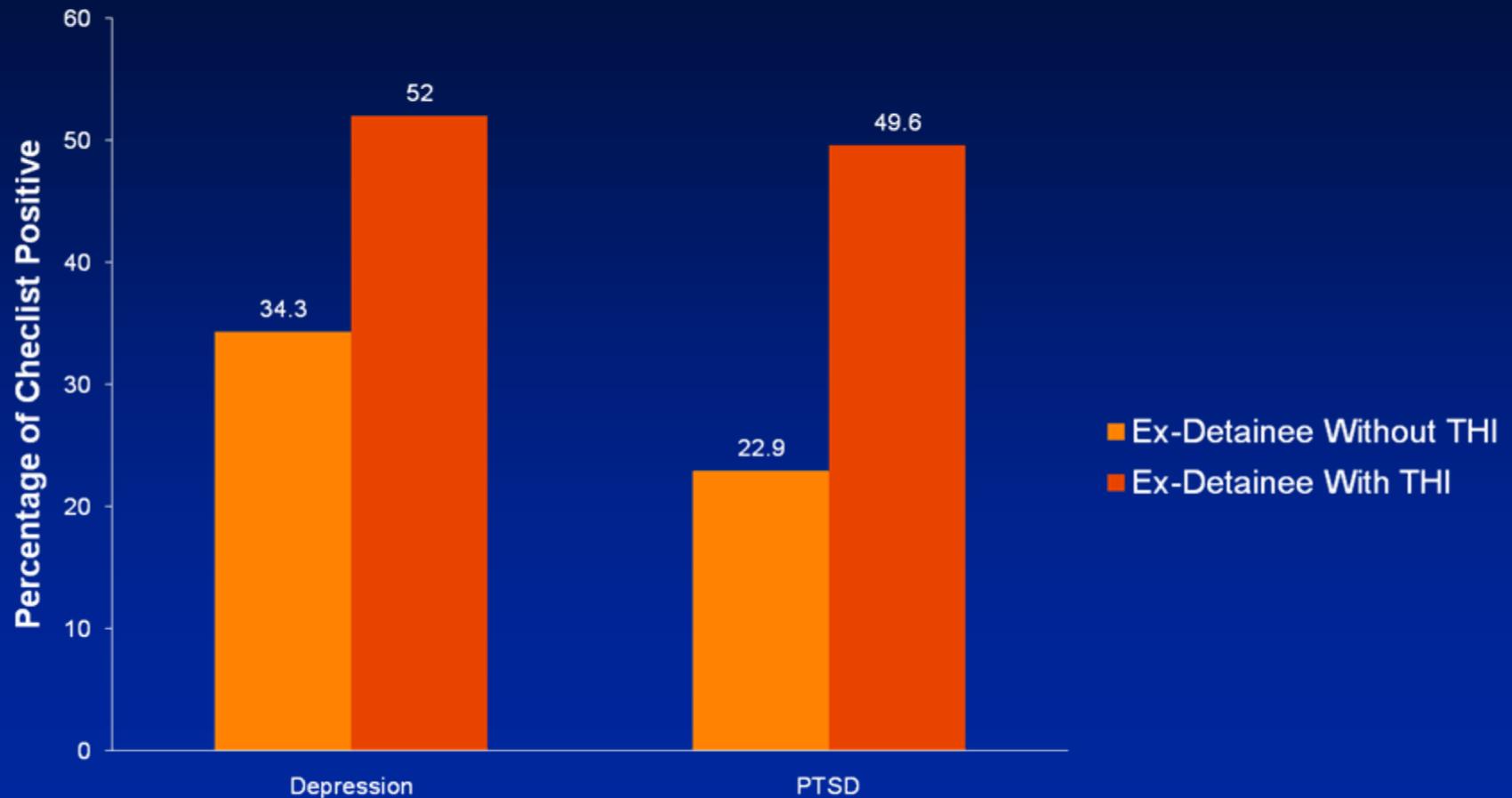
Types of Head Injury	%
Explosion	12.2
Beaten on head	11
Shrapnel	8.6
Fall out of vehicle	5.9
Fall for other reason	5.6
Fall from fatigue	4.8
Work accident	2.7
Near suffocation	2.1
Hit head against dash	1.2

Types of Head Injury	%
Shot in head	1.2
Near drowning	1.2
Hit by vehicle	0.6
Other head injury	0.6
Near strangulation	0.6
Escape from camp	0.3
Whiplash	0
Knife wound	0

Depression and PTSD in Ex-Detainees vs. Controls



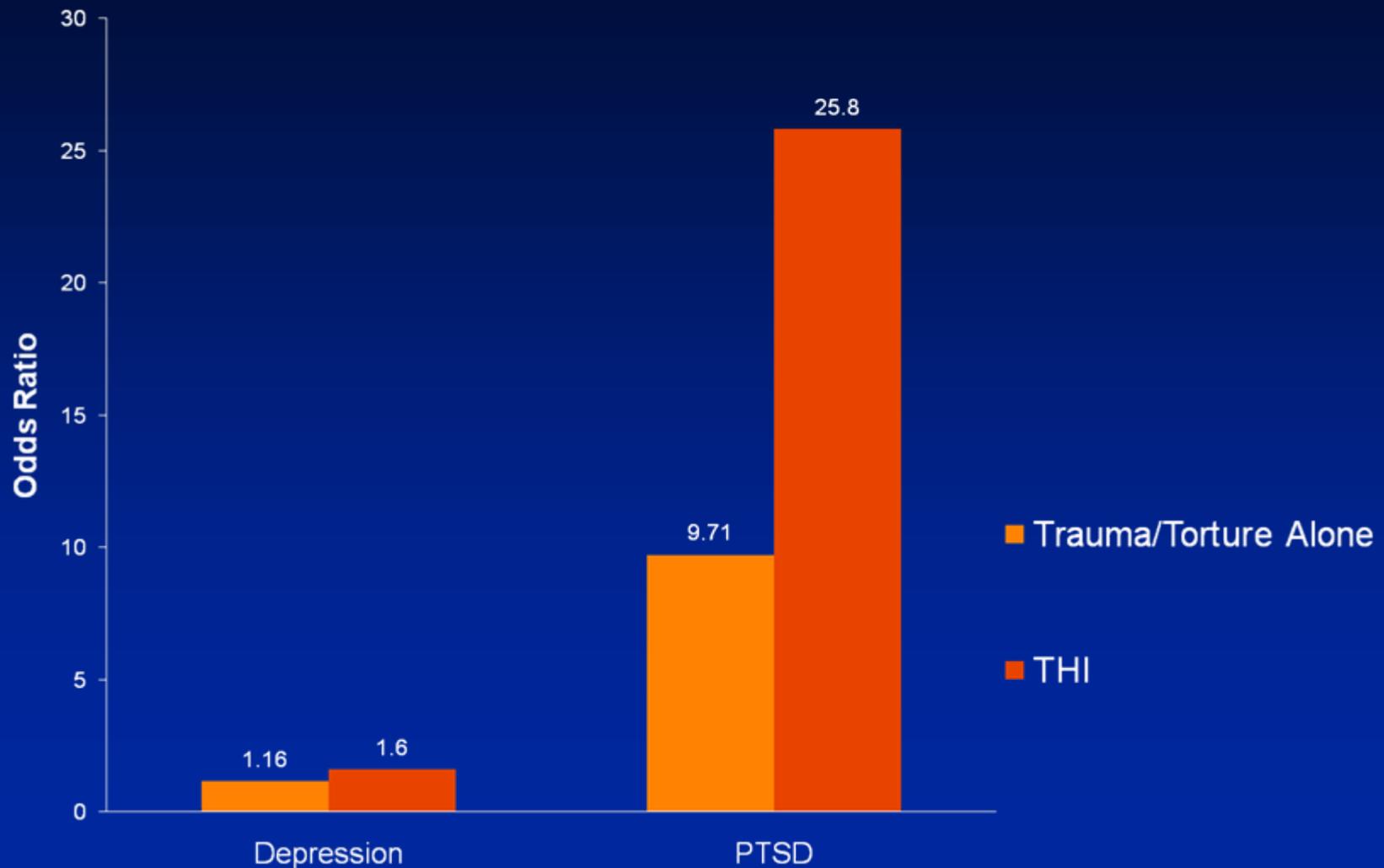
Depression and PTSD in Ex-Detainees With vs. Without THI



Positive for Depression: > 1.75

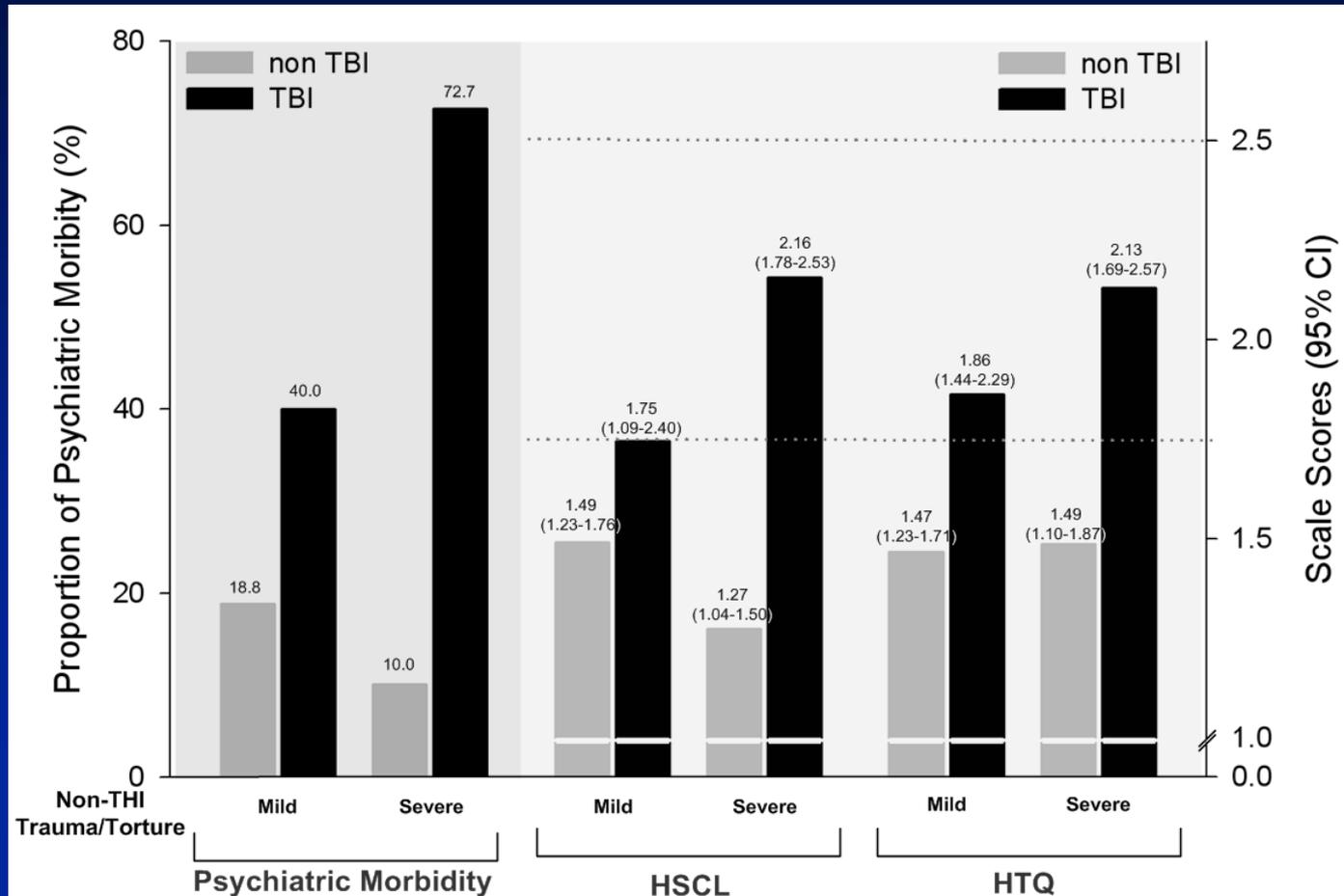
Positive for PTSD: >2.0

Odds Ratio for Depression and PTSD by THI and Trauma/Torture Status

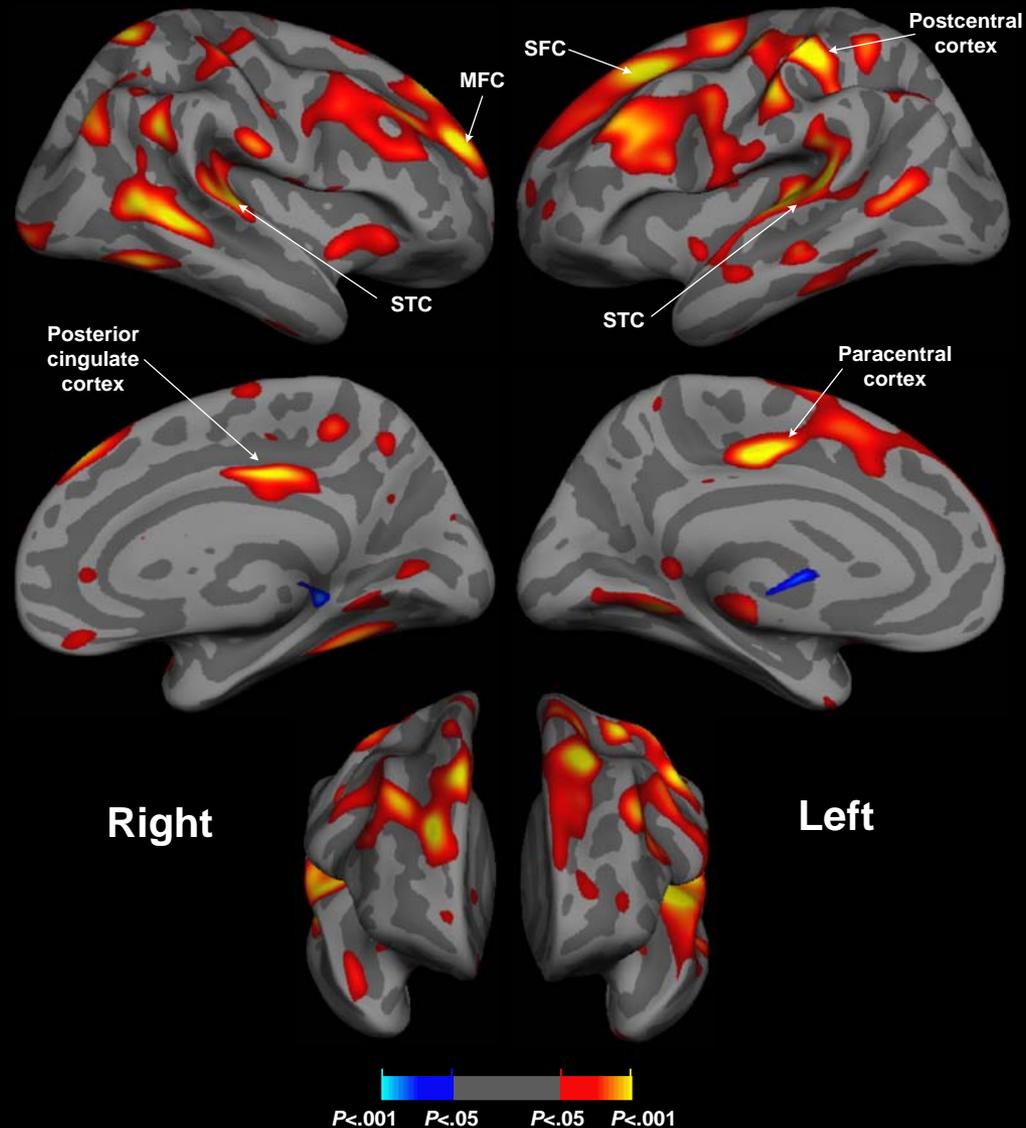




Additive Effects of Traumatic Head Injury (THI) and Non-THI Torture/Trauma in Predicting Psychiatric Morbidity among Ex-Political Detainees



Statistical thickness difference maps between THI-exposed ex-political detainees and ex-polical detainees who had not experienced THI



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