Association Between Traumatic Brain Injury (TBI)–Related Clinical Burden and Posttraumatic Stress Disorder Symptom Severity Among Special Operations Forces (SOF): Cross-sectional and Longitudinal Inferences

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Objectives

- Assess TBI-related neurobehavioral and lifestyle factors
- Examine associations with PTSD symptoms
- Analyze SOF members and veterans in a 5-site VA inpatient rehabilitation cohort

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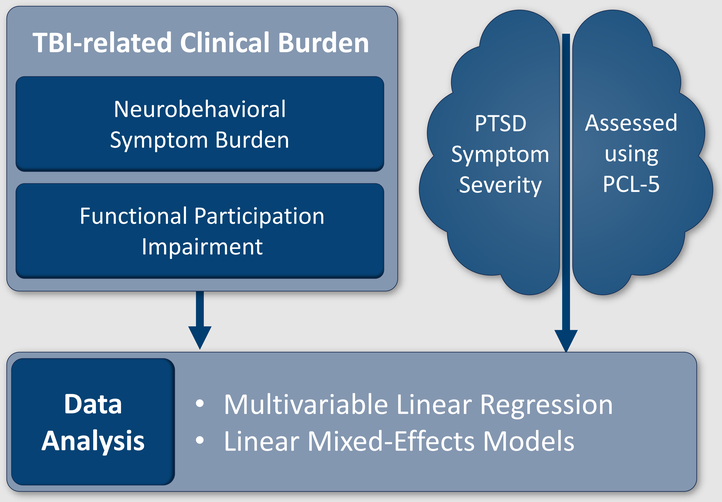
Methods



Results

Greater neurobehavioral symptom burden (b=1.00; *P*<.001) and participation-related impairment (b=2.60; *P*<.001) were independently associated with higher PTSD symptom severity at baseline. Longitudinal analyses indicated that functional participation (b=–0.35; *P*=.01) predicted steeper reductions in PTSD symptoms over time.

Longitudinal changes in PTSD symptom severity by M2PI functional participation quartile.

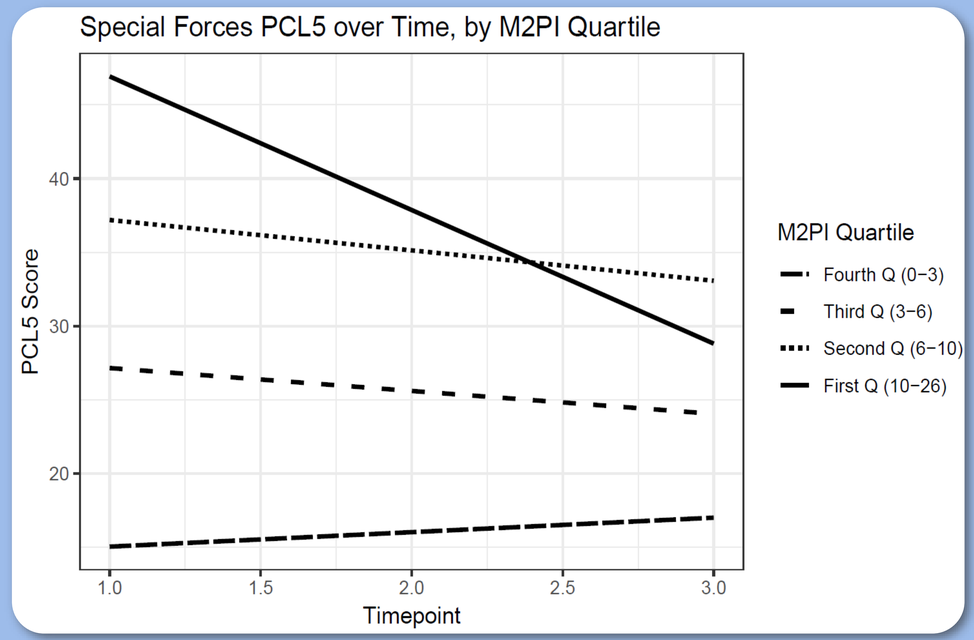


Table 2

Adjusted and unadjusted fixed coefficients from mixed effects linear regression models of key IETP outcomes

	PTSD and NSI		PTSD and M2PI	
	b (CI)	p	b (CI)	p
NSI	1.00 (0.90,1.20)	<0.001	2.60 (2.10,3.10)	<0.001
Age (y)	-0.13 (-0.65,0.39)	0.60	-0.66 (-1.3,-0.07)	0.03
Race: White	-0.07 (-4.60,4.50)	0.99	1.80 (-3.50,7.10)	0.50
Hispanic	-7.50 (-0.18,15.00)	0.06	10.00 (1.30,19.00)	0.03
Rank	1.60 (-3.40,6.70)	0.50	-5.10 (-0.69,11.00)	0.08
Education	0.65 (-4.20,5.50)	0.80	2.90 (-2.80,8.60)	0.30
Service Length	0.23 (-0.65,1.10)	0.60	0.65 (-0.38,1.70)	0.20
Deployments	--0.11 (-0.80,0.58)	0.80	-0.36 (-1.20,0.46)	0.40

Note: b = beta coefficient; SE = standard error; NSI = Neurobehavioral Symptom Inventory; PCL-5 = PTSD Checklist for DSM-5; PROMIS-PI = Patient Reported Outcomes Measurement Information System for Pain Interference; M2PI = Mayo-Portland Adaptability Inventory; SOF = Special Operations Forces

Key Take Away

Post-concussive symptoms are associated with PTSD symptom severity at baseline and with changes during rehabilitation, therefore participation-focused treatment is central to recovery.

Sociodemographic characteristics

Race
White
(68.57%)

Ethnicity
Hispanic
(7.62%)

Education
Graduate Degree
(37.14%)

Number of Deployments
M = 7.38, SD = 3.11

Age
M = 42, SD = 5.4

Years of Military Service
M = 18.54, SD = 2.87

Conclusion

Functional participation may represent an important measure of TBI-related clinical burden that is associated with PTSD symptom trajectories in a TBI rehabilitation program. Patients with TBI and higher PTSD severity may be a key target audience for inpatient rehabilitation given their receptivity to treatment

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