



# Impact of Completion of a Formal Civic Service Program on the Biopsychosocial Health of Returning Veterans with and without Traumatic Brain Injury

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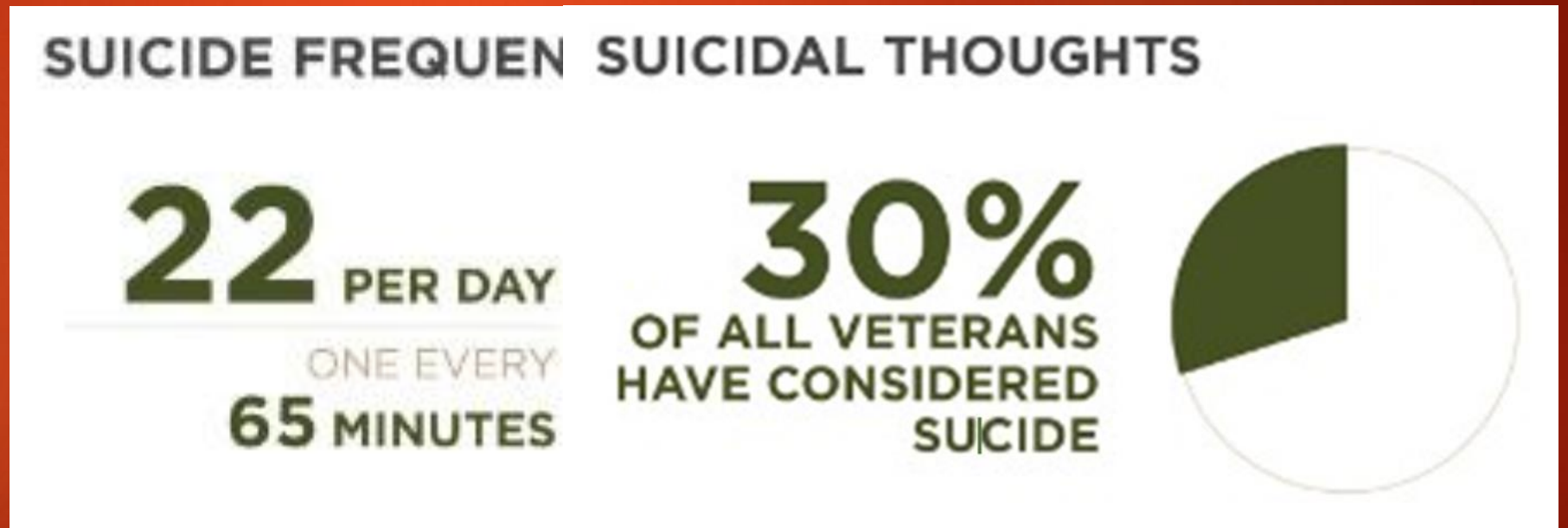
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# “Invisible Wounds of War” in U.S. Service Members who served in Iraq & Afghanistan

- ▶ 18.5% have Post-Traumatic Stress Disorder (PTSD), Depression or both<sup>1</sup>
- ▶ 19.5% to 23% reported experiencing a traumatic brain injury (TBI)<sup>1,2</sup>
  - ▶ TBI is caused by a bump, blow, or jolt to the head or a penetrating head injury that disrupts the normal function of the brain (CDC definition)<sup>3</sup>

Veterans with TBI  
1.5x ↑



<sup>1</sup>Tanielian et al., 2008; <sup>2</sup>Terrio et al., 2009  
<sup>3</sup><http://www.cdc.gov/traumaticbraininjury/>  
Kemp & Bossarte, 2013 (suicide statistics)

# The Mission Continues

- ▶ Founded by Dr. Eric Greitens in 2007
- ▶ 346 Fellows Surveyed



Pre-Survey

6-month Volunteer Placement at  
a Local Nonprofit of their Choice

Post-Survey

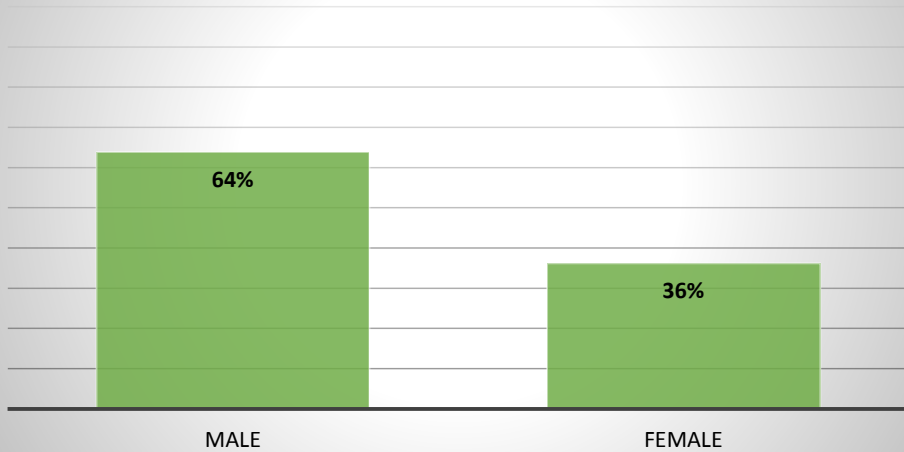
# Intersection of Health & Mental Health

## TMC Fellow Characteristics

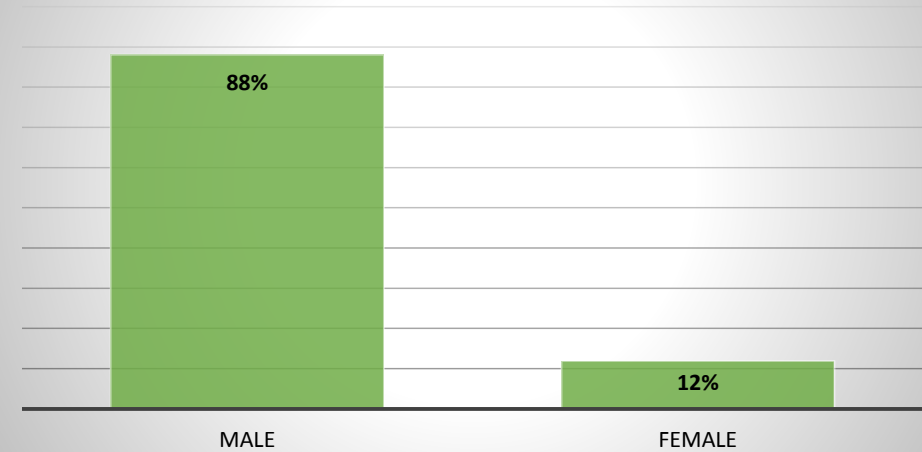
Non-TBI

TBI

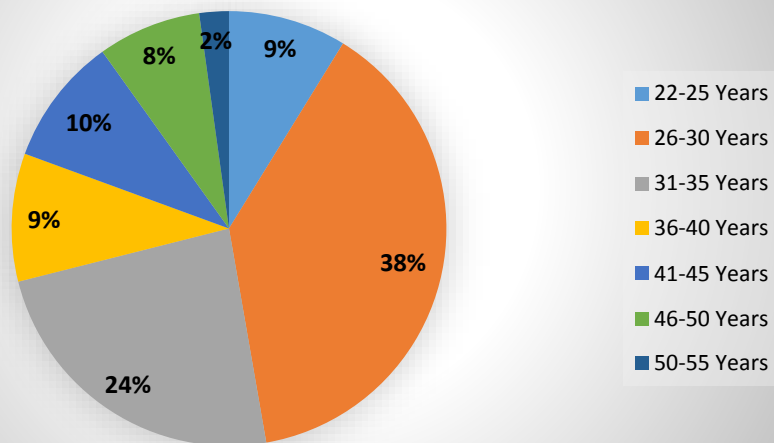
### Gender (n=271)



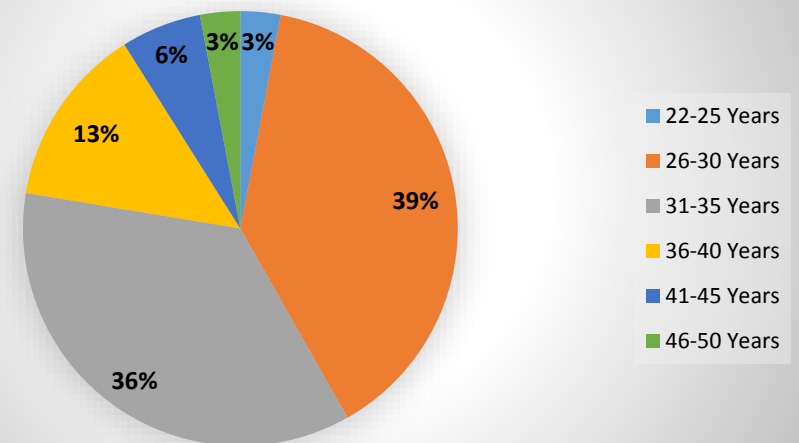
### Gender (n=66)



### Age (n=273)



### Age (n=67)

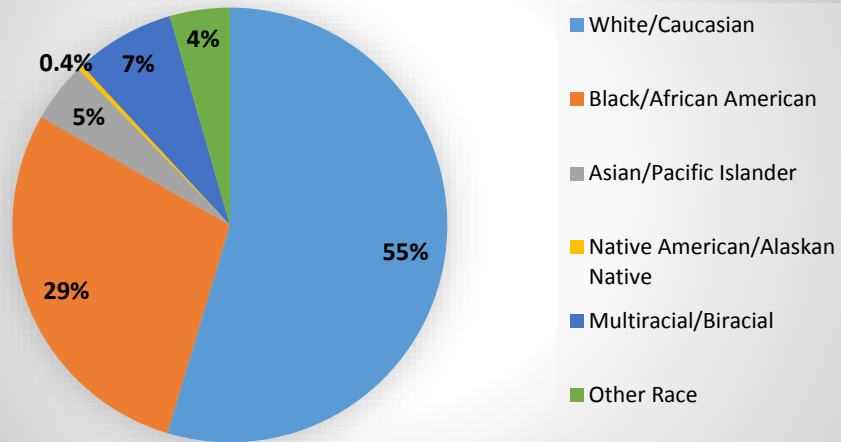


# TMC Fellow Characteristics

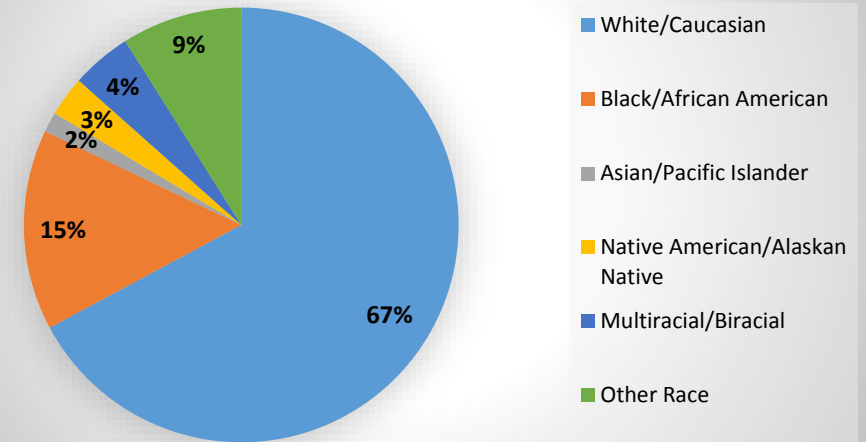
Non-TBI

TBI

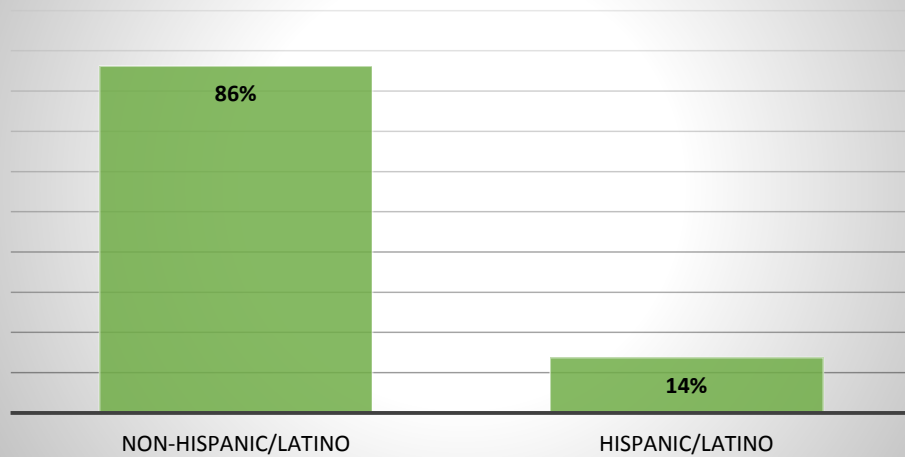
### Race (n=269)



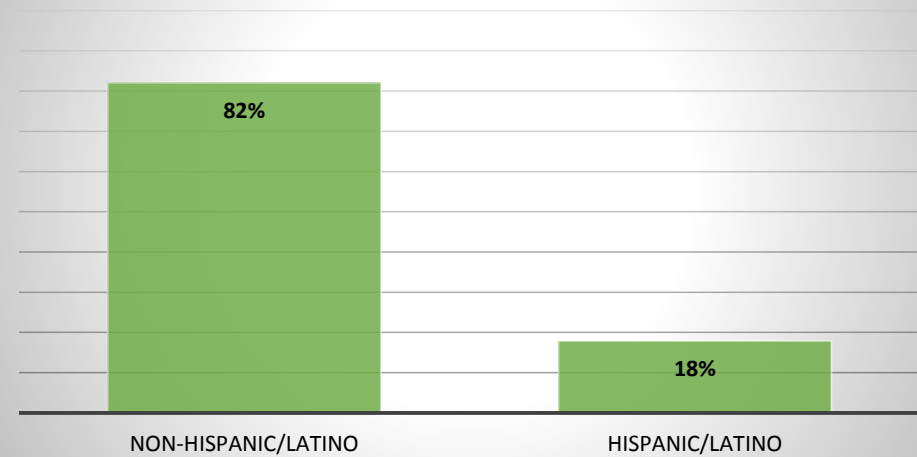
### Race (n=67)



### Ethnicity (n=269)



### Ethnicity (n=67)

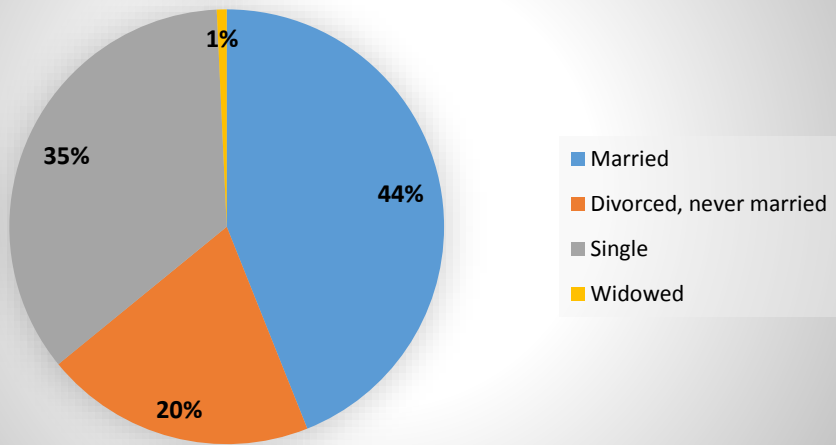


# TMC Fellow Characteristics

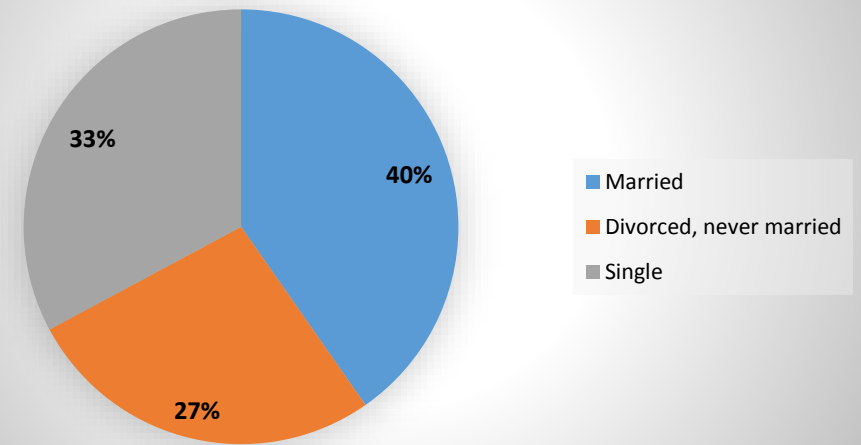
Non-TBI

TBI

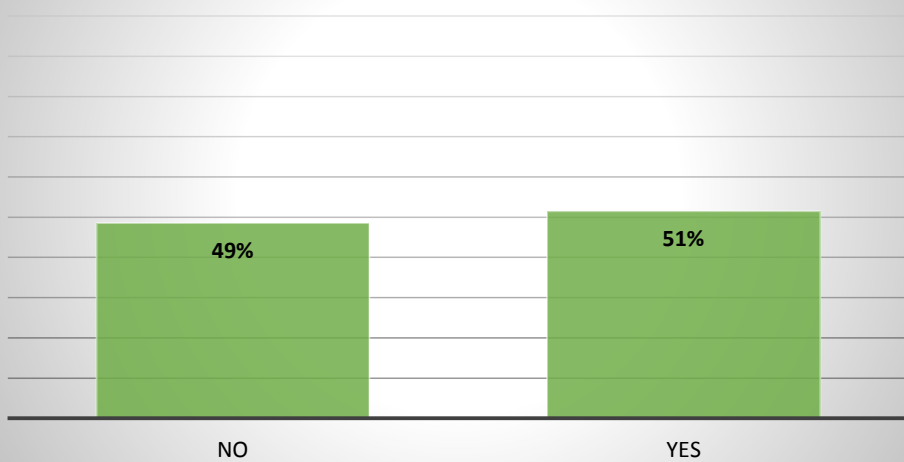
### Marital Status (n=273)



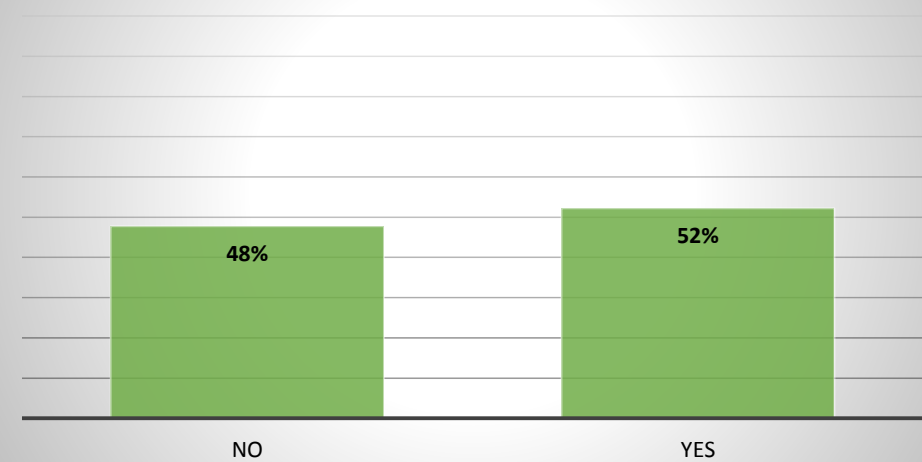
### Marital Status (n=67)



### Have Children (n=272)



### Have Children (n=66)

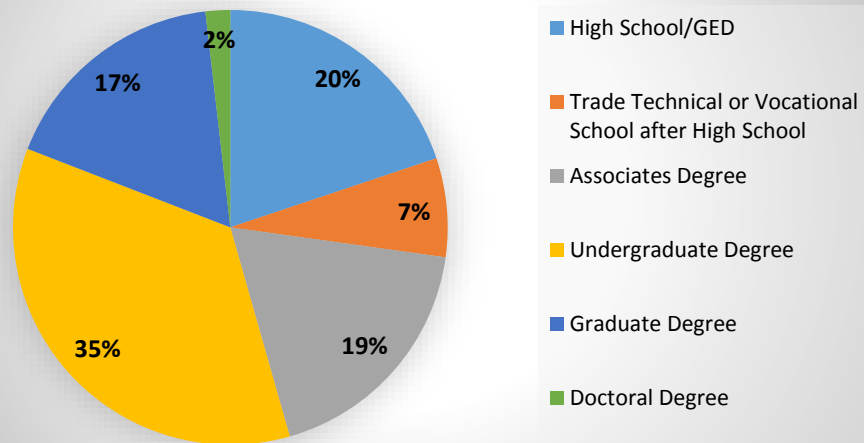


# TMC Fellow Characteristics

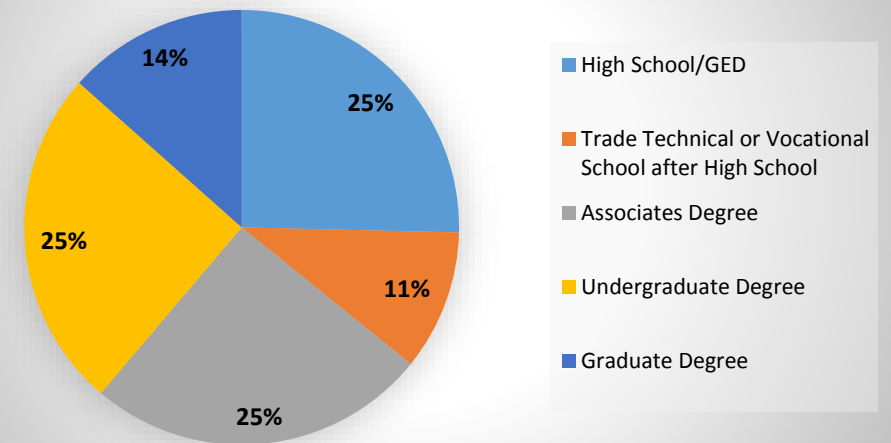
Non-TBI

TBI

Education (n=272)



Education (n=67)



# The Mission Continues

- ▶ Three Main Categories
  - ▶ Psychological
  - ▶ Physical
  - ▶ Social



**Pre-Survey**

**6-month Volunteer Placement at  
a Local Nonprofit of their Choice**

**Post-Survey**



# Were there changes in psychological factors from pre to post?

Psychological Factors	Non-TBI	TBI
PTSD Symptoms	t(263) = 3.109, p = 0.002* ↓	t(62) = 2.711, p = 0.009* ↓
Depression Symptoms	t(264) = 4.241, p = 0.000* ↓	t(61) = 0.646, p = 0.521 ↓
Interference due to Emotional Health	t(262) = 3.775, p = 0.000* ↓	t(61) = 0.659, p = 0.512 ↓
Psychological Well-being	t(260) = -1.745, p = 0.000* ↑	t(63) = -1.463, p = 0.149 ↑
Feelings on Self-efficacy	t(260) = -2.313, p = 0.021* ↑	t(63) = -2.798, p = 0.007* ↑

Peer-mentoring intervention

Were there changes in **physical factors** from pre to post?

Physical Factors	Non-TBI	TBI
Overall Physical Health Rating	$t(263) = 2.89, p = 0.004^*$ ↑	$t(63) = 2.644, p = 0.010^*$ ↑
Interference due to Physical Health	$t(261) = 1.317, p = 0.189$ ↓	$t(63) = 1.494, p = 0.140$ ↓

Were there changes in **social factors** from pre to post?

Social Factors	Non-TBI	TBI
Social Isolation and Loneliness	$t(263) = 4.924, p = 0.000^*$ ↓	$t(61) = 3.811, p = 0.000^*$ ↓
Availability of Social Support	$t(263) = -3.746, p = 0.000^*$ ↑	$t(63) = -3.950, p = 0.000^*$ ↑

# Summary

- ▶ Preliminary results from an Impact Evaluation (pre-post design)
- ▶ First Impact Evaluation of a Civic Service Program for Veterans
- ▶ Fellows without TBI showed significant pre to post improvements on all psychological and social factors
- ▶ Fellows with TBI showed clinical improvements in positive directions for all factors with statistically significant results in mental health and in areas targeted for improvement in other TBI-specific interventions
  - ▶ decrease of PTSD symptoms
  - ▶ decrease in feelings of loneliness and isolation
  - ▶ increase in perceived availability of social support
  - ▶ greater magnitude of improvement on self-efficacy relative to Non-TBI group



# Acknowledgements

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