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FOR MILITARY FAMILY READINESS

Childhood Trauma, War Exposure & Moral Injury: Mental Health Predictors Among Post-9/11 US Veterans

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Faculty/Presenter Disclosure

- **Faculty:** Dr. Daniel Perkins, PhD

- **Relationships with commercial interests:**
  - None

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Learning Objectives

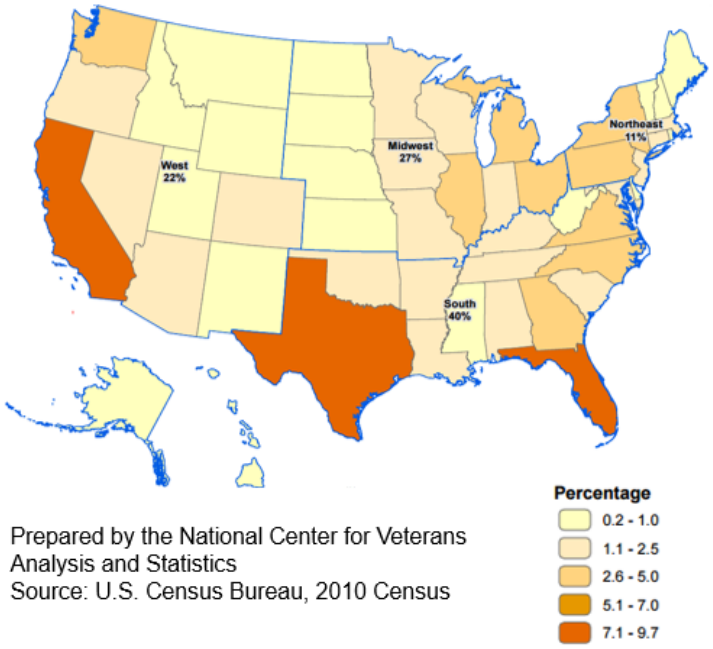
- Participants will learn about a longitudinal, representative cohort of U.S. veterans and understand the effects of childhood trauma, combat trauma, and their interaction on veteran mental well-being.

Background on Sample

- A September 2016 census sampling of 48,965 U.S. veterans from the active component (Army, Navy, Air Force, Marines) or deactivated from the reserve component who were 0-90 days from separation
  - Starting cohort of 9,566 veterans surveyed every 6 months, over 6 waves

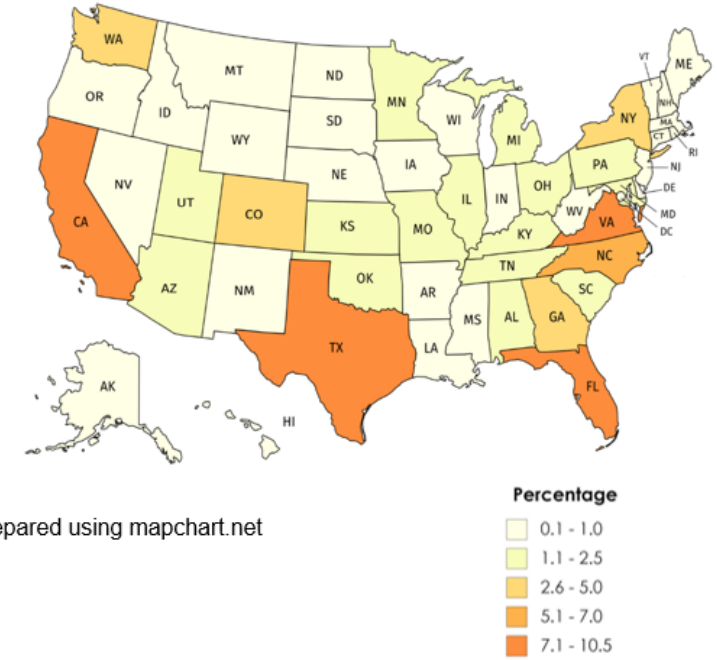
Where Study Veterans Live

Percent of Total Veteran Population
by State and Region: 2010



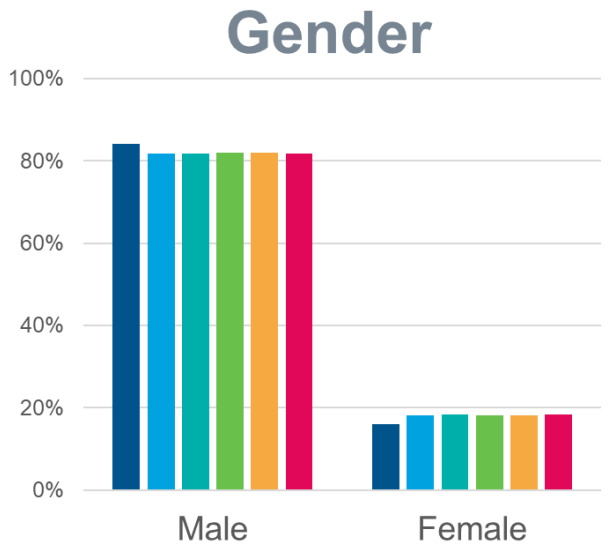
Prepared by the National Center for Veterans Analysis and Statistics
Source: U.S. Census Bureau, 2010 Census

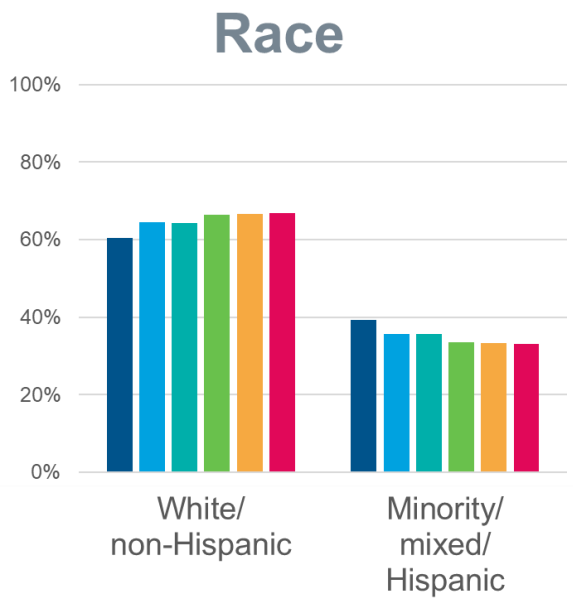
Percent of TVMI Study Population
by State

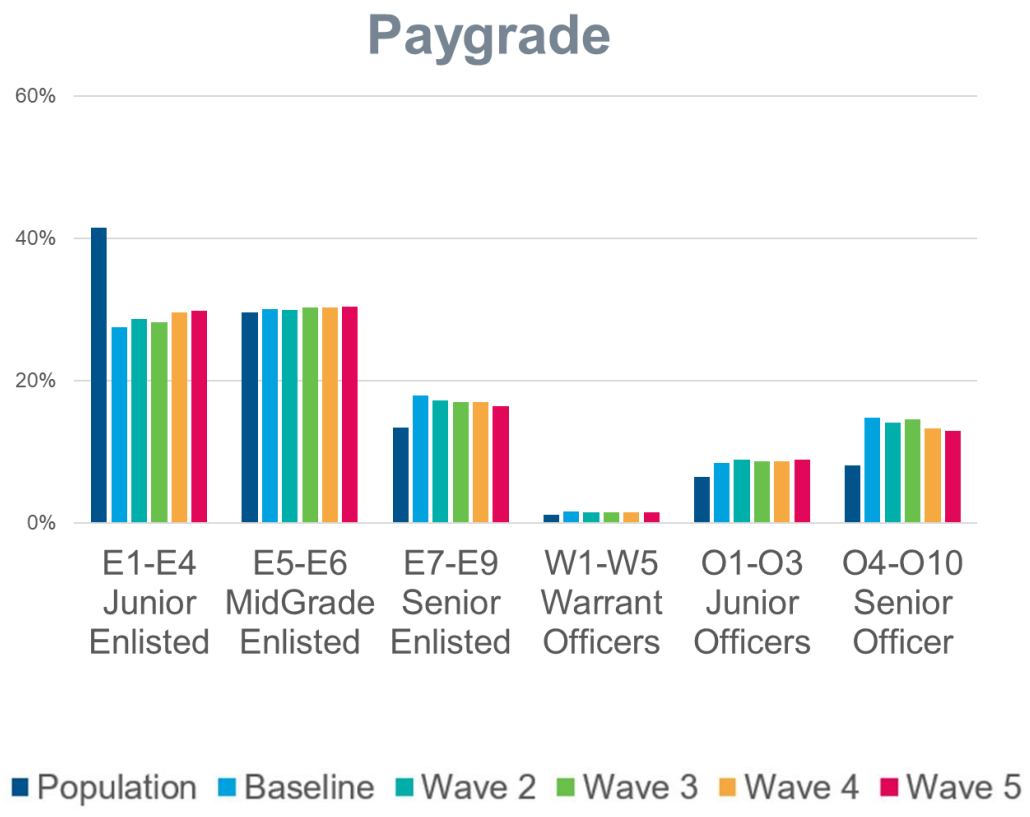


Prepared using mapchart.net

Demographic Representativeness







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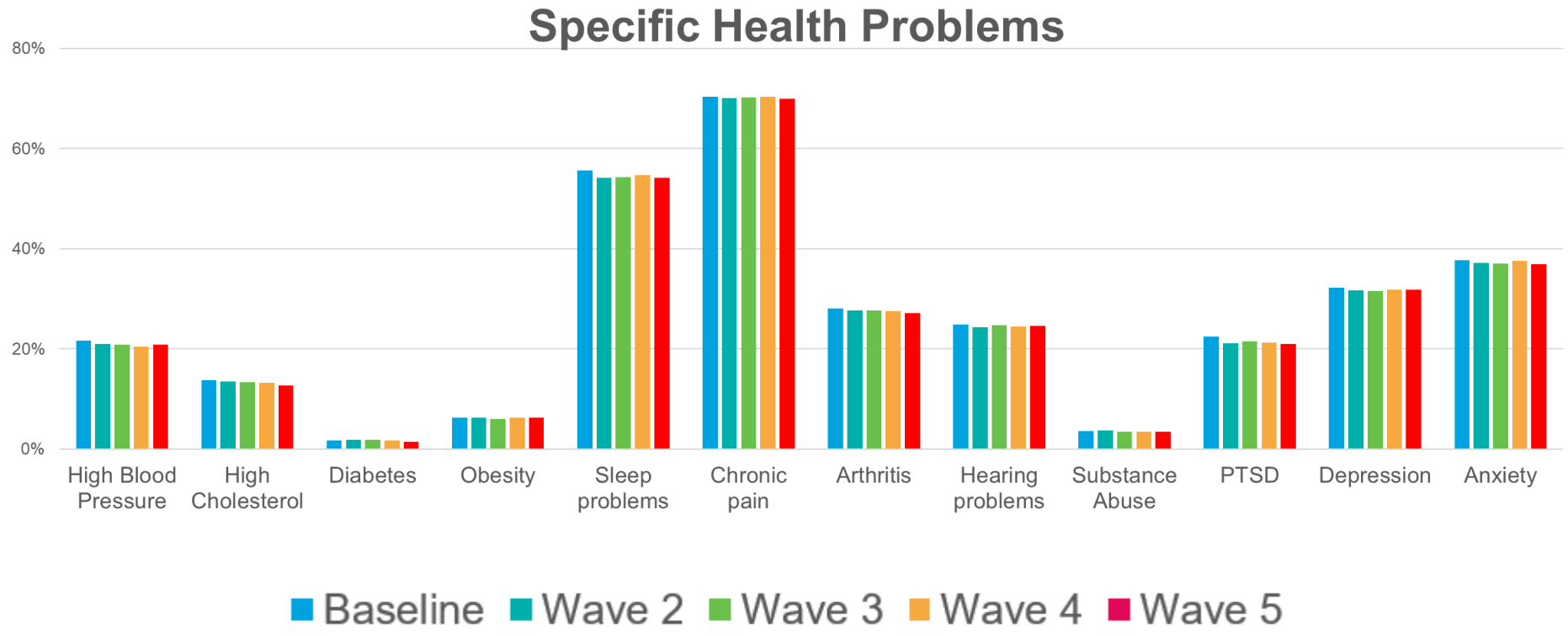

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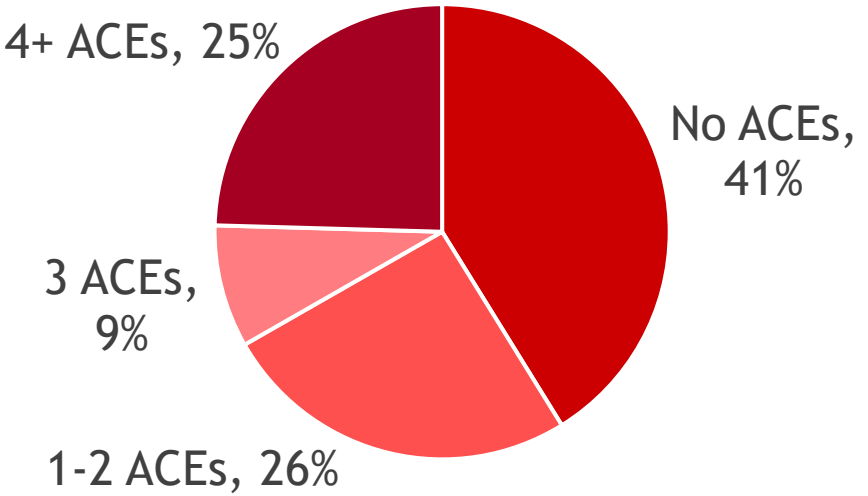
Mental Health Screening Results

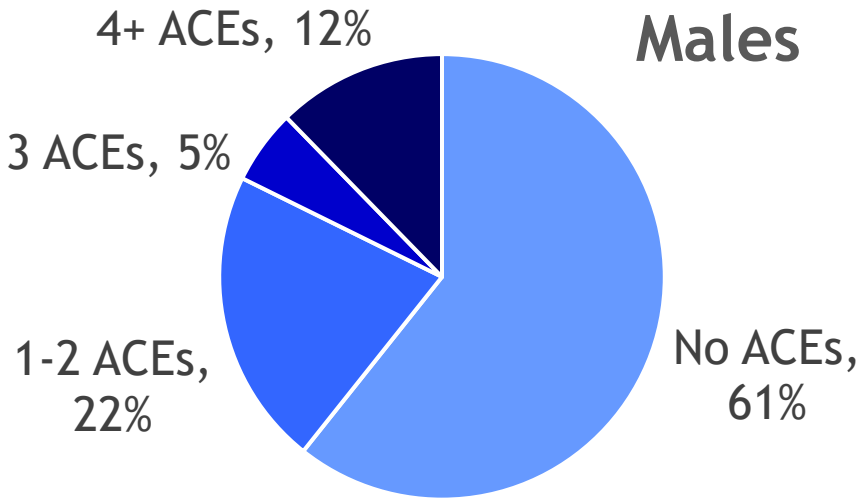
	Female (n=7,787)	Male (n=41,169)
Wave 1 probable PTSD	31%	25%
Wave 1 probable depression	33%	26%
Wave 1 probable anxiety	23%	18%
Wave 1 probable alcohol misuse	33%	36%
Wave 1 probable suicidality	8.7%	8.2%
Wave 2 anger issues	63%	57%

Adverse Childhood Experiences (ACEs)

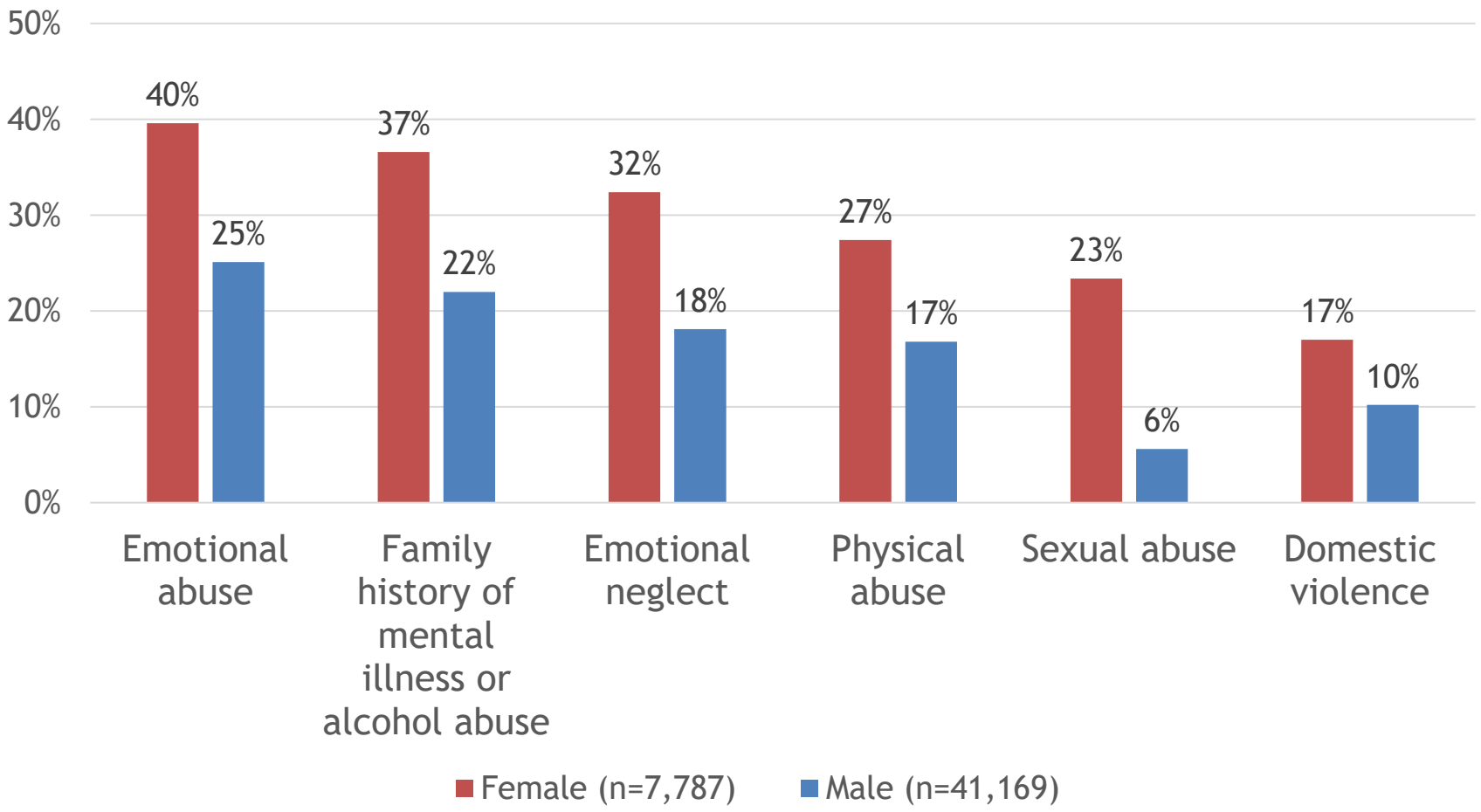
- Exposure to abuse (e.g., psychological, physical, sexual, emotional), neglect, observing violence, and living in toxic family and contextual environments early in life
- Correlated with the development of depression, anxiety, aggression, suicide attempts and completions, alcohol and drug abuse, smoking, criminal activity, and unsafe sexual practices (Chapman et al., 2004; Turner, Finkelhor, & Ormrod, 2006; Wright, Carter, & Cullen, 2005)
- Higher prevalenc erans (Blosnich, Dichter, Cerulli, Batten
- Female veterans o ACEs when compared to the to their female civilian counterp orton, & Wanner, 2018; McCauley, Blosnich, & D

Adverse Childhood Experiences (ACEs)





Types of ACEs by Gender



Military Warfare Experiences

- **Combat patrol event** items included encountering land or water mines, booby traps, and roadside bombs and firing your weapon at enemy combatants
- **Corollarie** luded seeing civilians a verely wounded nally witnessing r or an ally being seve gured

Combination of Combat Exposure and ACEs in Predicting *Probable PTSD*

	Female Veterans	Male Veterans
High resilience	84% less likely	82% less likely
No ACEs, no combat patrol events, no corollaries of combat (reference group)		
1-2 ACEs, no combat patrol or corollaries	Not significant	--
3+ ACEs, no combat patrol or corollaries	3x more likely	3x
Only among veterans exposed to corollaries of combat		
No ACEs, only corollaries of combat	--	2x
1-2 ACEs, only corollaries of combat	--	3x
3+ ACEs, only corollaries of combat	5x	6x
Among veterans who experienced both combat patrol events and corollaries of combat		
No ACEs, both combat and corollary	11x	5x
1-2, ACEs, both combat and corollary	5x	7x
3+ ACEs, both combat and corollary	6x	10x

Combination of Combat Exposure and ACEs in Predicting *Probable Depression*

	Female Veterans	Male Veterans
High resilience	86% less likely	82% less likely
No ACEs, no combat patrol events, no corollaries of combat (reference group)		
1-2 ACEs, no combat patrol or corollaries	--	1.6x more likely
3+ ACEs, no combat patrol or corollaries	3x	3x
Only among veterans exposed to corollaries of combat		
No ACEs, only corollaries of combat	--	1.6x
1-2 ACEs, only corollaries of combat	3x	2x
3+ ACEs, only corollaries of combat	3x	4x
Among veterans who experienced both combat patrol events and corollaries of combat		
No ACEs, both combat and corollary	5x	3x
1-2, ACEs, both combat and corollary	5x	3x
3+ ACEs, both combat and corollary	6x	4x

Combination of Combat Exposure and ACEs in Predicting *Probable Anxiety*

	Female Veterans	Male Veterans
High resilience	77% less likely	83% less likely
No ACEs, no combat patrol events, no corollaries of combat (reference group)		
1-2 ACEs, no combat patrol or corollaries	--	2x more likely
3+ ACEs, no combat patrol or corollaries	2x	3x
Only among veterans exposed to corollaries of combat		
No ACEs, only corollaries of combat	--	2x
1-2 ACEs, only corollaries of combat	--	2x
3+ ACEs, only corollaries of combat	3x	3x
Among veterans who experienced both combat patrol events and corollaries of combat		
No ACEs, both combat and corollary	3x	3x
1-2, ACEs, both combat and corollary	3x	3x
3+ ACEs, both combat and corollary	3x	5x

Combination of Combat Exposure and ACEs in Predicting *Probable Alcohol Misuse*

	Female Veterans	Male Veterans
High resilience	21% less likely	56% less likely
No ACEs, no combat patrol events, no corollaries of combat (reference group)		
1-2 ACEs, no combat patrol or corollaries	--	--
3+ ACEs, no combat patrol or corollaries	--	--
Only among veterans exposed to corollaries of combat		
No ACEs, only corollaries of combat	--	--
1-2 ACEs, only corollaries of combat	--	2x
3+ ACEs, only corollaries of combat	--	1.3x more likely
Among veterans who experienced both combat patrol events and corollaries of combat		
No ACEs, both combat and corollary	--	1.4x
1-2, ACEs, both combat and corollary	--	1.5x
3+ ACEs, both combat and corollary	4x	1.6x

Combination of Combat Exposure and ACEs in Predicting *Anger Issues*

	Female Veterans	Male Veterans
High resilience	97% less likely	62% less likely
No ACEs, no combat patrol events, no corollaries of combat (reference group)		
1-2 ACEs, no combat patrol or corollaries	--	3x more likely
3+ ACEs, no combat patrol or corollaries	2x	3x
Only among veterans exposed to corollaries of combat		
No ACEs, only corollaries of combat	--	--
1-2 ACEs, only corollaries of combat	--	3x
3+ ACEs, only corollaries of combat	--	6x
Among veterans who experienced both combat patrol events and corollaries of combat		
No ACEs, both combat and corollary	--	3x
1-2, ACEs, both combat and corollary	--	4x
3+ ACEs, both combat and corollary	4x	6x

Combination of Combat Exposure and ACEs in Predicting *Probable Suicidality*

	Female Veterans	Male Veterans
High resilience	86% less likely	86% less likely
No ACEs, no combat patrol events, no corollaries of combat (reference group)		
1-2 ACEs, no combat patrol or corollaries	3x more likely	2x
3+ ACEs, no combat patrol or corollaries	5x	3x
Only among veterans exposed to corollaries of combat		
No ACEs, only corollaries of combat	--	--
1-2 ACEs, only corollaries of combat	--	--
3+ ACEs, only corollaries of combat	5x	4x
Among veterans who experienced both combat patrol events and corollaries of combat		
No ACEs, both combat and corollary	9x	3x
1-2, ACEs, both combat and corollary	9x	2x
3+ ACEs, both combat and corollary	8x	5x

Moral Injury (MI)

- Refers to an injury to an individual's moral conscience resulting from events that a person may have perpetrated, failed to prevent, and/or witnessed that contradict with deeply held beliefs and expectations (Nash et al., 2013)
  - Transgressions-self: I acted in ways that violated my own moral code or values.
  - Transgressions-others: I feel betrayed by fellow service members who I once trusted.

Combination of Moral Injury and ACEs in Predicting *Difficulty Adjusting to Civilian Life*

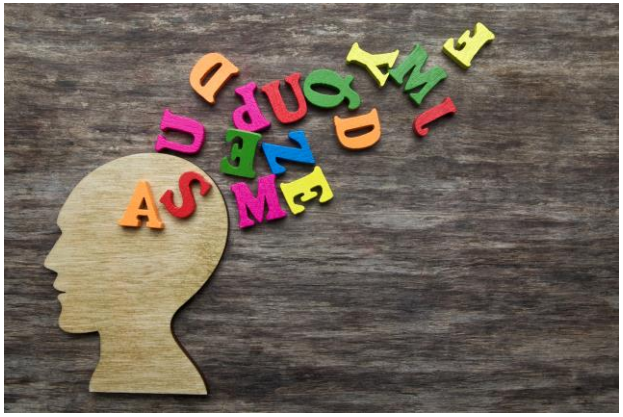
	Female Veterans	Male Veterans
No ACEs, had moral injury from others	4x more likely	75% more likely
3+ ACEs, no moral injury from others	5x	81%
3+ ACEs, had moral injury – others	7x	4x
No ACEs, had moral injury from self	Not significant	86%
3+ ACEs, no moral injury from self	2x	76%
3+ ACEs, had moral injury - self	2x	5x

Combination of Moral Injury and ACEs in Predicting *Difficulty Adjusting to Civilian Life*

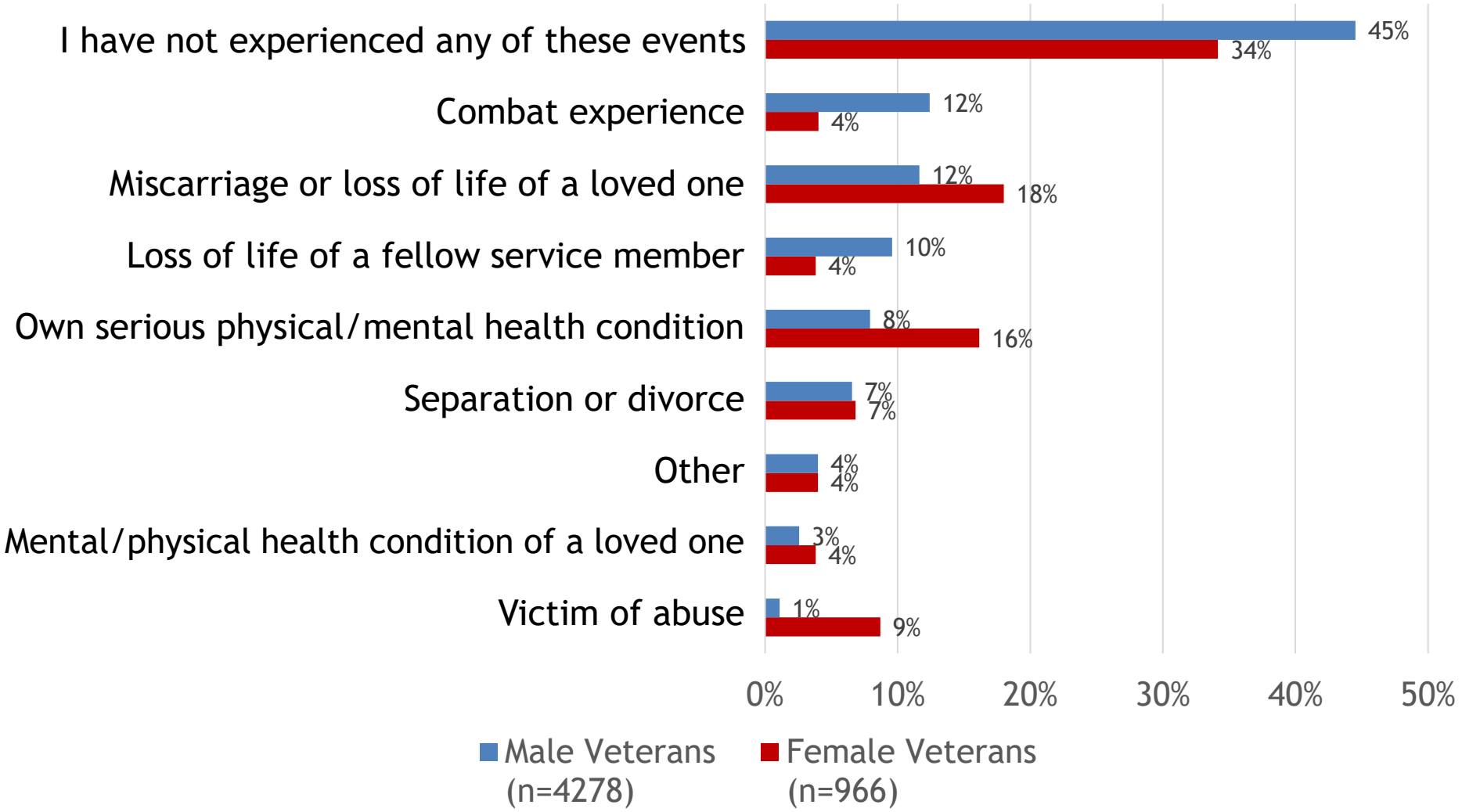
	Female Veterans	Male Veterans
No ACEs, had moral injury from others	4x more likely	75% more likely
3+ ACEs, no moral injury – others	5x	81%
3+ ACEs, had moral injury – others	7x	4x
No ACEs, had moral injury from self	Not significant	86%
3+ ACEs, no moral injury – self	2x	76%
3+ ACEs, had moral injury – self	2x	5x

Post-Traumatic Growth

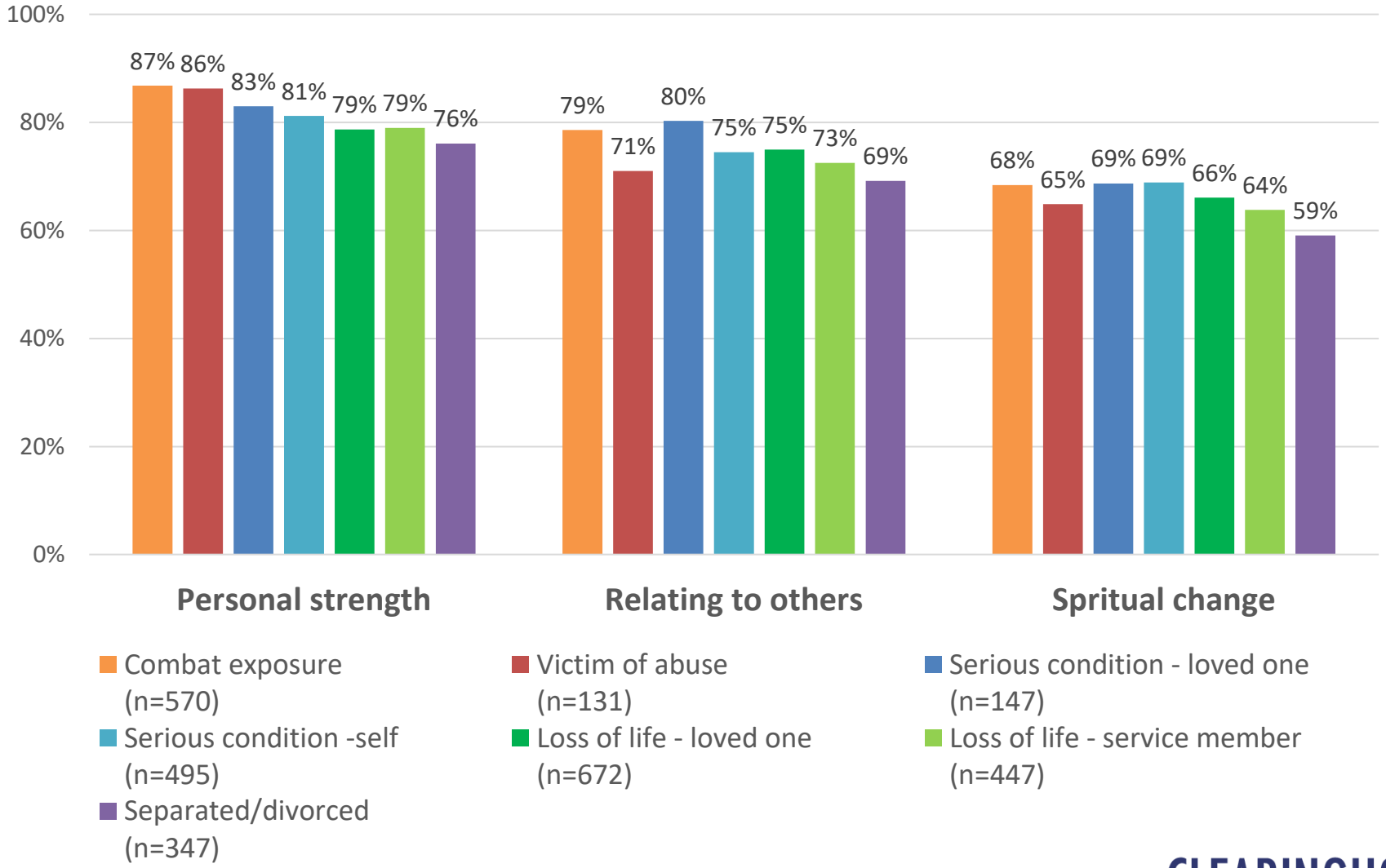
- Positive psychological change and higher functioning experienced as a result of adversity (Cann et al., 2010)
- Dimensions include personal strength, spiritual change, and growth in relating to others



Most Impactful Traumatic Event or Crisis



3 Factors of Post-Traumatic Growth by Trauma Type



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Which Type of Trauma Predicts Experiencing *Growth in Personal Strength*?

	Female veterans	Male veterans
Loss of life of a fellow service member	10x more likely	5x more likely
Loved one's physical or mental health condition	10x	7x
Own physical or mental health condition	16x	5x
Combat experiences	24x	8x
Resiliency	--	Less likely
Combat patrol events	--	40% more likely
Corollaries of combat events	--	--
3+ ACEs	--	46%

Which type of trauma predicts experiencing *growth around relating to others*?

	Female veterans	Male veterans
Loss of life of a fellow service member	5x more likely	2x
Loved one's physical or mental health condition	6x	5x
Own physical or mental health condition	4x	3x
Combat experiences	4x	4x
High resilience	--	Less likely
Combat patrol events	--	30% more likely
Probable PTSD symptoms	--	56%
Probable depression	--	Less likely
Moral injury - self	--	55%

Which Type of Trauma Predicts Experiencing *Spiritual Growth*?

	Female veterans	Male veterans
Loss of life of a fellow service member	Not significant	1.7x more likely
Loved one's physical or mental health condition	3x	3x
Own physical or mental health condition	5x	2x
Combat experiences	--	2x
High resilience	--	Less likely
PTSD symptoms	--	46% more likely
Moral injury - others	--	24%
Moral injury – self	--	38%

Summary of Results

- ACEs, by itself, predicts poor outcomes at Wave 1
- Cumulatively, ACEs and warfare experiences dramatically increase the likelihood of issues: PTSD, anxiety, depression, suicidality
- Moral injury impacts adjustment to civilian live; however, the degree varies by gender.
- A large portion of veterans have a growth outlook as a result of a trauma or crisis they experienced

References

- Chapman et al.; *Addictive Behaviors*, 2004
- Turner, Finkelhor, & Ormrod; *Social Science and Medicine*, 2006
- Wright, Carter, & Cullen; *Research in Crime and Delinquency*, 2005
- Blosnich, Dichter, Cerulli, Batten, & Bossarte; *JAMA Psychiatry*, 2014
- Bannister, Lopez, Menefee, Norton, & Wanner; *Journal of Traumatic Stress*, 2018
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Questions?

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