Treating trauma and reducing suicide risk

Craig J. Bryan, PsyD, ABPP
Associate Director
National Center for Veterans Studies

Trauma and suicide risk

- Traumatic events have been consistently linked with suicidal ideation and behaviors, regardless of type of trauma experienced

- Depression appears to boost the effect of PTSD on suicide risk

(Panagioti, Gooding, & Tarrier, 2009)

PTSD and suicide risk

Table 2. Estimates of the Association Between PTSD and Completed Suicide, Denmark, 1994–2006

	Odds Ratio	95% CI
PTSD and suicide: adjusted for matching[a]	9.8	6.7, 15
PTSD and suicide: adjusted for matching[a] and confounders[b]	5.3	3.4, 8.1

Abbreviations: CI, confidence interval; PTSD, posttraumatic stress disorder.

[a] Matching refers to control-to-case matching on gender, age, and time.

[b] Identified confounders were depression, marital status, and income quartile.

Gradus et al. (2010)

PTSD as mediator

Model 6: adjusted for demographic variables and lifetime AAD, DAD, and MDE[c]		
Nonassaultive	2.0 (0.6-6.5)	.27
Assaultive	3.2 (1.4-7.5)	.007
MDE	5.2 (2.8-9.6)	<.001
AAD	0.8 (0.4-1.7)	.55
DAD	2.0 (1.0-3.9)	.04

Model 6: adjusted for demographic variables and lifetime AAD, DAD, and MDE[c]		
Nonassaultive	0.8 (0.5-1.4)	.51
Assaultive	0.7 (0.3-1.5)	.35
PTSD	2.7 (1.3-5.5)	.005
MDE	5.3 (2.9-9.5)	<.001
AAD	0.8 (0.4-1.7)	.61
DAD	2.2 (1.2-4.3)	.01

(Wilcox, Storr, & Breslau, 2009)

Depression as moderator

Table 3. Departure From Additive Effects of PTSD and Depression on Completed Suicide, Denmark, 1994–2006[a]

	PTSD+		PTSD–	
	Odds Ratio	**95% CI**	**Odds Ratio**	**95% CI**
Depression+	29	11, 79	13	12, 14
Depression–	6.2	4.0, 9.7	1	
	RERI = 10 (95% CI: –19, 39)			

Abbreviations: CI, confidence interval; PTSD, posttraumatic stress disorder; RERI, relative excess risk due to interaction.

[a] Analyses were adjusted for gender, age, time, depression, marital status, and income quartile.

Gradus et al. (2010)

Subthreshold PTSD

TABLE 3. Suicidal Thoughts During the Last Month and Number of PTSD Symptoms Among 9,358 Subjects Screened on National Anxiety Disorders Screening Day 1997

	Number of PTSD Symptoms													
	None (N=6,465)		One (N=299)		Two (N=627)		Three (N=764)		Four (N=809)		One, Two, Three, or Four (N=2,499)		Total (N=8,964)[a]	
Suicidal Thoughts	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No suicidal thoughts	5,878	91	259	87	531	85	585	77	541	67	1,916	77	7,794	87
Suicidal thoughts	587	9	40	13	96	15	179	23	268	33	583	23	1,170	13

[a] Total is less than 9,358 because of missing data.

(Marshall et al., 2008)

Fluid vulnerability theory

Fundamental Assumptions (Rudd, 2006):

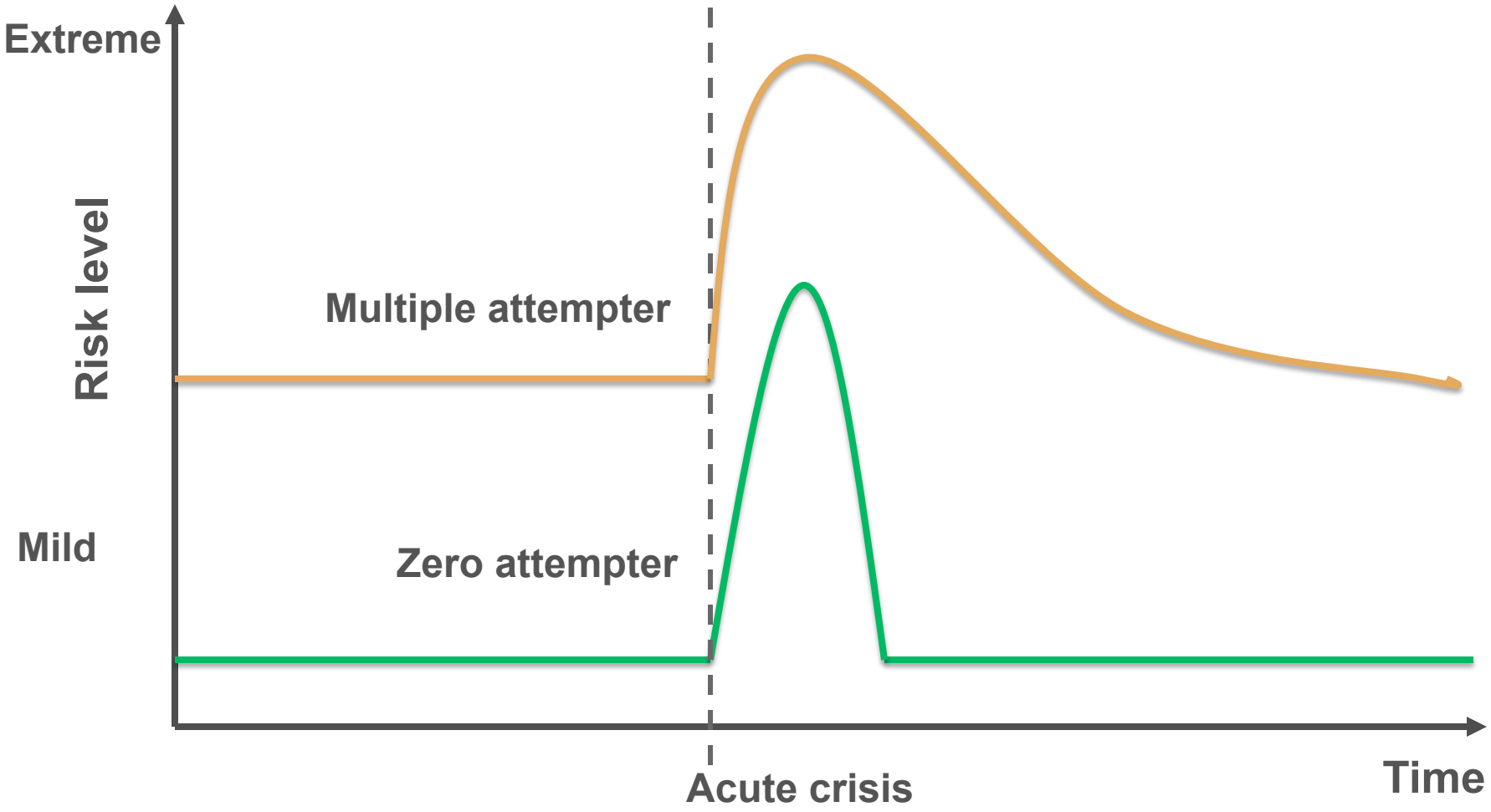
- Baseline risk varies from individual to individual
- Baseline risk is determined by *static* factors
- Baseline risk is higher and endures longer for multiple attempters (2 or more attempts)
- Risk is elevated by aggravating factors
- Severity of risk is dependent on baseline level and severity of aggravating factors

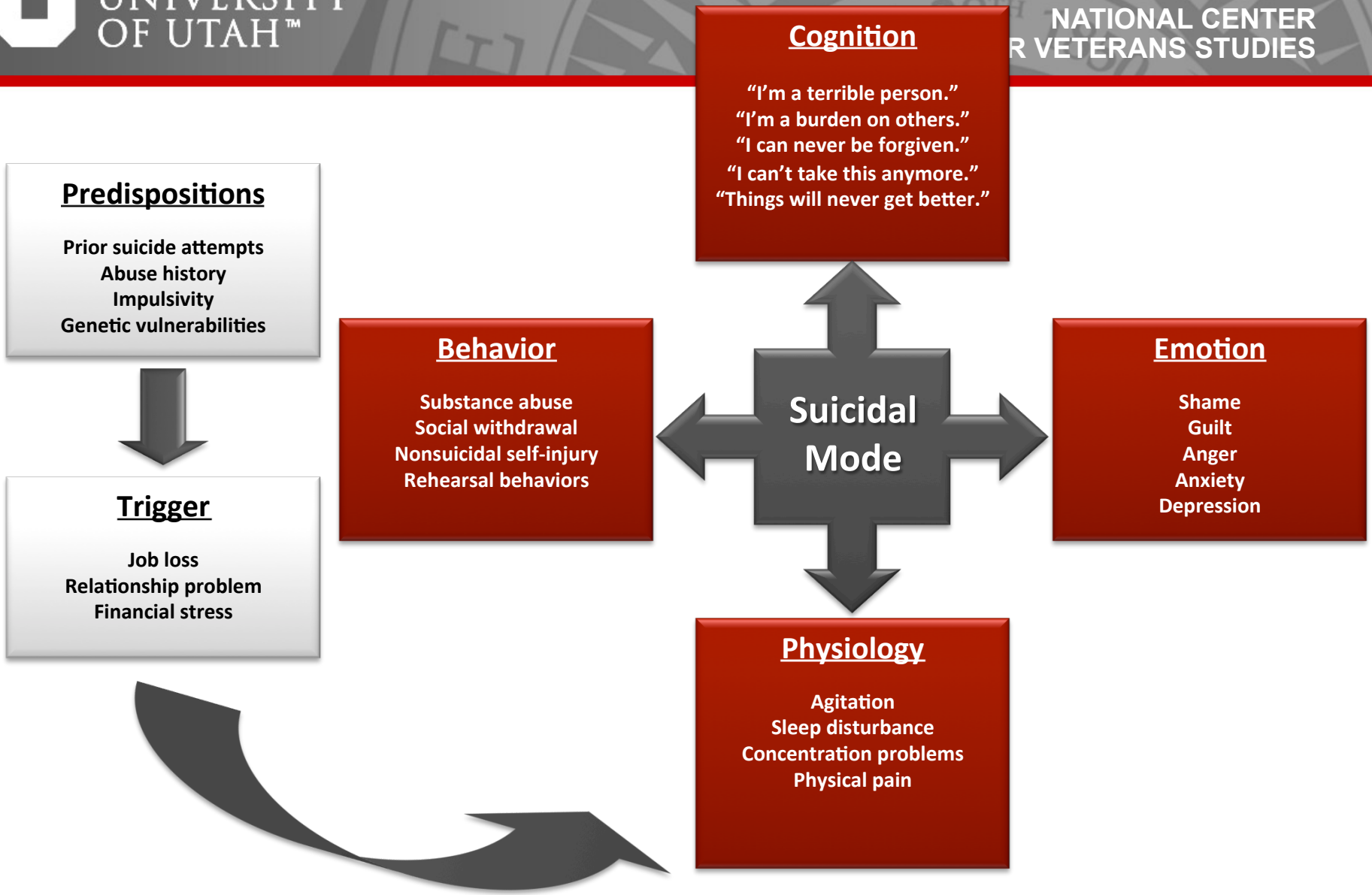
Fluid vulnerability theory

Fundamental Assumptions (cont'd):

- Risk is elevated by aggravating factors for limited periods of time (hours, days, weeks), and resolves when risk factors are effectively targeted
- Risk returns to baseline level only
- Risk is reduced by protective factors
- Multiple attempters have fewer available protective factors (support, interpersonal resources, coping/problem-solving skills, etc.)

(Rudd, 2006)


Extreme
Risk level
Mild
Multiple attempter
Zero attempter
Acute crisis
Time

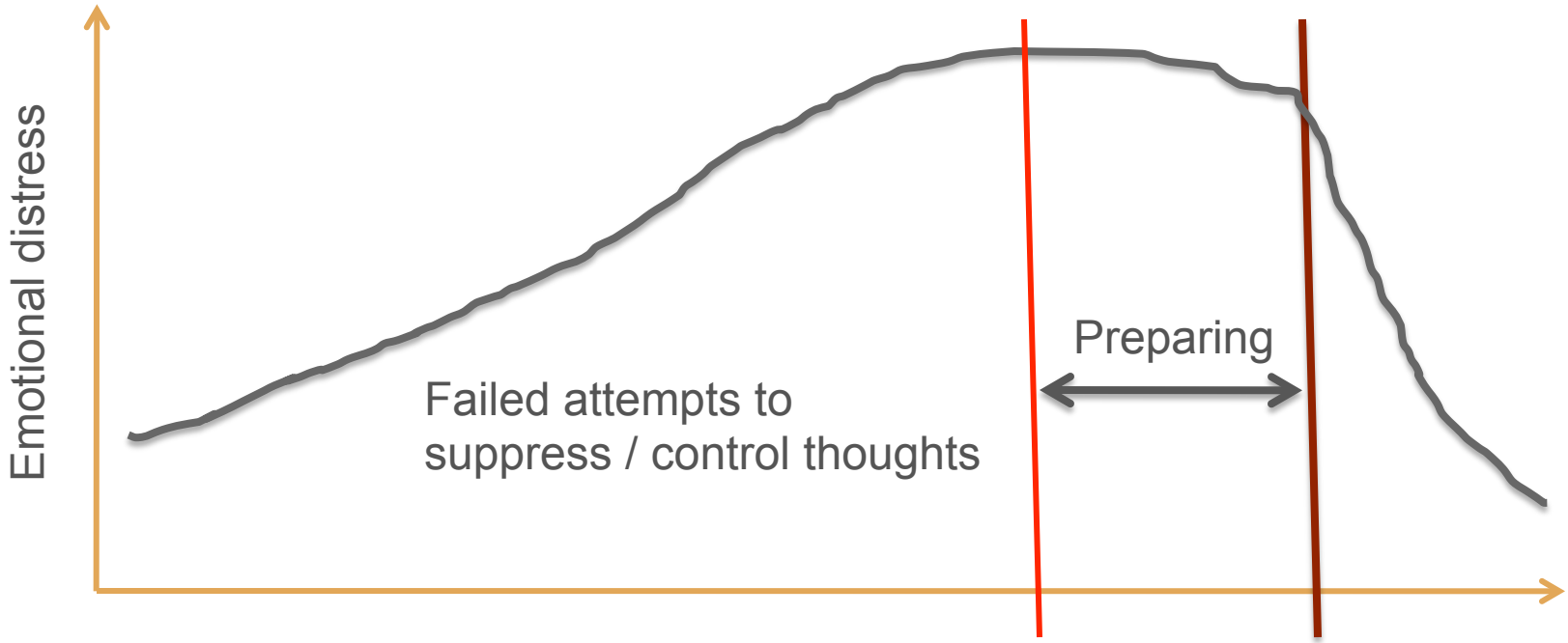

Cognition
"I'm a terrible person."
"I'm a burden on others."
"I can never be forgiven."
"I can't take this anymore."
"Things will never get better."
Predispositions
Prior suicide attempts
Abuse history
Impulsivity
Genetic vulnerabilities
Behavior
Substance abuse
Social withdrawal
Nonsuicidal self-injury
Rehearsal behaviors
Suicidal Mode
Emotion
Shame
Guilt
Anger
Anxiety
Depression
Trigger
Job loss
Relationship problem
Financial stress
Physiology
Agitation
Sleep disturbance
Concentration problems
Physical pain

Functional model of suicide

	Reinforcement: Positive	Reinforcement: Negative
Automatic (Internal)	**Adding something desirable** ("To feel something, even if it is pain")	**Reducing tension or negative affect** ("To stop bad feelings")
Social (External)	**Gaining something from others** ("To get attention or let others know how I feel")	**Escape interpersonal task demands** ("To avoid punishment from others or avoid doing something undesirable")

(Bryan, Rudd, & Wertenberger, 2012; Nock & Prinstein, 2004)

Negative reinforcement



(Brown, 1998; Najmi, Wegner, & Nock, 2007)

Common assumptions about treating trauma

Excluding suicidal patients

- Recent meta-analysis of 13 PE and CPT clinical trials found that all 100% excluded suicidal patients (Powers, 2010)

- An estimated 40-50% of clinical trials for all conditions exclude for suicide risk

Assumption 1.

"Focusing on the trauma will retraumatize the victim"

- The core active ingredient of treatments that work for PTSD involve intentional exposure to memories, thoughts, and emotions associated with the trauma
  - Prolonged exposure (PE)
  - Cognitive processing therapy (CPT)

Assumption 2.

"All treatments are equally effective"

- Exposure-based treatments are 2-4 times more effective for recovery from PTSD than other treatments
  - PE and CPT: 75-80% remission
  - No treatment: 25-35% remission
  - Other therapies: 25-40% remission

(Institute of Medicine, 2007, 2012)

Assumption 3.

"Long-term treatment is required, especially for complex trauma"

- The most effective treatments typically span 10-12 sessions in duration
- Equivalent outcomes for chronic versus acute PTSD
  - Possible exception: Vietnam-era veterans
- Benefits endure for 5-10 years post-therapy

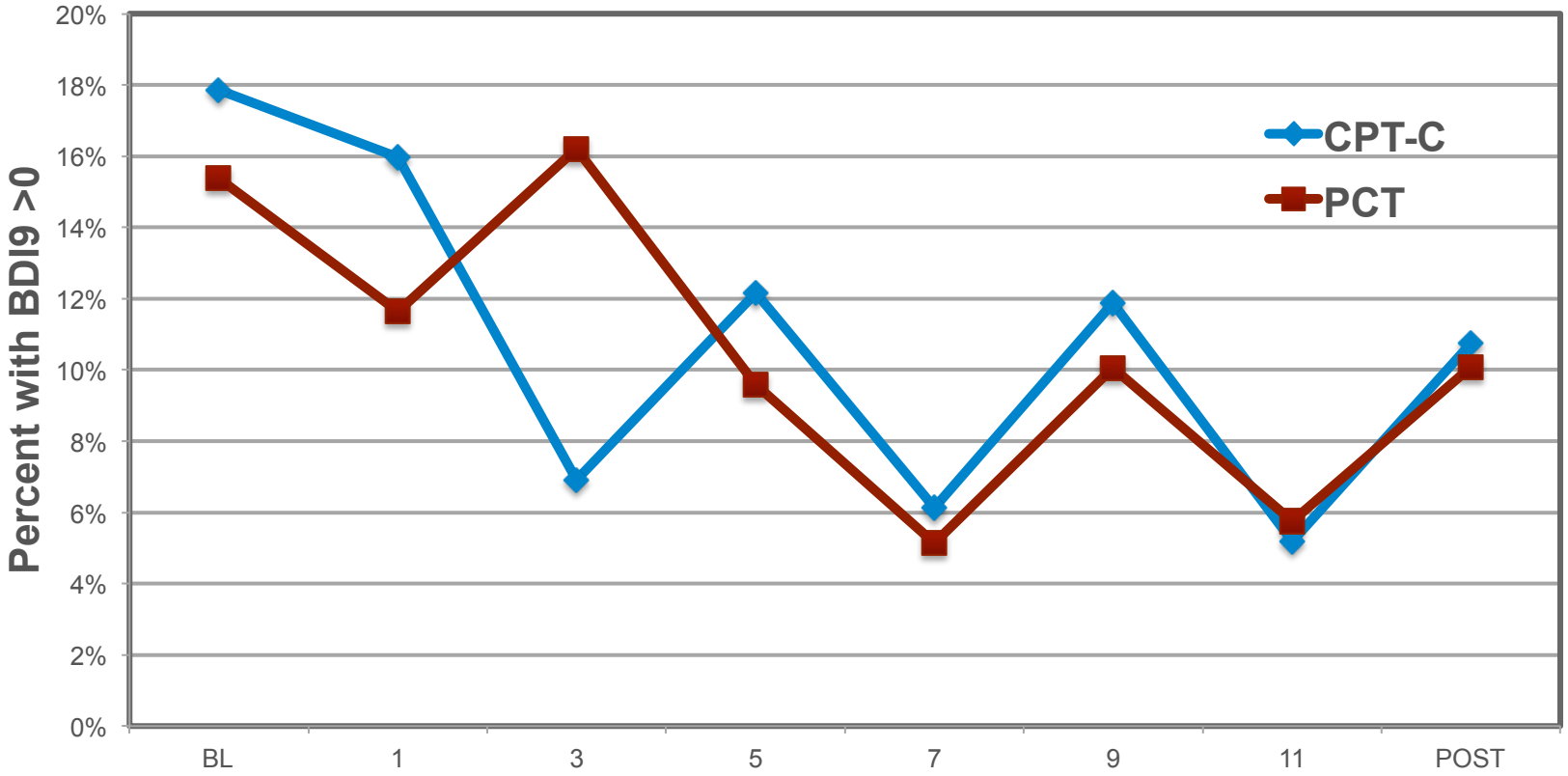
Assumption 4.

"Trauma therapy is not safe with suicidal patients"

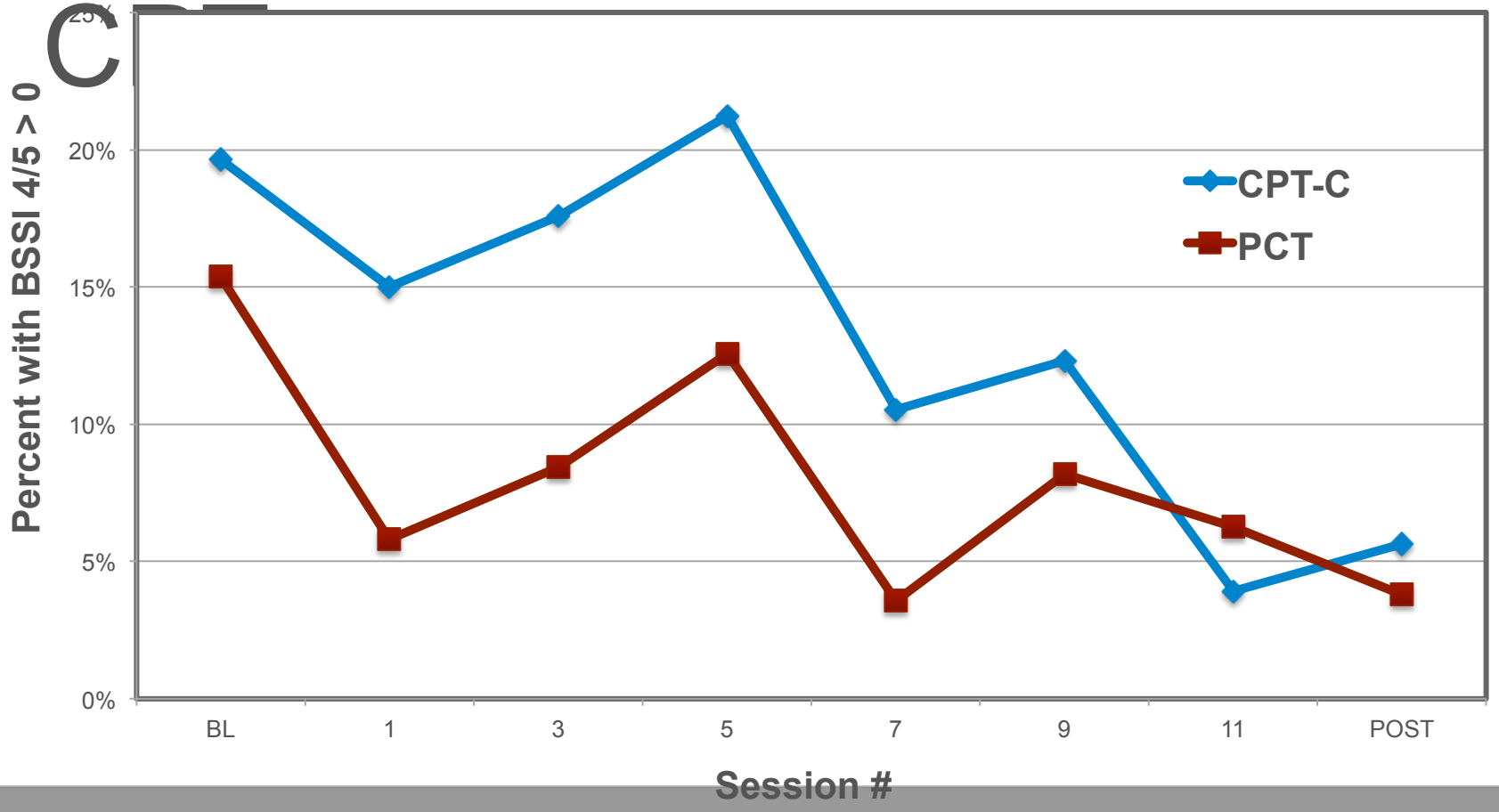
- Recent evidence suggests suicidal ideation decreases across exposure therapies

- Less than 5% report "new" suicidal ideation after starting trauma therapy
  - Same rate as those receiving supportive counseling

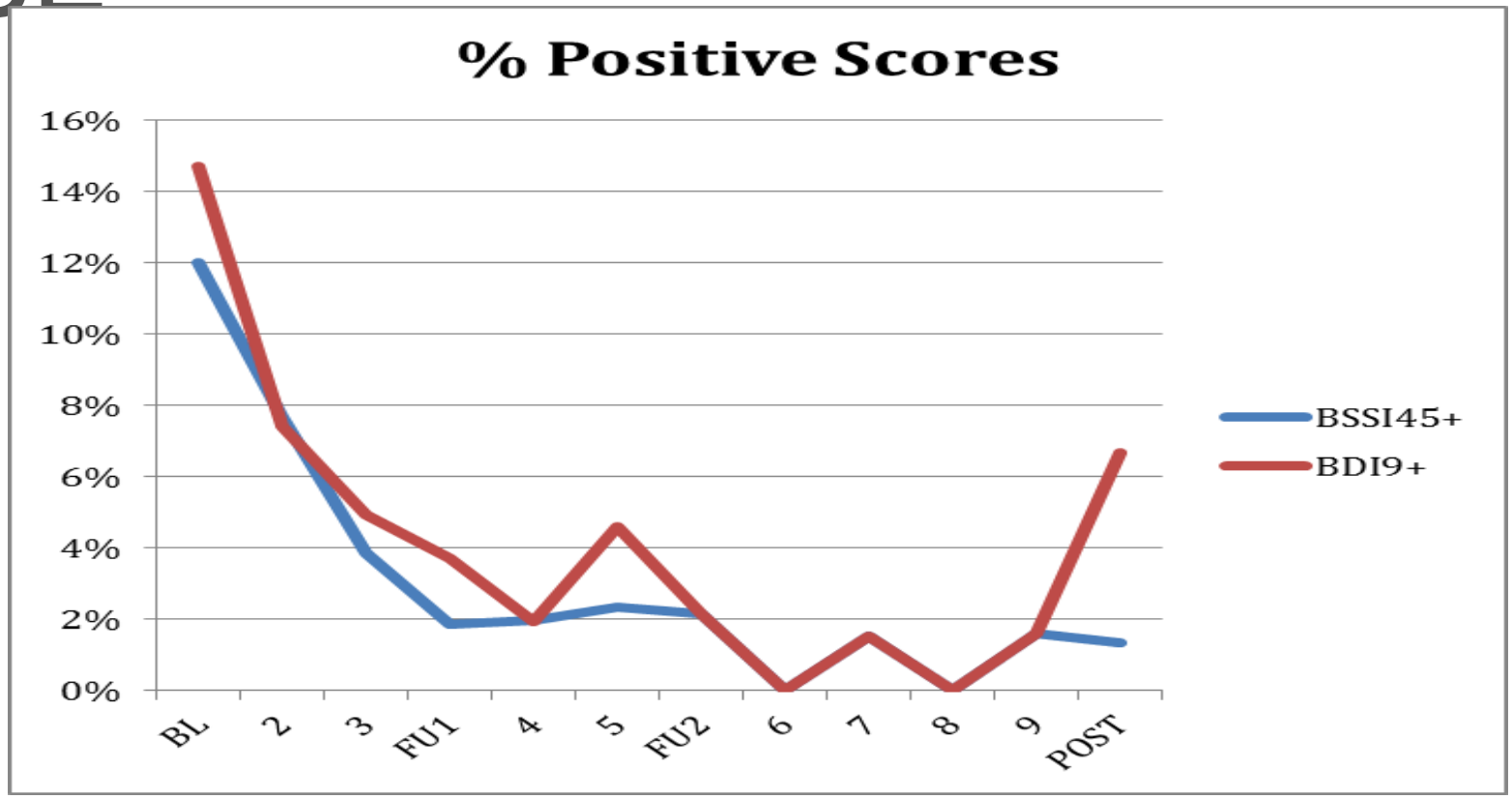
% Positive on BDI # 9: CPT



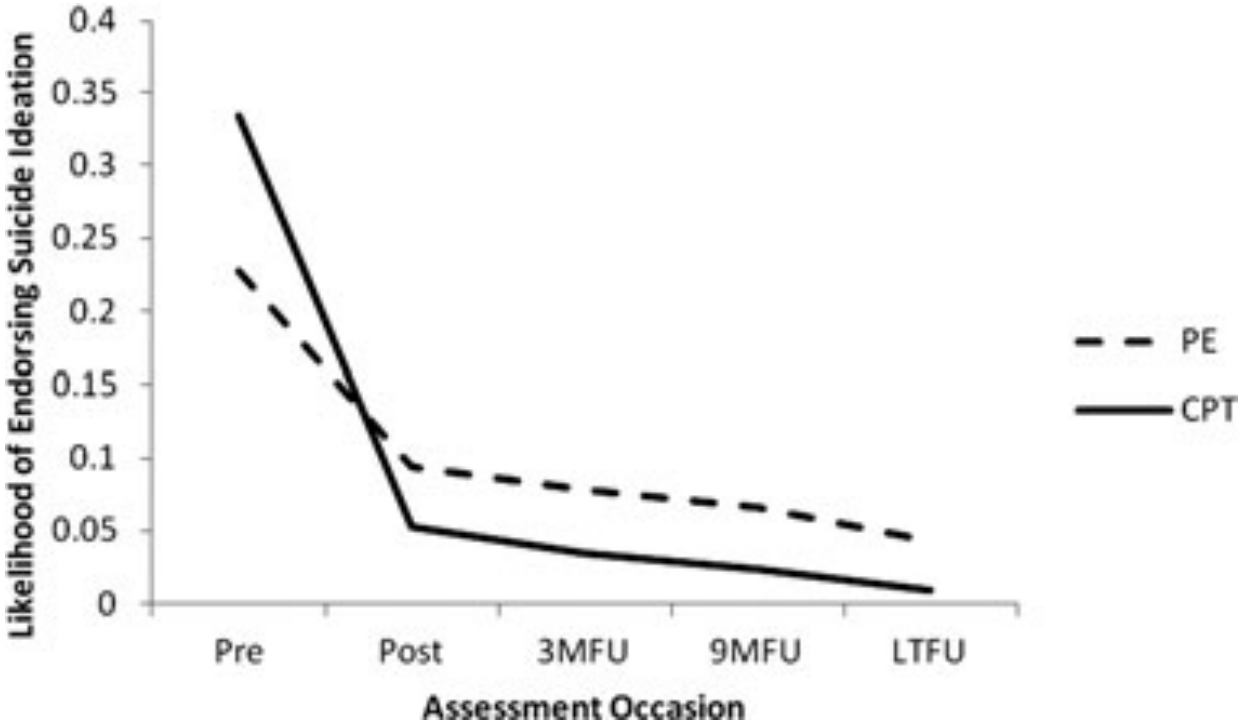
% Positive on BSS: C



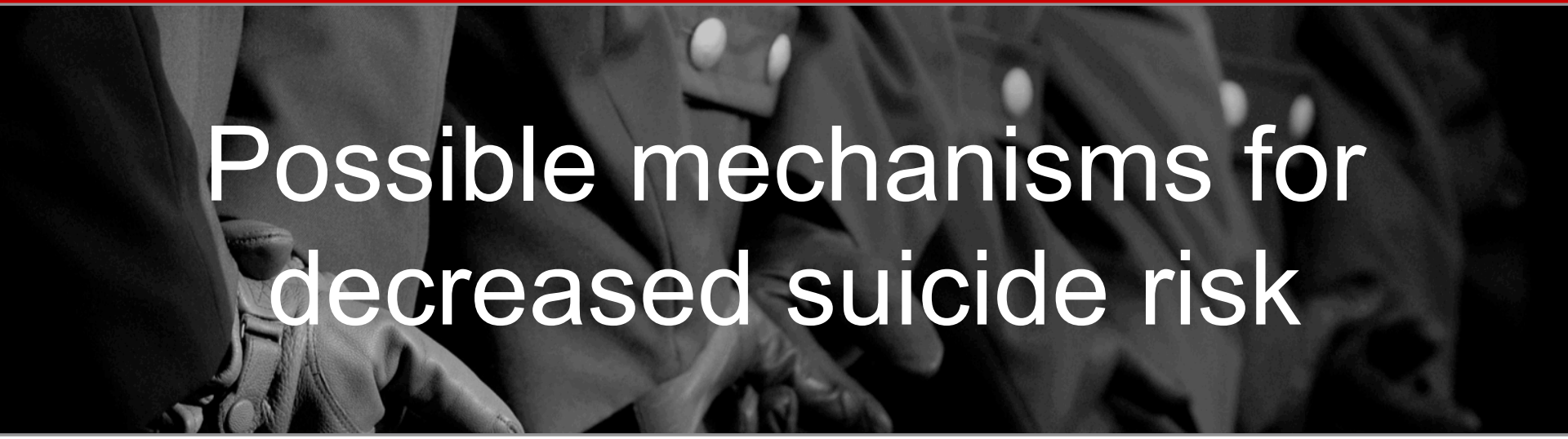
% Positive on BDI & BSS: PE



Trajectories of SI: PE & CPT

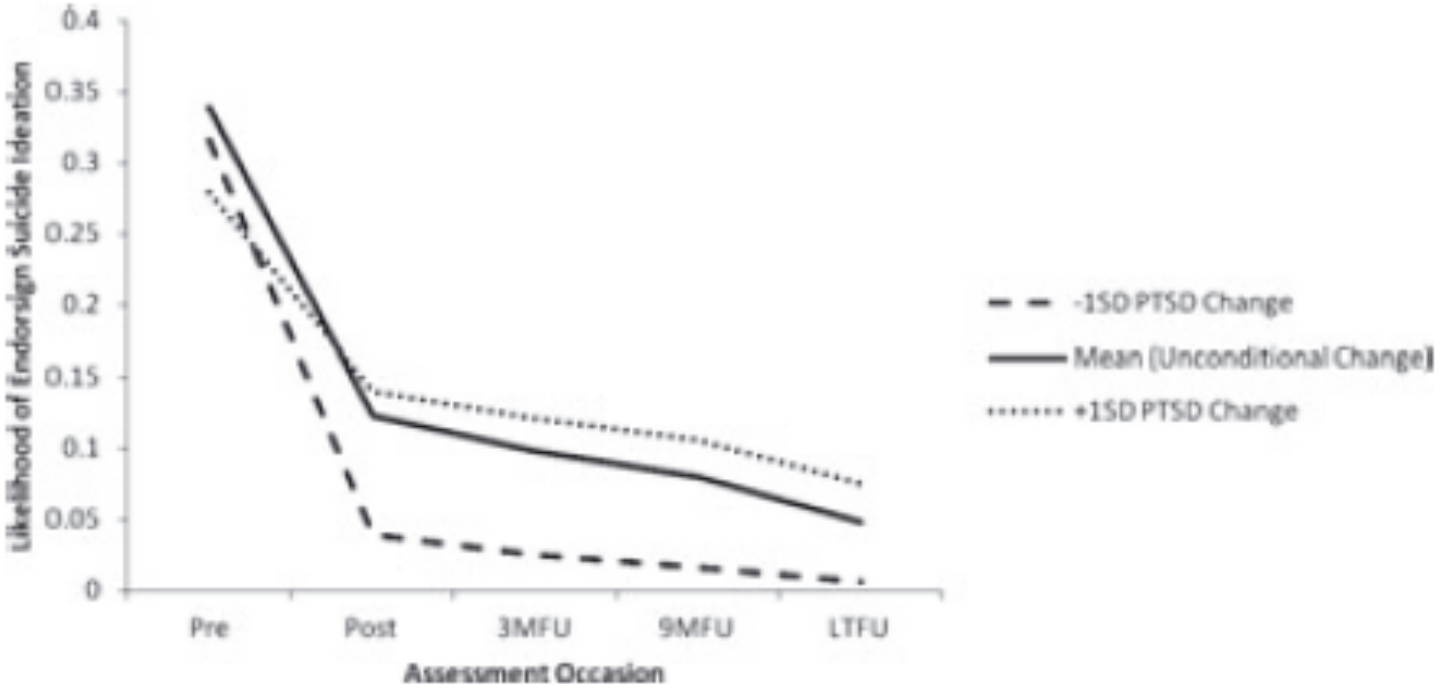


(Gradus et al., 2013)



Possible mechanisms for decreased suicide risk

Reduced PTSD symptoms



(Gradus et al., 2013)

Insomnia & nightmares

Table 1. Scores on SADS Suicidality Subscale and Rates of Suicidal Patients

	Patients With Nightmares			Patients With No Nightmares			
	No.	Mean	SD	No.	Mean	SD	*P*
Suicidality score							
All patients	29	4.2	2.1	34	2.9	1.8	.014*
Sex							
Women	20	4.2	1.8	28	2.9	1.7	.018*
Men	9	4.1	2.4	6	3	2.4	NS†
Suicidal patients							
All patients	21			16			.041‡
Sex							
Women	16			13			.019‡
Men	5			3			NS§

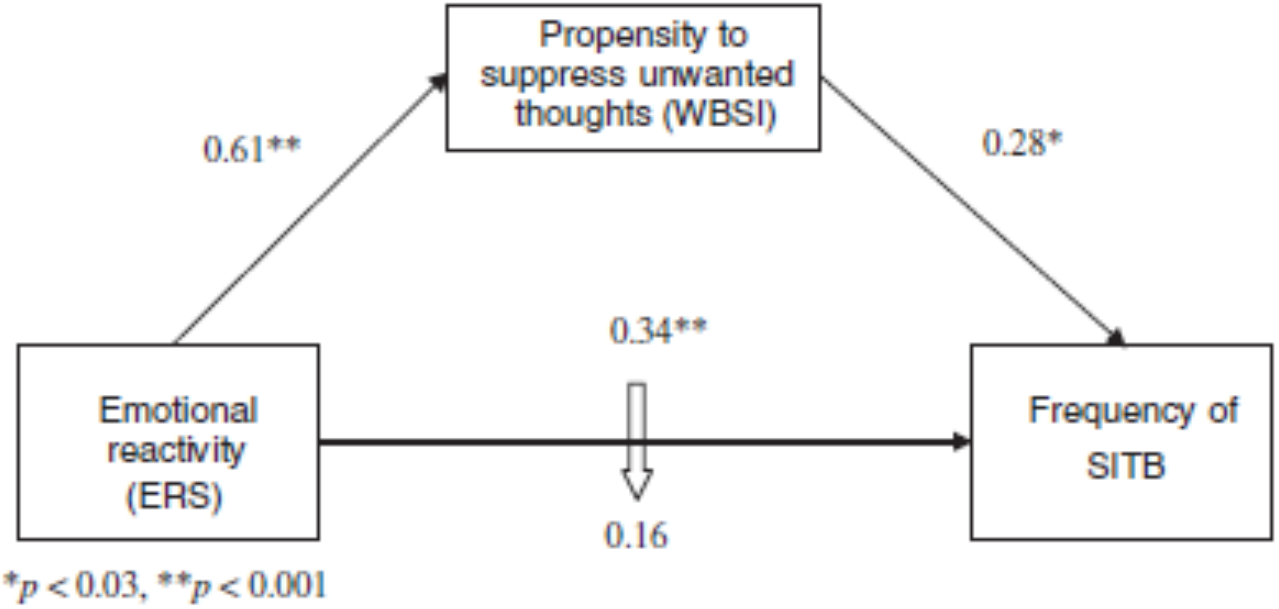
*t test.
†Mann-Whitney *U* test.
‡Chi-square test.
§Fisher's exact test.

(Agargun et al., 2004)

Insomnia & nightmares

- Nightmares are associated with suicidal ideation even when controlling for insomnia severity, sleep-related breathing problems, and depression (Bernert et al., 2005)

Avoidance & suppression



(Najmi, Wegner, & Nock, 2007)

Guilt and shame

TABLE 2. Standardized coefficients for generalized regression models predicting history of suicidal ideation and current severity of suicidal ideation

Model	Step		*B*	*SE*	*P*	OR
A	1	Guilt	0.194	.039	<.001	1.21 [1.12, 1.31]
	2	Guilt	0.203	.046	<.001	1.23 [1.12, 1.34]
		Depression	0.113	.094	.230	1.12 [.93, 1.35]
		PTSD	0.055	.031	.081	1.06 [.99, 1.12]
		Depression × PTSD	−0.003	.002	.074	1.00 [.99, 1.00]
B	1	Shame	0.120	.029	<.001	1.13 [1.07, 1.19]
	2	Shame	0.111	.037	.002	1.12 [1.04, 1.20]
		Depression	0.104	.101	.303	1.11 [.91, 1.35]
		PTSD	0.057	.029	.049	1.06 [1.00, 1.12]
		Depression × PTSD	−0.003	.002	.120	1.00 [.99, 1.00]
C	3	Guilt	0.167	.051	.001	1.18 [1.07, 1.31]
		Shame	0.025	.038	.512	1.03 [.95, 1.11]
		Guilt	0.179	.053	.001	1.20 [1.08, 1.33]
		Shame	0.030	.043	.488	1.03 [.95, 1.12]
		Depression	0.094	.093	.311	1.10 [.92, 1.32]
		PTSD	0.052	.030	.086	1.05 [.92, 1.32]
		Depression × PTSD	−0.003	.002	.096	1.00 [.99, 1.00]

(Bryan, Morrow, Etienne, & Ray-Sannerud, 2012)

Moral injury

Model		B	SE	p
1	Age	.042	.016	.012
	Gender	-.137	.284	.630
	Depression	-.037	.036	.315
	Hopelessness	.046	.024	.062
	PTSD	.025	.012	.053
	Attempt	1.37	.395	.001
2A	MIES	.046	.012	< .001
2B	Transgressions	.064	.018	.001
2C	Betrayal	.073	.031	.022
3	Transgressions	.060	.022	.007
	Betrayal	.013	.038	.740

(Bryan, Bryan, Morrow, Etienne, & Ray-Sannerud, 2013)

Take home messages

- Exposure-based therapies reduce PTSD better than alternative therapies
  - PE & CPT are recommended by IOM, DOD, VA
- Suicidal ideation decreases during PE & CPT
- "New onset" suicidal ideation is rare and no more common than in supportive therapy

Take home messages

- Using exposure-based therapies with suicidal trauma victims can lead to remission of PTSD and reduce suicide risk

- Where to get training:
  - Center for Deployment Psychology
  - Association for Behavioral & Cognitive Therapies

Questions?

Craig J. Bryan, PsyD, ABPP
craig.bryan@utah.edu

www.veterans.utah.edu
/ Veterans Studies

NATIONAL CENTER FOR VETERANS STUDIES
THE UNIVERSITY OF UTAH