



Negative Life Events and Postdeployment Suicidal Behavior

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Acknowledgments

- **Collaborators:**
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 - Stephanie K. McWhorter, M.A.
- **Leadership and active-duty service member participants**
 - MCB Pendleton
 - MCB Twentynine Palms
 - MCAS Yuma

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 - Military Operational Medicine Research Program (MOMRP)

Background

- **Problem:**
 - High rates of military suicide during the OIF/OEF era
- **Objectives:**
 - To identify unique risk factors for suicidal behavior among previously-deployed active-duty personnel
 - To illuminate the interplay among these risk factors in predicting suicide risk
 - Mediators & Moderators

Negative Life Experiences

Combat
exposure

Deployment
stressors

Predeployment
traumas

Fired weapon at enemy
Received incoming fire
Handled dead bodies
Wounded in combat
Cared for injured/dying

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Extreme weather
Phone/email difficulties
Boredom
Worry re: family
Worry re: IED attack

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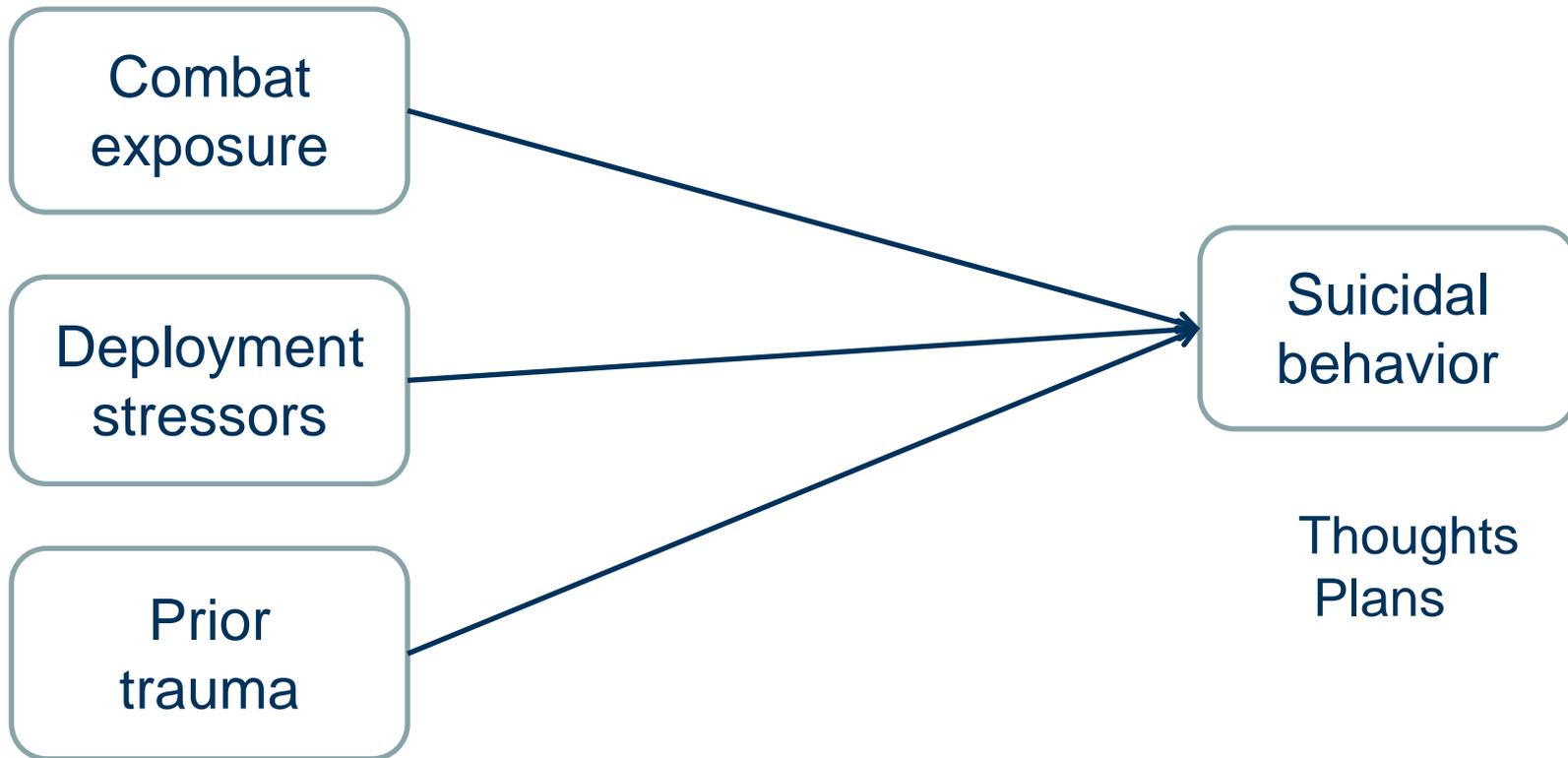
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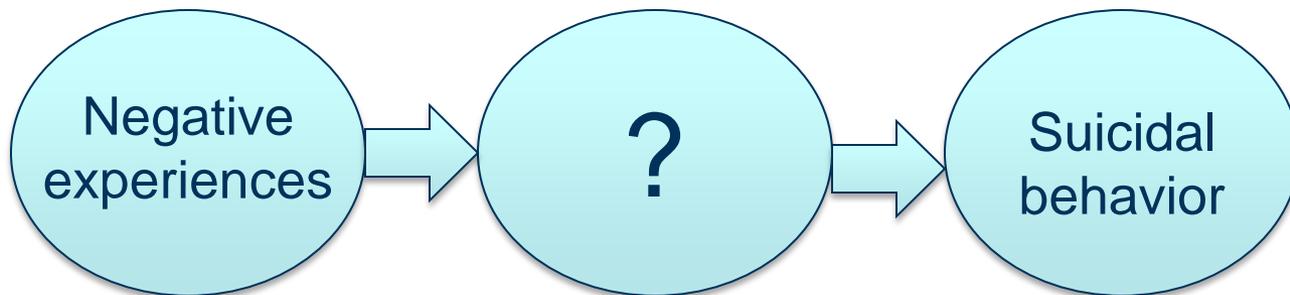
Childhood sexual abuse
Intimate partner violence
Physically attacked
Sexually assaulted
Witnessed attack

Predicting Suicidal Behavior



Potential Mediators

- Factors that might account for why/how negative life experiences increase the risk of suicidal behavior



Potential Mediators

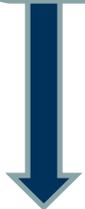
PTSD
symptoms

Depression
symptoms

Alcohol
problems

Drugs
problems

Social
support



- Re-experiencing
- Hyperarousal
- Avoidance/Numbing

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- Loss of interest in usual activities

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Alcohol problems

- Heavy episodic drinking
- Want or need to cut down
- Driving under the influence

Drugs problems

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Social support

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Drugs problems

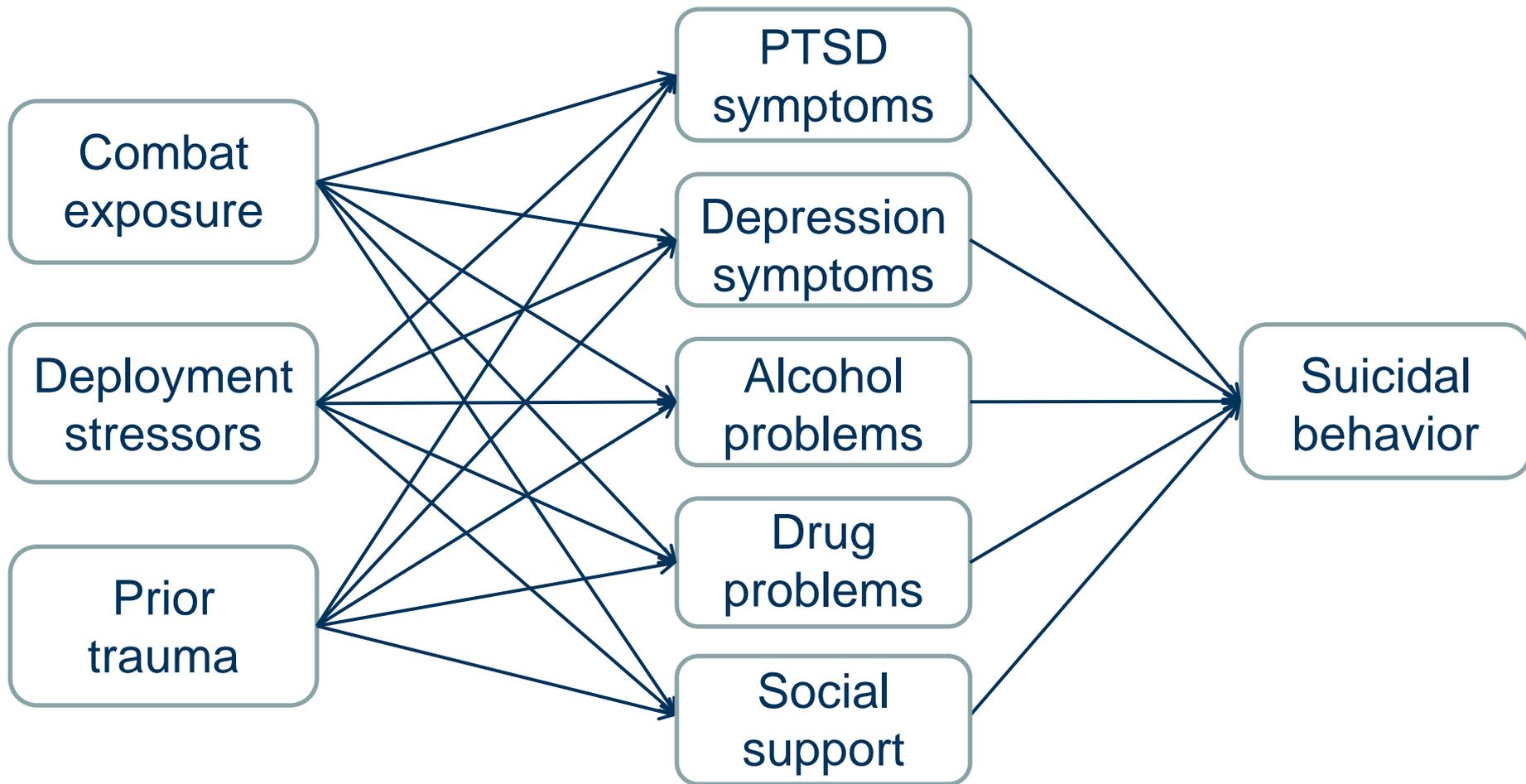
- Used illegal drugs
- Wanted/needed to cut down
- Used more than meant to

- People to talk to re: combat
- Friends/family understand
- Someone can make me feel better

Social support*

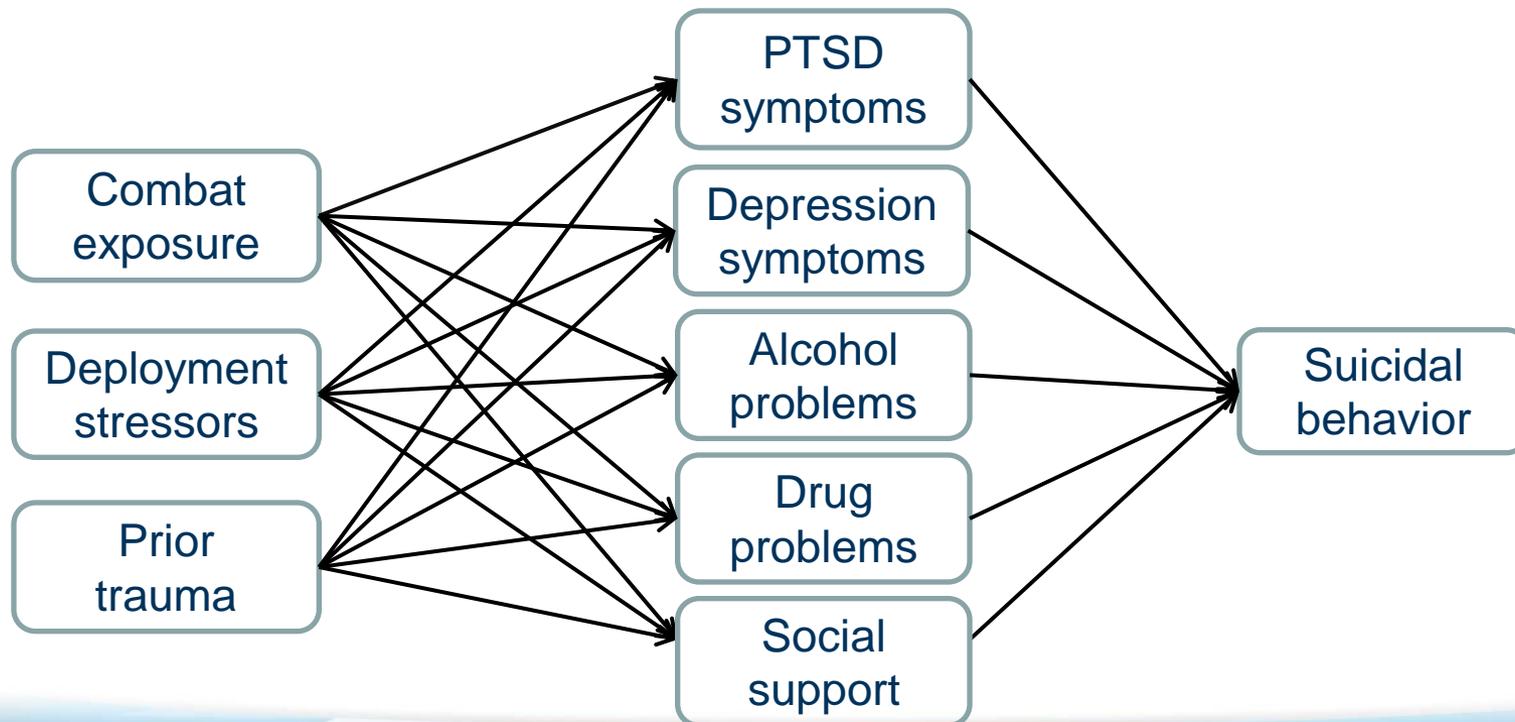
**protective*

Full Hypothesized Mediation Model



Hypotheses

- Each path represents a hypothesis.
- Predicted full mediation
- Also tested for moderated (interactive) effects.



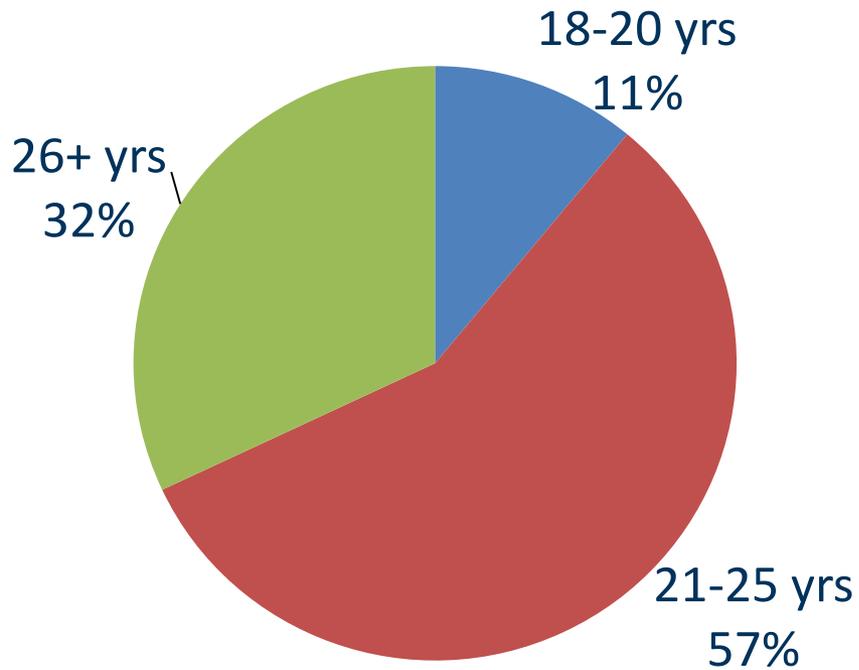
Methods

- **Anonymous survey, 2006-2007**
 - USMC aviation, support, and infantry units
 - Voluntary, classroom administration
- **Inclusion criteria:**
 - Active-duty personnel with at least one prior deployment
- **$N = 1,517$ participants**

Sample Demographics

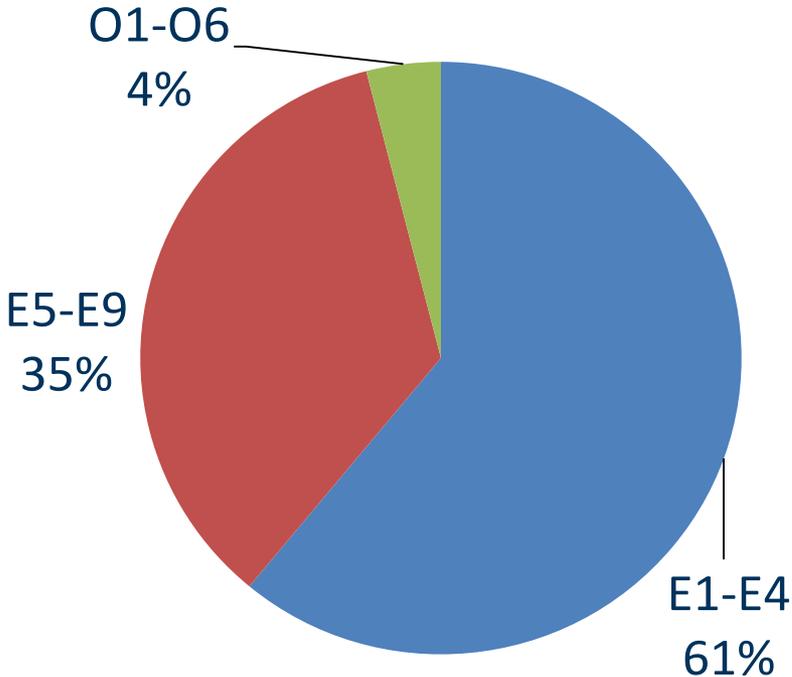
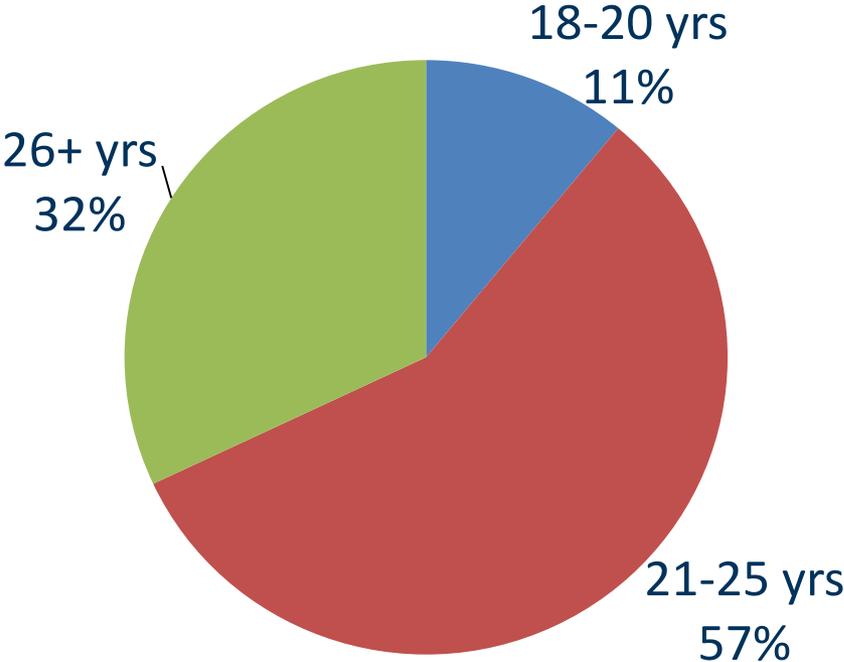
- 91% USMC
- 93% Male
- 53% Married/cohabiting (38% single)
- 36% Dependent child(ren)

Age



Age

Rank



Deployment History

- **Deployed in support of :**
 - OIF (81%)
 - OEF (31%)
 - Other (11%)

- **Number of deployments:**
 - One (57%)
 - Two (29%)
 - Three or more (14%)

Measures: Negative Life Events

- **Combat exposure** (17 items)
- **Deployment stressors** (10 items)
- **Predeployment trauma** (7 items)

Measures: Potential Mediators

- **PTSD symptoms (16 items)**
- **Depression symptoms (2 items)**
- **Alcohol problems (6 items)**
- **Drug problems (3 items)**
- **Social support (5 items)**

Time frame: past 30 days

Measures: Suicidal Behavior

- **Thinking about ending your life**
- **Making plans to end your life**

Time frame: Past 30 days

Results: Preliminary Analyses

- **Suicidality was NOT related to**
 - Demographics (sex, age, rank, education, marital status, children)
 - Deployment characteristics (number, duration, operation, time back)

Results: Descriptive Statistics

Suicidality	% any
Suicidal thoughts/plans	13%

Negative Life Experience	% any
Combat exposure	95%
Deployment stressors	99%
Predeployment trauma	62%

Simple Correlations with Suicidal Behavior

Negative Life Experience	<i>r</i>
Combat exposure	.07*
Deployment stressors	.13***
Predeployment trauma	.18***

* $p < .05$ *** $p < .001$

Simple Correlations with Suicidal Behavior

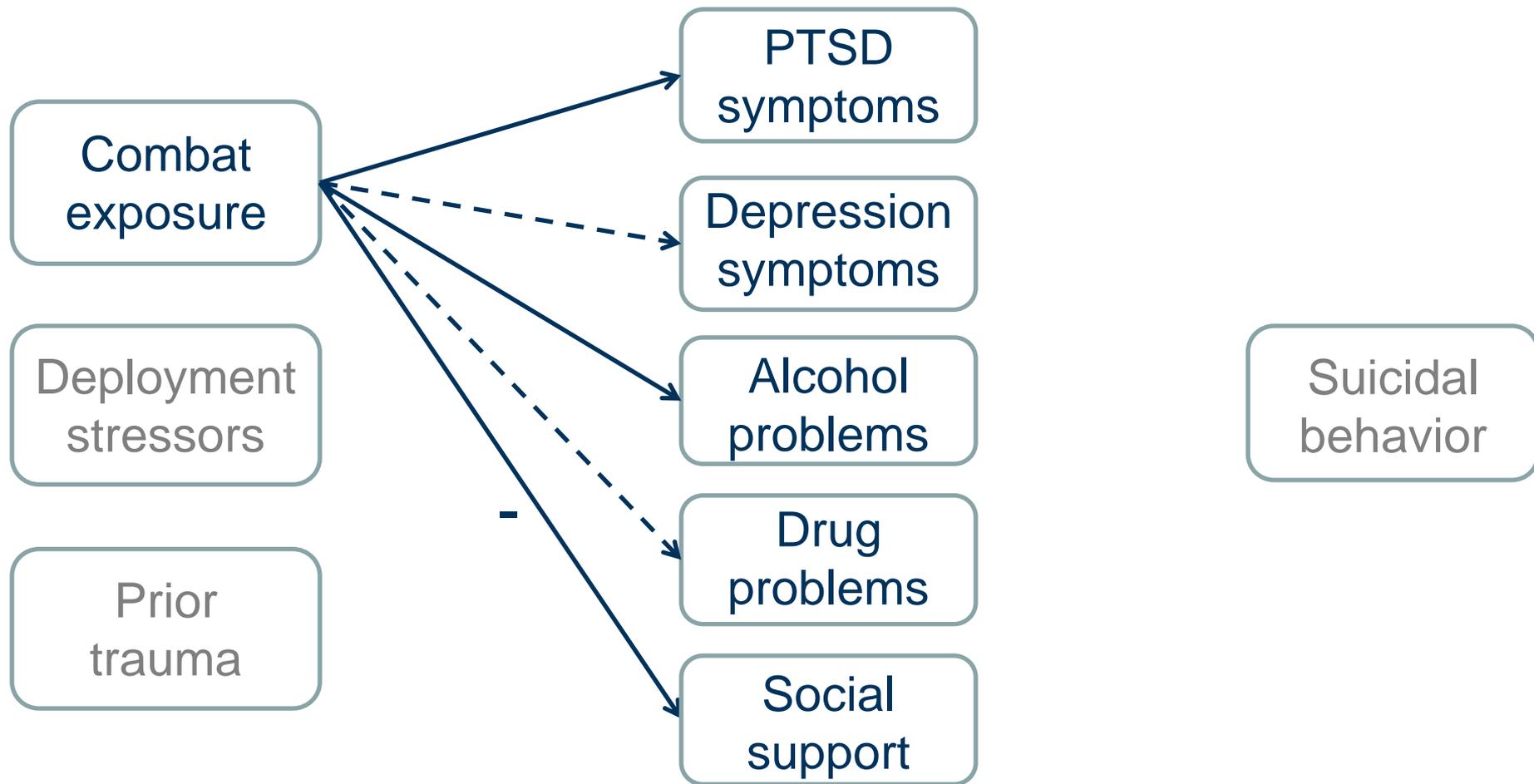
Adjustment Factor	<i>r</i>
PTSD symptoms	.44***
Depression symptoms	.44***
Alcohol problems	.18***
Drug problems	.23***
Social support	-.25***

*** $p < .001$

Analytic Strategy

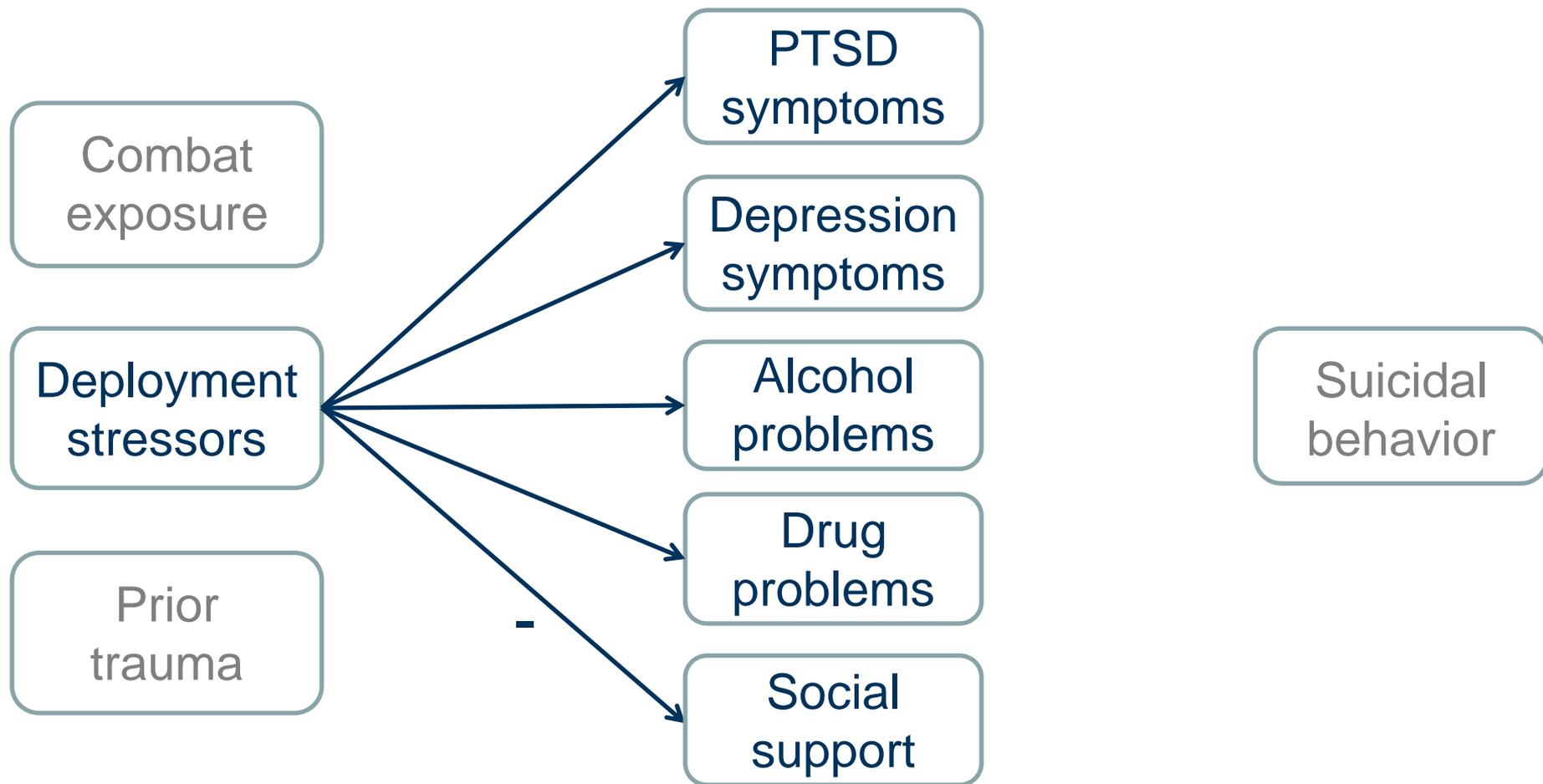
- **Path analysis**
- **Randomly split into 2 samples for replication**

Effects of Combat Exposure

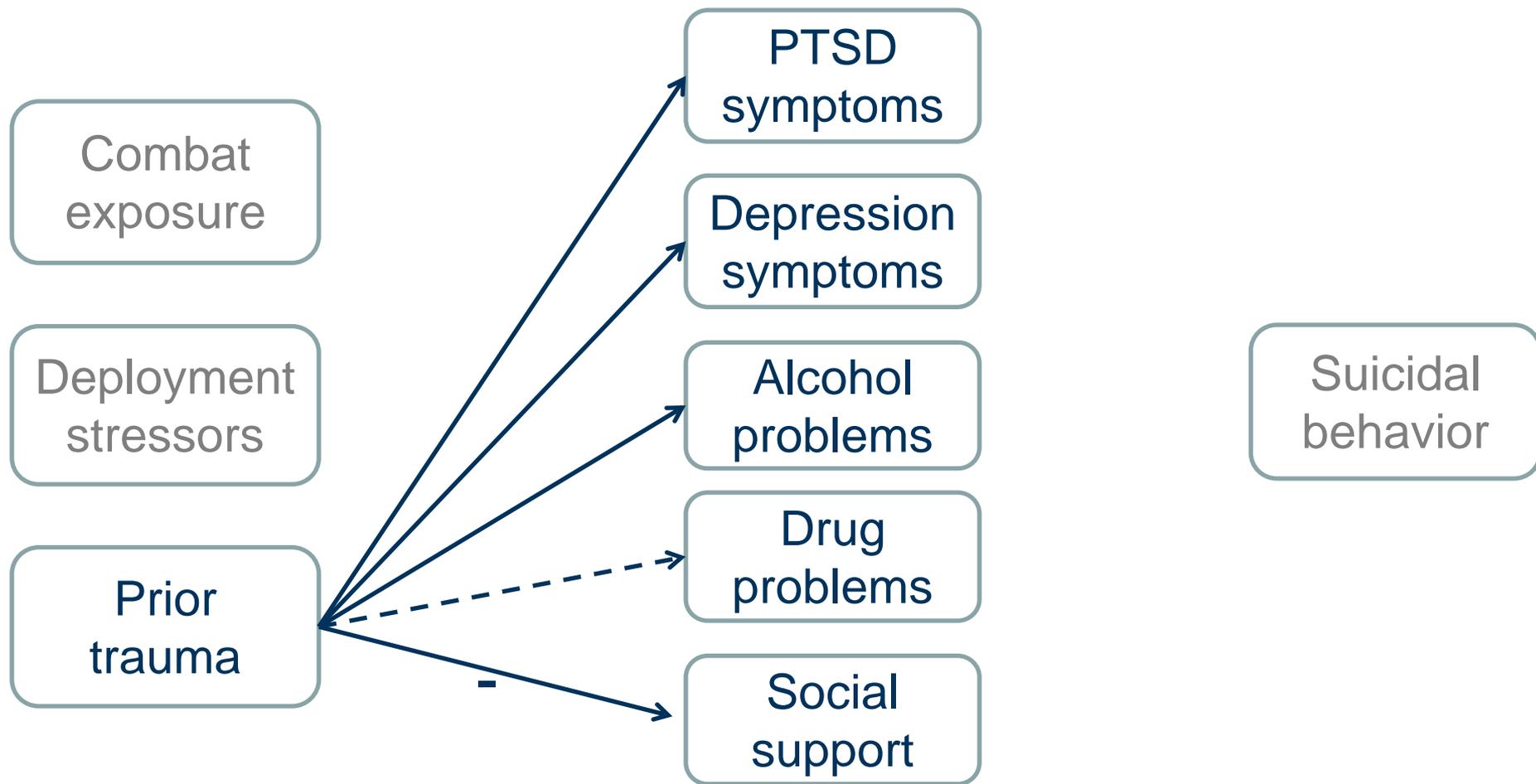


Dashed line = significant in only one group

Effects of Deployment Stressors

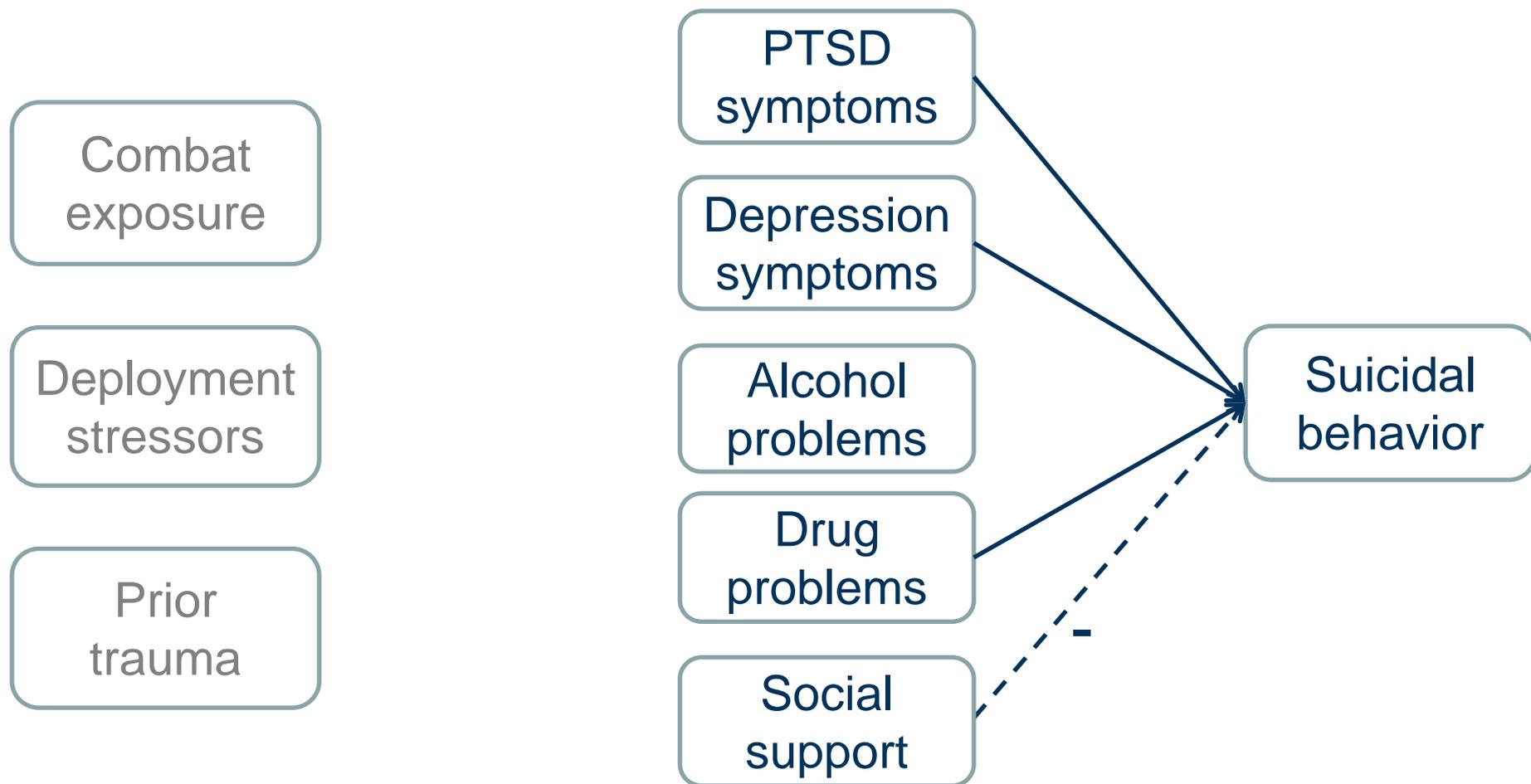


Effects of Predeployment Trauma



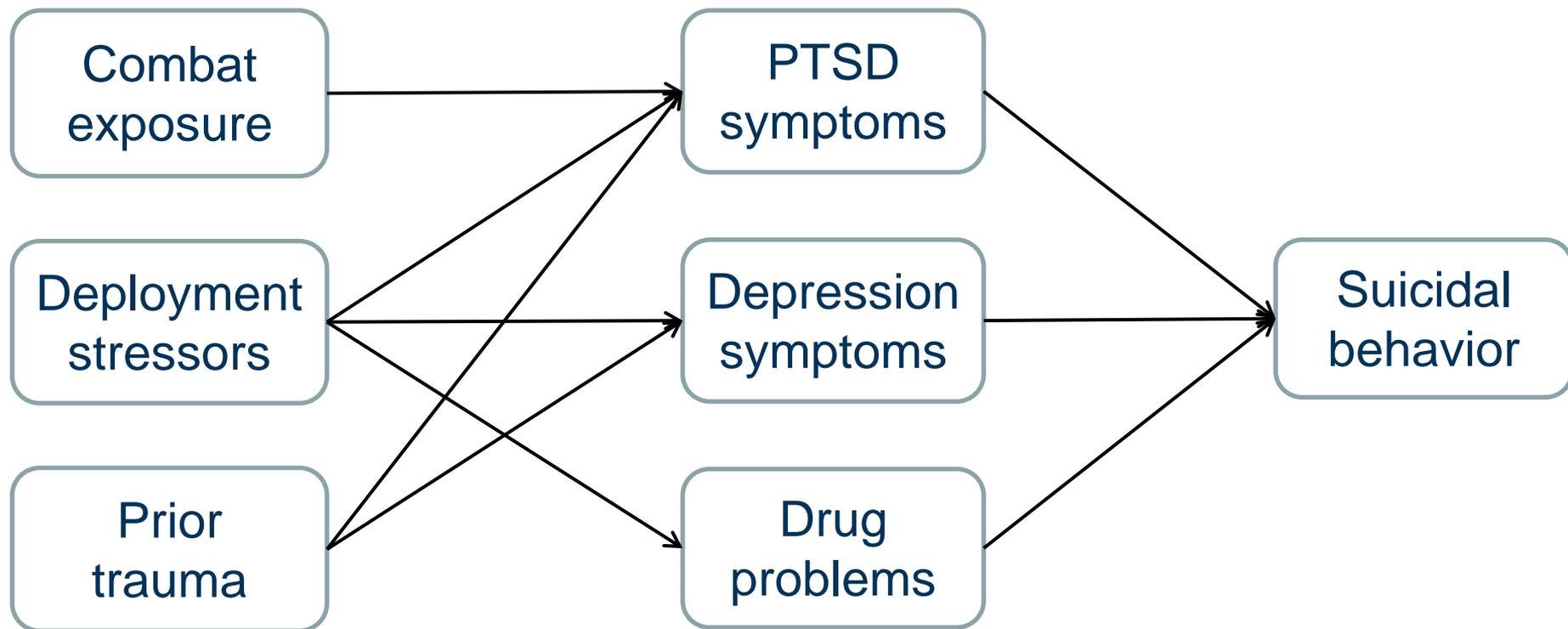
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Predictors of Suicidal Behavior



Dashed line = significant in only one group

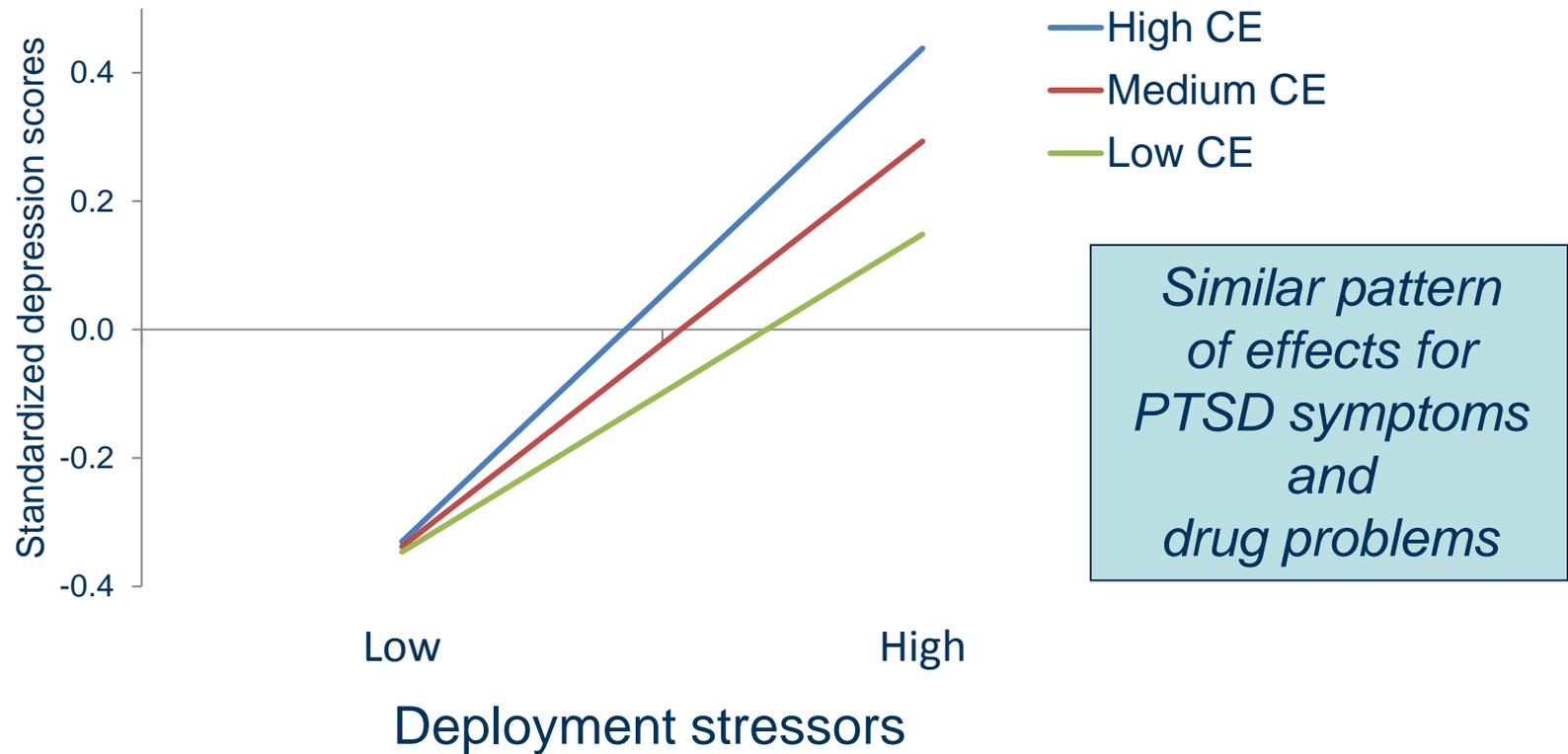
Final Parsimonious Model



Interaction Effects

- **Are the effects of different types of negative experiences on adjustment additive or interactive?**
 - Predeployment trauma additive
 - Combat exposure x Deployment stressors interaction
 - Combined effects of combat exposure and deployment stressors worse than expected based on their individual effects
 - Interaction was significant for PTSD symptoms, depression symptoms, and drug problems

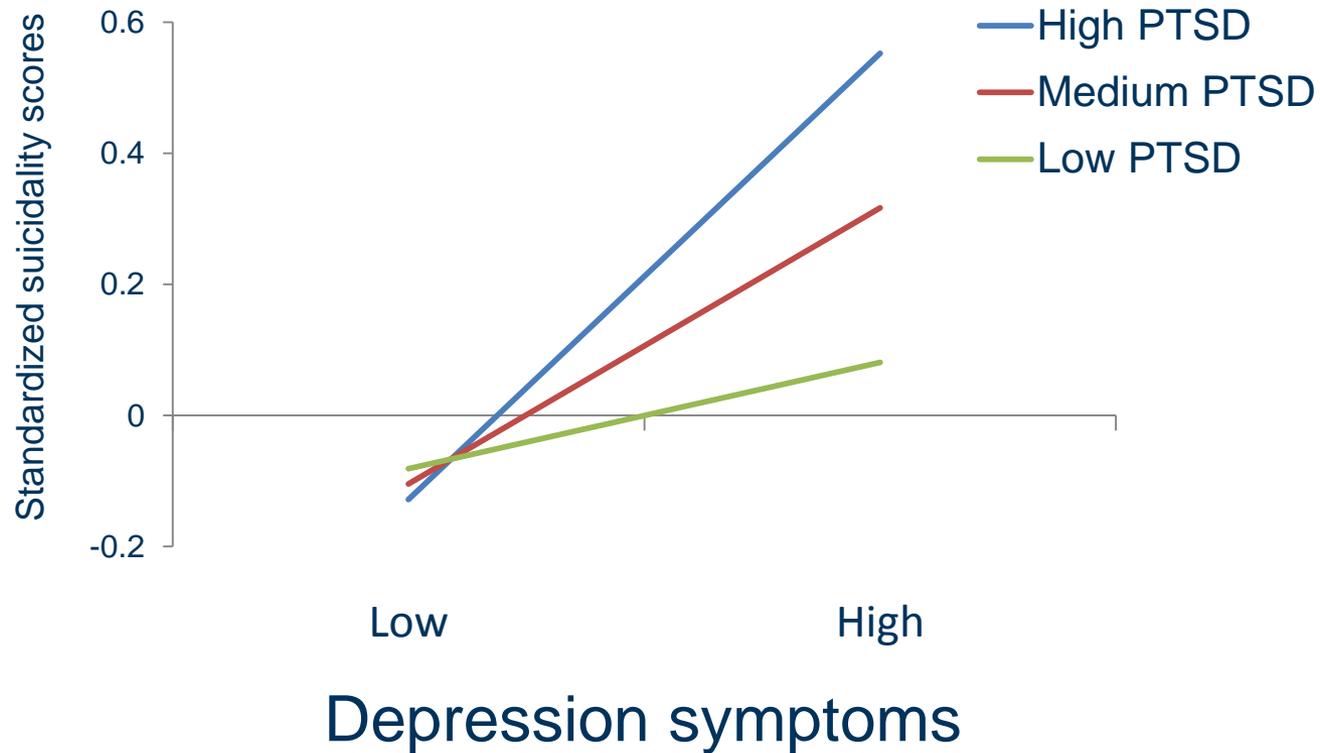
Combat Exposure X Deployment Stressors



Interaction Effects

- **Are the effects of different types of adjustment factors on suicidal behavior additive or interactive?**
 - Drug problems additive
 - PTSD symptoms X Depression symptoms interaction
 - Combined effects of PTSD and depression symptoms on suicidality worse than expected based on their individual effects

PTSD Symptoms X Depression Symptoms



Conclusions and Implications

- **Of the three types of negative experiences considered, deployment stressors had the most consistent effects on adjustment.**
 - Combined effects of deployment stressors and combat exposure on adjustment (PTSD, depression, drugs) were particularly deleterious
 - The bright side: Potential modifiability
 - Need for further research (are all deployment stressors equal?)

Conclusions and Implications

- **PTSD symptoms, depression symptoms, and drug problems contributed to prediction of suicidality.**
 - Drug problems predictive (although rare)
 - Alcohol problems not predictive (although common)
 - Combined effects of PTSD symptoms and depression symptoms on suicidality particularly deleterious
 - Importance of postdeployment mental health screenings

Limitations

- **Self-report data**
 - Response biases
 - Suicidal behavior ≠ suicide
- **Cross-sectional design**
- **Generalizability**
 - other conflicts/missions
 - other service branches
 - Active duty vs. National Guard/Reserve

Questions/Comments?

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Official conference Twitter hashtag: #suicideprevention

Descriptive Statistics

Adjustment Factor	Mean	(SD)
PTSD symptoms (0-4)	1.72	(1.61)
Depression symptoms (0-4)	1.13	(1.09)
Alcohol problems (0-6)	1.39	(1.65)
Drug problems (0-3)	0.11	(0.50)
Social support (1-5)	3.58	(0.77)