Prospective Study of Combat Trauma and Resilience in OIF Veterans

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MN NG Collaborators:

- Colonel Michael Rath, MD
- Captain Cora Courage, PsyD
Over 1.6 million U.S. troops deployed to OIF/OEF since 2001
46% National Guard/Reservists
Soldiers returning from OIF continue to report high levels of combat exposure
Background

Epidemiological studies:
- 50-60% of population exposed to traumatic event; lifetime prevalence of PTSD – 5-10% (Ozer et al., 2003)
- NVVRS: lifetime prevalence of PTSD in combat veterans – 18.7% (Dohmenred, 2007)

Rates of PTSD in OIF/OEF:
- 12-13% screened positive for PTSD (Hoge et al., 2004)
Most common reaction to combat and other traumatic stressors is resilience.

Bonnano (2004) on resilience:

“Most trauma exposed individuals show transient perturbations in normal functioning but generally exhibit a stable trajectory of healthy functioning across time.”
What Factors are Associated with Risk vs. Resilience?

- History and characteristics of the person
- Type and severity of the traumatic event
- The person’s experiences during the event
- The person’s experiences after the event

Risk Factors for PTSD

- Gender
- Low SES
- Adverse Childhood
- Prior Trauma
- Psych Hx
- Trauma Severity
- Lack of Social Support
- Subsequent Life Stress

Weighted Effect Size

0.4

0.3

0.2

0.1

0.0
Problems with Prior Research

- Few longitudinal studies
- Reliance on retrospective recall
- Too focused on PTSD
- National Guard soldiers?
Conceptual Model: Longitudinal Predictors of Veteran Outcomes

Soldier Resilience

- War Zone Stressors
- Mental Health Disruption
- Life Disruption (Quality of Life)
- Retention/Attrition
Conceptual Model: Longitudinal Predictors of Veteran Outcomes

- War Zone Stressors
- Individual Risk & Resilience
- Mental Health Disruption
- Life Disruption (Quality of Life)
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Conceptual Model: Longitudinal Predictors of Veteran Outcomes

- In-theater Unit Support
- War Zone Stressors
- Individual Risk & Resilience
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- In-theater Unit Support
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Conceptual Model: Longitudinal Predictors of Veteran Outcomes

- **In-theater Unit Support**
- **War Zone Stressors**
- **Individual Risk & Resilience**
- **Perceived Stigma**
- **Mental Health Service Utilization**
- **Mental Health Disruption**
- **Life Disruption (Quality of Life)**
- **Life Stressors**
- **Retention/Attrition**
Overview of the Readiness and Resilience in National Guard Soldiers (RINGS) Cohort Study

- Participants are soldiers from the 1st Brigade Combat Team, 34th Infantry Division of the MN ARNG (1/34 BCT)
- 1/34 BCT troops mobilized in Sept 2005 – completed 6 months training at Camp Shelby
- Deployed to OIF from March 2006 to June-July 2007 (extended 4 months in Iraq)
- Deployed on active duty a total of 22 months
RINGS Cohort Study Design

Collaborative, prospective, longitudinal study of soldiers from the Minnesota Army National Guard 1st Brigade Combat Team, 34th Infantry Division.

Baseline: One Month Prior to Deployment
- Pre-Deployment Risk/Resilience Factors
- Personality
- Current Psychiatric Distress

Wave 1: In-Theater (1-2 months before return from OIF)
- Deployment-Related Attitudes
- Deployment Experiences
- Current Psychiatric Distress

Wave 2: Post-Deployment (1-3 months)
- Deployment Risk/Resilience Factors
- Personality
- Biological Measures
- Mental Health and Social Functioning
- Healthcare Utilization
- Military Retention/Attrition

Wave 3: Post-Deployment (1 year)
- Post-Deployment Experiences
- Mental Health and Social Functioning
- Healthcare Utilization
- Military Retention/Attrition

Wave 4: Post-Deployment (2 years)
- Post-Deployment Experiences
- Mental Health and Social Functioning
- Healthcare Utilization
- Military Retention/Attrition
Objectives

Identify *pre-deployment factors* predictive of PTSD symptoms reported in-theater among a cohort of National Guard soldiers deployed to OIF.
Methods – Pre-deployment

- 522 Army National Guard soldiers were surveyed one month prior to deploying to Iraq.
- Surveys were administered by investigators in a classroom setting.
Methods – In-Theater

- Collaboration with military investigators in Iraq
- Participants were 226 soldiers who completed the pre-deployment survey and were part of a larger in-theater survey of 2,677 1/34 BCT soldiers
Method

N = 522 Pre-deployment

N = 226 Overlap

N = 2,677 In-Theater
### Self-Report Measures

<table>
<thead>
<tr>
<th>Deployment Risk and Resilience Inventory (DRRI; King et al., 2003)</th>
<th>Prior Stressors Scale</th>
<th>Baseline</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Childhood Family Environment Scale</td>
<td>Baseline</td>
</tr>
<tr>
<td></td>
<td>Military Preparedness Scale</td>
<td>Baseline</td>
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<tr>
<td></td>
<td>Unit Support Scale</td>
<td>Baseline</td>
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<tr>
<td></td>
<td>Concerns about Life/Family Disruptions Scale</td>
<td>Baseline</td>
</tr>
<tr>
<td>Current Distress</td>
<td>PTSD (PCL; Blanchard et al., 1996)</td>
<td>Baseline, Wave 1</td>
</tr>
</tbody>
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Baseline, Wave 1
## Participants

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>%</th>
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<tbody>
<tr>
<td>Gender (% Male)</td>
<td>85.0%</td>
</tr>
<tr>
<td>Age (% 18-29)</td>
<td>60.6%</td>
</tr>
<tr>
<td>% Married</td>
<td>45.1%</td>
</tr>
<tr>
<td>Race (% Caucasian)</td>
<td>92.9%</td>
</tr>
<tr>
<td>Rank (% Enlisted)</td>
<td>91.6%</td>
</tr>
</tbody>
</table>
Predictors of In-theater Distress

$\chi^2(28) = 50.35, \ p = .006$
RMSEA = .059 w/ 90% CI of .031 to .085
CFI = .975
TLI = .940
Summary

- Poor childhood family environment and lower perceived military preparedness were associated with PTSD symptoms present prior to deployment.
- Pre-deployment self-reports of lower perceived military preparedness and greater concerns about family and life disruptions were predictive of subsequent in-theater PTSD symptoms.
- Childhood family environment, prior life stressors, and unit social support were not associated with in-theater PTSD symptoms.
Implications and Future Directions

- Distal vs. proximal factors?
- Can some factors be modified?
- Limitations of in-theater assessment context
  - What factors will predict the emergence of PTSD symptoms following return from deployment?
  - What factors will influence the course of PTSD symptoms over time?
RINGS Research Team

Project Management Team
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- Courtney Duffy

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- Amanda Ferrier Auerbach, PhD
- Shannon Kehle, PhD

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Questions and Discussion

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