COMBAT EXPOSURE AND MENTAL HEALTH AMONG U.S. NAVY SAILORS DEPLOYED TO A COMBAT ZONE

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BACKGROUND

- Adverse effects of combat exposure are well documented for Soldiers and Marines; **the experience of shipboard sailors is underexplored**
  - There is an elevated risk for mental health problems (e.g., depression, posttraumatic stress disorder [PTSD]), harmful behaviors (e.g., hazardous alcohol use, sleep disruptions, aggressive behaviors), and attrition
- **Objectives:** (1) Describe the types of exposures reported by U.S. Navy sailors during deployment to a combat zone and (2) explore associations between combat exposure and mental health problems

MATERIALS & METHODS

Data were collected as part of a longitudinal mixed methods study examining risk and protective factors for mental health, harmful behaviors, and poor command climate among U.S. Navy sailors serving aboard aircraft carriers.

Procedure

- Voluntary and anonymous surveys were collected from active duty sailors (n = 941) serving aboard an aircraft carrier during their return to homeport following an 8-month deployment to a combat zone
- Surveys (~30 minutes) were completed via iPad
- Sailors were determined to be off-duty while completing surveys and were eligible for a $15 gift card

Measures

- *Combat Exposure*
  - 14 items adapted from the Military Service Experience Questionnaire
- *Overall Readiness*
  - 9 items assessing psychological and technical readiness adapted from the Military Readiness Scale
- *Mental Health*
  - Standardized cut points applied for probable depression (PHQ-2), anxiety (GAD-2), and PTSD (PC-PTSD)
  - Overall mental health status calculated based on any positive screening

Statistical Analyses

- Descriptive statistics calculated to identify self-reported combat exposures
- Binary logistic regression models examined associations between number of combat exposures and mental health status
- Models adjusted for demographic factors (e.g., sex, age, race), service-related factors (e.g., rank, time in military, first tour status), and perceived readiness

A majority of sailors reported experiencing an attack by an adversary; 62% feared death or injury during deployment

Positive screenings for mental health problems 2 to 4 times greater than those from postdeployment assessments during the OEF/OIF era

E1-E4 rank (relative to Officer), female sex, lower perceived readiness, and having a greater number of combat exposures were associated with higher odds of screening positive for a mental health problem

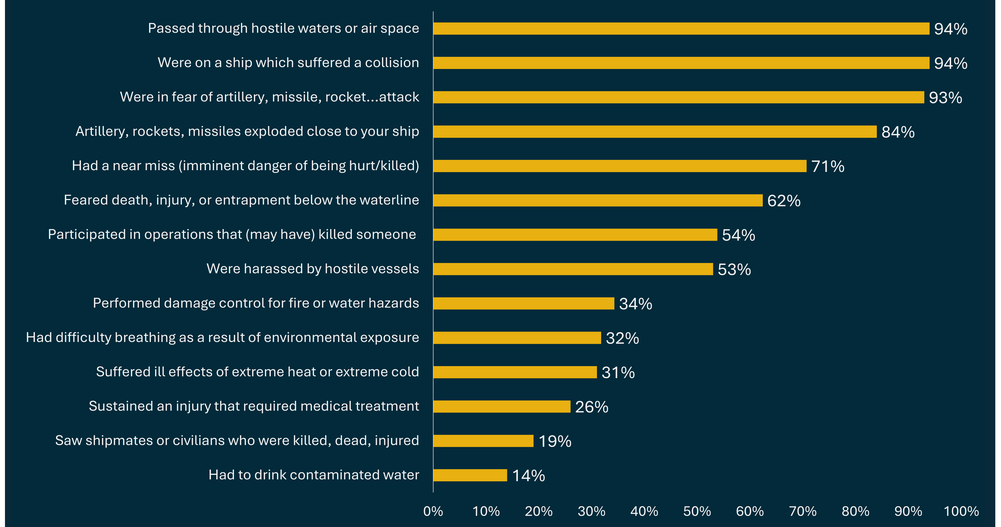

Figure. Self-reported combat exposures among sailors deployed to a combat zone.

RESULTS

- Most sailors in this study were male (75.8%), unmarried (53.4), and nearly half were E1–E4 rank (45.6%)
- Over 70% screened positive for a mental health problem (probable anxiety, depression, or PTSD)
  - Probable anxiety (49.0%), depression (53.9%), PTSD (35.8%)
  - 2/3 screened positive for more than one problem
- Combat exposure was associated with significantly higher odds of screening positive for a mental health problem (Adj. OR = 1.3, 95% CI [1.2, 1.4])
- Higher perceived readiness and Officer rank were associated with significantly lower odds of screening positive for a mental health problem

Table. Demographic and service-related characteristics

	N (%)
Male	711 (75.8)
Age	
17-24	420 (44.7)
25-29	192 (20.4)
30-39	261 (27.8)
40+	67 (7.1)
Race	
Asian	51 (5.4)
Black/African American	226 (24.1)
Hispanic/Latino	157 (16.8)
White	341 (36.4)
Other	17 (1.8)
Multiracial	145 (15.5)
Marital status	
Married/cohabitating	438 (46.6)
Divorced	73 (7.8)
Never married	429 (45.6)
Rank	
E1-E4	428 (45.6)
E5-E6	372 (39.6)
E7-E9	83 (8.8)
O1-O6	56 (6.0)
Time in military (years)	
≤ 2 years	262 (27.8)
3-4	272 (28.9)
5-7	129 (13.7)
8-10	36 (3.8)
10+	242 (25.7)
First tour Sailor (yes)	531 (56.6)
Previous underway (yes)	693 (74.0)

[1]Counts exclude missing data

DISCUSSION

- This study is among the first to outline common exposures experienced by shipboard sailors in recent combat operations
- Rates of mental health concerns exceed those reported in postdeployment research from the post-9/11 era (16%–29%).
  - Embedded mental health and prevention resources are critical to optimize and sustain health, readiness, and performance in future conflicts
- It is possible that high rates of mental health screenings were attributable to prolonged stress during a lengthy deployment, and symptoms may diminish once in homeport
  - In contrast, past research suggests postdeployment mental health problems may not present immediately (e.g., Milliken et al., 2007)
  - Critical to track symptoms over time
- Follow-up data collection scheduled for Summer 2026

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