

Abstract

Using a sample of recently deployed National Guard service members ($n = 87$), we predicted post-deployment posttraumatic stress (PTSD) symptoms from the change in family functioning, family functioning, and exposure to combat-related trauma. Results indicated that service members with healthier family functioning maintained low levels of PTSD symptoms, regardless of their degree of exposure to combat-related trauma. These findings suggest that family functioning may serve as a resilience resource that promotes resilience by buffering the deleterious effect of exposure to combat-related trauma on later PTSD symptoms.

Introduction

- While exposure to combat-related trauma has been previously linked to an increased risk of posttraumatic stress disorder (PTSD), individual differences in the onset of PTSD after exposure to combat-related trauma suggest that certain factors may elevate the risk of developing PTSD (Bryan et al., 2015).
- Known as resilience resources, resilience-promoting factors are hypothesized to neutralize the negative effect of stress on well-being (Meadows et al., 2015).
- Since resilience is a process that can be studied only in the context of stress (Meadows et al., 2015), this study sought to evaluate under which conditions exposure to combat-related trauma is associated with an increased risk of PTSD symptoms.
- We evaluated family functioning as a potential resilience resource, given previously established associations between family functioning and PTSD (Evans et al., 2009), and then determined whether family functioning buffered, or mitigated, PTSD symptoms in service members who were exposed to combat-related trauma.

Hypotheses

- Family Functioning:** Service members who report healthier functioning at reintegration (T2) will report lower PTSD symptoms at post-reintegration (T3).
- Improvement in Family Functioning:** Service members who report improvement in family functioning will report lower PTSD symptoms at post-reintegration (T3).
- Moderating Role of Family Functioning and Improvement in Family Functioning:** Family functioning and improvement in family functioning will moderate associations between exposure to combat-related trauma at reintegration (T2) and PTSD symptoms at post-reintegration (T3).

Method

We collected data from National Guard service members prior to deployment (T1; 1-16 weeks before departure), shortly following their return from deployment (T2; 1 month after returning from deployment), and later following their return from deployment (T3; 11 months following return).

Controls: We controlled for the following: Age, sex, number of combat deployments, and number of children in the home.

Predictors (T2):

- Exposure to Combat-Related Trauma:** Summed score of the Department of Defense's Health Related Behaviors among Active Duty Military Personnel (HRB, $\alpha = .80$; Bray et al., 2009). Participants provided a yes (1) or no (0) response to whether they experienced various combat-related events.
- Family Functioning:** Mean score of the General Family Functioning subscale of the McMaster Family Assessment Device (FAD; $\alpha = .93$; Epstein et al., 1983). Higher scores reflect healthier family functioning; responses range from 1 (*Strongly disagree*) to 5 (*Strongly agree*).
- Change in Family Functioning:** Difference score between FAD at pre-deployment and FAD at reintegration (T1 minus T2). Positive values indicated that family functioning improved and negative values indicated that family functioning worsened between T1 and T2.

Outcome (T3):

PTSD Symptoms: Summed score from the Posttraumatic Stress Disorder Checklist (PCL, $\alpha = .92$; Weathers et al., 1993) at post-reintegration (T3). Responses range from 1 (*Not at all*) to 5 (*Extremely*).

Scales	Number of Items	M	SD
PTSD Symptoms	17	28.80	12.10
Exposure to Combat-Related Trauma	7	2.08	2.05
Family Functioning	8	4.14	.53
Change in Family Functioning	-	.05	.52

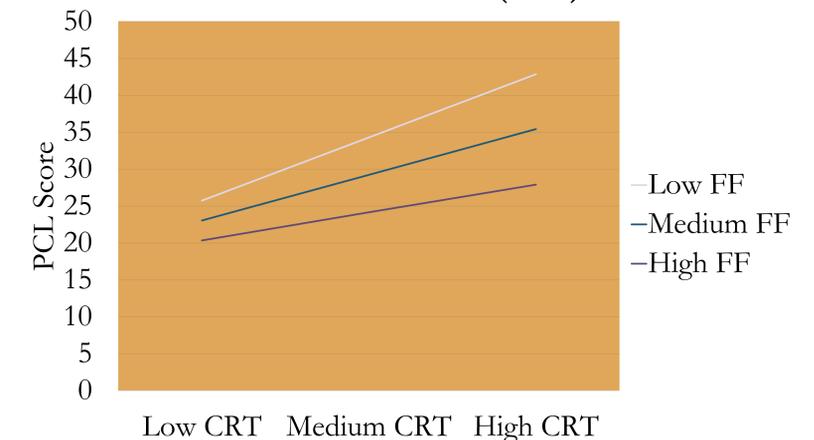
Using hierarchical regression, we entered our variables into the model in three blocks:

- Block 1:** Age, sex, number of combat deployments, and number of children living in the home.
- Block 2:** Exposure to combat-related trauma, family functioning, and change in family functioning.
- Block 3:** Exposure to combat-related trauma*family functioning, exposure to combat-related trauma*change in family functioning.

Results

- The overall model explained 46% of the variance in PTSD symptoms at T3 ($R^2 = .46$, $F(10,76) = 6.44$, $p < .01$).
- The inclusion of interactions at block 3 accounted for an additional 4.7% of the variance in PTSD symptoms at T3 ($p = .07$).
- The interaction between family functioning and combat exposure was significant ($\beta = -0.22$, 95% CI [-4.83 -0.06], $t = -2.05$, $p = .04$).
- The interaction between the change in family functioning and combat exposure was marginally significant ($\beta = -0.20$, 95% CI [-4.25 0.16], $t = -1.84$, $p = .07$).

Family Functioning (FF) x Exposure to Combat-Related Trauma (CRT)



Conclusions

- We found evidence that family functioning moderated associations between exposure to combat-related trauma and PTSD symptoms, such that family functioning buffered the deleterious effect of exposure to combat-related trauma on PTSD symptoms.
- These findings suggested that healthy family functioning served as a resilience resource by buffering the effect of stressful life events (i.e., exposure to combat-related trauma) on well-being (i.e., PTSD symptoms).
- Future directions include using structural equation modeling to evaluate the effect of a range of hypothesized risk and resilience resources on the association between exposure to combat-related trauma and PTSD symptoms.

References

- Bray, R., Pemberton, M., Hourani, L. L., Witt, M., Olmsted, K. L. R., Brown, J. M., ... Bradshaw, M. (2009). 2008 Department of Defense Survey of Health Related Behaviors among Active Duty Military Personnel: A component of the Defense Lifestyle Assessment Program (RTI/10940-FR). Research Triangle Park, NC: RTI International.
- Bryan, C. J., Griffith, J. E., Pace, B. T., Hinkson, K., Bryan, A. O., ... Imel, Z. (2015). Combat exposure and risk for suicidal thoughts and behaviors among military personnel and veterans: A systematic review and meta-analysis. *Suicidal and Life-Threatening Behaviors, 45*, 633-649. doi:10.1111/sltb.12163
- Epstein, N. B., Baldwin, L. M., Bishop, D. S. (1983). The McMaster Family Assessment Device. *Journal of Marital and Family Therapy, 9*, 171-180. doi:10.1111/j.1752-0606.1983.tb01497.x
- Evans, L., Cowlishaw, S., & Hopwood, M. (2009). Family functioning predicts outcomes for veterans in treatment for chronic posttraumatic stress disorder. *Journal of Family Psychology, 23*, 531-539. doi:10.1037/a0015877
- Weathers, F. W., Litz, B. T., Herman, D. S., Huska, J. A., & Keane, T. M. (1993, October). *The PTSD Checklist (PCL): Reliability, validity, and diagnostic utility*. Paper presented at the meeting of the International Society for Traumatic Stress Studies, San Antonio, TX.