

Ellis D. Bronstein B.S.¹; Joscelyn E. Fisher, Ph.D.^{2,3}; Jing Zhou, M.S.^{2,3}; Christin M. Ogle, Ph.D.^{2,3}; Alexander Rice, Ph.D.^{2,3}; Stephen J. Cozza, M.D.²

¹Uniformed Services University of the Health Sciences School of Medicine, Bethesda, MD; ²Center for the Study of Traumatic Stress, Department of Psychiatry, Uniformed Services University of the Health Sciences, Bethesda, MD; ³Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc., Bethesda, MD

INTRODUCTION

- Individuals with high anxious apprehension (i.e., tendency to worry) are likely to feel more uncertainty about the future after the death of a loved one.¹
- The association between worry and grief severity is not well-documented, especially after violent loss.²
- Other negative cognitions (i.e., reduced trust in others) have been examined after violent loss and may be associated with anxious apprehension and grief severity.^{3,4}
- Persistent, intense grief that impairs function characterizes Prolonged Grief Disorder (PGD) which can be comorbid with depression or posttraumatic stress symptoms (PTS).⁴
- This project analyzed how anxious apprehension (AA, i.e., worry) and reduced trust in others were associated with PGD. Depression and PTS were also taken into account.

METHODS

Participants/Procedure

- 378 bereaved family members of individuals killed in 9/11 attacks
- Completed online survey 14 years after attacks

Constructs/Measures:

- Anxious apprehension: Penn State Worry Questionnaire
- Reduced Trust: Posttraumatic Cognitions Inventory 'Negative Cognitions about the World' subscale
- Depression: PHQ-9
- PTS: PCL-5 Checklist
 - Criterion B: Re-experiencing
 - Criterion C: Avoidance
 - Criterion D: Negative alterations in cognition and mood
 - Criterion E: Alterations in arousal and reactivity
- PGD threshold: Inventory of Complicated Grief ≥ 30

Statistical analysis

- Univariable logistic regressions were used to examine association between anxious apprehension, reduced trust, depression, PTS, and threshold PGD (ICG ≥ 30).
- Multivariable model included anxious apprehension and reduced trust as predictors of PGD, adjusting for depression and PTS.

RESULTS

- The mean age of participants was 57 years ($SD = 12$); 85% were female, and 93% were White.
- All predictors of PGD were significant in univariable models
 - Anxious apprehension: $OR=1.05$, 95% CI: 1.03-1.06, $p<0.001$
 - Reduced trust: $OR=2.79$, 95% CI: 2.13-3.66, $p<0.001$
 - Depression and PTS criteria B, C, D, and E each predicted PGD ($ps<0.001$)

Reduced trust in others, re-experiencing, and depression were associated with increased risk for Prolonged Grief Disorder.

Increasing trust in others could be a promising therapeutic target.

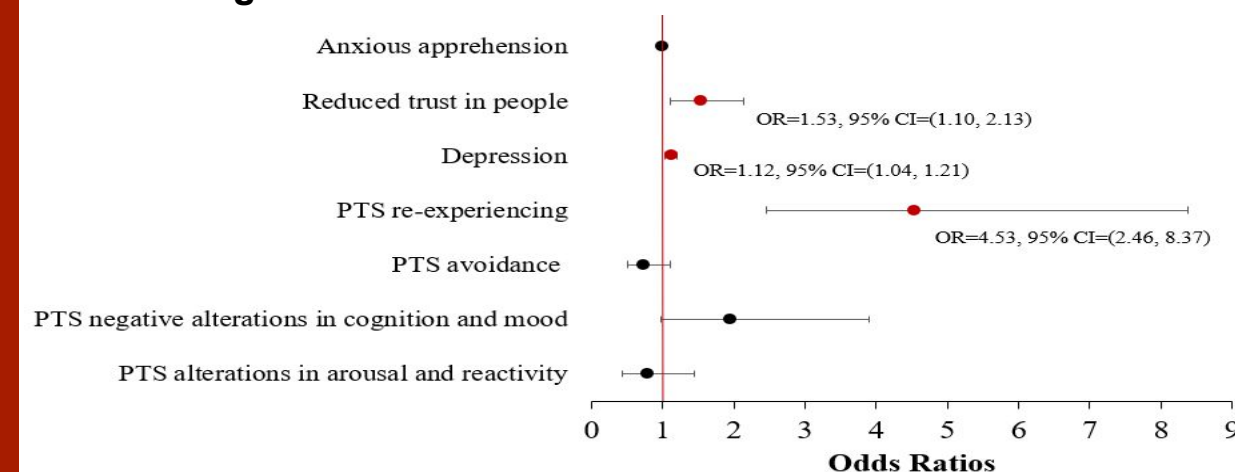


Image courtesy of https://commons.wikimedia.org/wiki/File:Noun_Awareness_Ribbon_Bohdan_631116.svg

RESULTS (cont.)

In the multivariable model, reduced trust in people, depression, and PTS criterion B (re-experiencing) symptoms were significantly associated with higher odds of PGD.

Figure 1. Results from a Multivariable Logistic Regression Predicting PGD



Note. Forest plot showing odds ratios and 95% confidence intervals of predictors of meeting PGD threshold. Significant results labeled (red) $ps < 0.05$, nonsignificant results (black).

DISCUSSION

- Consistent with prior literature,² AA/worry was associated with PGD when examined alone
- However, other related variables were stronger predictors of PGD in this 9/11-bereaved sample
 - Reduced trust in others, re-experiencing, and depression were each associated with increased risk for PGD
- Intrusive memories of trauma may impede building social support/trusting others and thus contribute to depression which increases risk for PGD^{3,5,6}
- Future directions**
 - Studies could delineate directional relationships between these constructs.
 - Interventions could focus on building trust within social networks to facilitate adaptation to grief

REFERENCES

- Jacobs, S., Hansen, F., Kasl, S., Ostfeld, A., Berkman, L., & Kim, K. (1990). Anxiety disorders during acute bereavement: risk and risk factors. *The Journal of clinical psychiatry*, 51(7), 269-274.
- Eisma, M. C., Boelen, P. A., Schut, H. A. W., & Stroebe, M. S. (2016). Does worry affect adjustment to bereavement? A longitudinal investigation. *Anxiety, Stress, & Coping*, 30(3), 243-252. <https://doi.org/10.1080/10615806.2016.1229464>
- Thoresen, S., Birkeland, M. S., Wentzel-Larsen, T., & Blix, I. (2018). Loss of Trust May Never Heal. Institutional Trust in Disaster Victims in a Long-Term Perspective: Associations With Social Support and Mental Health. *Frontiers in psychology*, 9, 1204. <https://doi.org/10.3389/fpsyg.2018.01204>
- Janshen, A., & Eisma, M. C. (2024). Bidirectional associations between prolonged grief symptoms and depressive, anxiety, and posttraumatic stress symptoms: A systematic review. *Journal of traumatic stress*, 37(6), 825-836. <https://doi.org/10.1002/jts.23061>
- Johansen, V. A., Milde, A. M., Nilsen, R. M., Breivik, K., Nordanger, D. Ø., Stormark, K. M., & Weisæth, L. (2020). The Relationship Between Perceived Social Support and PTSD Symptoms After Exposure to Physical Assault: An 8 Years Longitudinal Study. *Journal of Interpersonal Violence*, 37(9-10), NP7679-NP7706. <https://doi.org/10.1177/0886260520970314> (Original work published 2022)
- Simon, N., Roberts, N. P., Lewis, C. E., van Gelderen, M. J., & Bisson, J. I. (2019). Associations between perceived social support, posttraumatic stress disorder (PTSD) and complex PTSD (CPTSD): implications for treatment. *European journal of psychotraumatology*, 10(1), 1573129.

The opinions and assertions expressed herein are those of the authors and do not reflect the official policy or position of the Uniformed Services University of the Health Sciences or the Department of Defense. The contents of this publication are the sole responsibility of the authors and do not necessarily reflect the views, opinions or policies of The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. Mention of trade names, commercial products, or organizations does not imply endorsement by the U.S. Government. No funding was received or COI identified in making this poster