

# Millennium Cohort Study Overview

Millennium Cohort Study is a longitudinal study of military personnel sponsored by the Department of Defense and the Department of Veterans Affairs. The objective of the study is to understand the impact of military service on long-term health of service members and veterans. Participants are enrolled during their military service and complete surveys every 3 to 5 years, both during and after their service. The first panel of service members was enrolled in 2001, with additional panels enrolled in 2004, 2007, 2011, and 2020. There are currently over 260,000 MCS participants from all service branches and components, making it the largest and longest ongoing cohort study of U.S. military personnel.

## Summary of Recent Anger Research

Anger can be a useful emotion that signals the need to address an injustice. In contrast, problematic anger is intense anger associated with elevated distress that interferes with functioning. In 2016, we began to survey participants about problematic anger, and we recently published 3 studies on this topic. Collectively, these studies identify the potential toll of problematic anger on service members and veterans and focus attention on the importance of training individuals in emotion regulation.

- The first study, published in BMC Public Health in 2020, found that 17% of service members and veterans screened positive for problematic anger.2 Several factors (e.g., post-traumatic stress disorder, depression, financial problems, problem drinking) were associated with an increased risk of problematic anger 3-5 years later. Positive outlook and self-mastery were associated with decreased risk.
- The second study, published in the Journal of Affective Disorders, examined the association between problematic anger and indicators of economic difficulties.3 Problematic anger was significantly associated with involuntary job loss and financial problems for both service members and veterans. Among veterans, problematic anger was also associated with unemployment and homelessness.
- ♦ The third study, published in JAMA Network Open, found that 16% of active duty service members had problematic anger within 2 years prior to military separation.4 This prevalence doubled within 2 years following separation. Problematic anger around the time of separation was associated with adjustment difficulties (e.g., PTSD, depression, low relationship quality, challenges coping with parental demands, low social support, and economic difficulties) 3-5 years later.

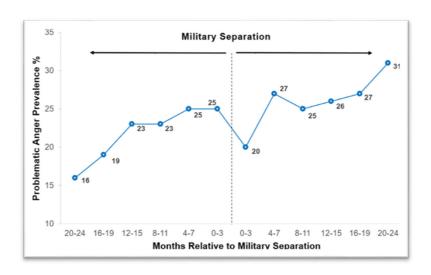
#### **KEY POINTS**

- Problematic anger is an important issue in military and veteran communities
- 1 in 6 survey respondents report experiencing problematic anger
- PTSD, depression, financial problems, and problem drinking increased the risk of problematic anger
- Problematic anger was associated with subsequent indicators of economic difficulties, relationship problems, and behavioural health problems
- Problematic anger is separate and distinct from other mental health problems

## Implications and Recommendations

Problematic anger in the military is critical given its high prevalence, distinction from other mental disorders, role in impeding effective PTSD treatment, and impact on vocational and interpersonal functioning. Interventions focusing on increased emotional regulation and positive coping strategies prior to and after military separation may help improve the military-to-civilian transition experience. Study findings suggest it may be useful for military leaders, veteran organizations, and policy makers to support the mental health adjustment and financial well-being of military personnel and veterans by proactively addressing problematic anger.

The prevalence of problematic anger nearly doubled from the 2 years prior to military separation (16%) to the 2 years following separation (31%)



# References

- Belding JN, Castañeda SF, Jacobson IG, LeardMann CA, Porter B, Powell TM, Kolaja CA, Seelig AD, Matsuno RK, Carey FR, Rivera AC, Trone DW, Sheppard BD, Walstrom JL, Boyko EJ, Rull RP; Millennium Cohort Study Team. The Millennium Cohort Study: The first 20 years of research dedicated to understanding the long-term health of US Service Members and Veterans. Ann Epidemiol. 2022 Mar;67:61-72. Epub 2021 Dec 11. PMID: 34906635.
- 2. Adler AB, LeardMann CA, Roenfeldt KA, Jacobson IG, Forbes D; Millennium Cohort Study Team. Magnitude of problematic anger and its predictors in the Millennium Cohort. BMC Public Health. 2020 Jul 27;20(1):1168. PMID: 32718306; PMCID: PMC7385895.
- 3. Adler AB, LeardMann CA, Yun S, Jacobson IG, Forbes D; Millennium Cohort Study Team. Problematic Anger and Economic Difficulties: Findings from the Millennium Cohort Study. J Affect Disord. 2021 Oct 25:S0165-0327(21)01170-8. PMID: 34710505.
- 4. Adler AB, LeardMann CA, Villalobos J, Jacobson IG, Forbes D; Millennium Cohort Study Team. Association of Problematic Anger with Long-term Adjustment Following the Military-to-Civilian Transition. JAMA Netw Open. 2022 Jul 1;5(7):e2223236. PMID: 35862043.

#### **Disclaimer**

AB Adler is a military service member or employee of the U.S. Government. This work was prepared as part of her official duties. Title 17, U.S.C. §105 provides that copyright protection under this title is not available for any work of the U.S. Government. Title 17, U.S.C. §101 defines a U.S. Government work as work prepared by a military service member or employee of the U.S. Government as part of that person's official duties. This report was supported by the Defense Health Program, Department of Veterans Affairs Office of Research and Development, and the Department of Veterans Affairs Office of Patient Care Services under work unit no. 60002. The views expressed in this article are those of the authors and do not necessarily reflect the official policy or position of the Department of the Navy, Department of Defense, nor the U.S. Government. The study protocol was approved by the Naval Health Research Center Institutional Review Board in compliance with all applicable Federal regulations governing the protection of human subjects. Research data were derived from an approved Naval Health Research Center Institutional Review Board protocol, number NHRC.2000.0007.

