

War-Related Traumas and Mental Health Across Generations

Theresa S. Betancourt, ScD, MA; Dana Thomson, PhD; Tyler J. VanderWeele, PhD

This issue of *JAMA Psychiatry* presents the findings from an epidemiological study from Santavirta et al¹ on the risk of psychiatric hospitalization among the offspring of adults who were



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evacuated as child refugees to Sweden during World War II under the Finnish Evacuation Policy. The study provides a glimpse into the potential intergenerational associations of being a child refugee during World War II with psychiatric hospitalization, with particular attention to sex. The study found that women of mothers who were evacuated to Sweden during childhood had an elevated risk for psychiatric hospitalization. They were more than 2 times more likely to be hospitalized for any type of psychiatric disorder and nearly 5 times more likely to be hospitalized for a mood disorder.

This study adds to a growing literature on the intergenerational association of war-related exposures with mental health that may persist across generations. Studies that examine the longer-term effect of war exposure in childhood among adults are rare and difficult to undertake, and are even more so for studies of the intergenerational effect of war. The attention given in this study to linking Finnish census and health record data, and the use of cousins as matched comparisons for Cox proportional hazard models to further rule out family-level confounding, are commendable.

Also noteworthy were the very strong sex associations that were observed. There was no excess risk of being hospitalized for a psychiatric disorder among offspring whose fathers were exposed to the Finnish Evacuation Policy during World War II. These findings reflect similar sex differences found from the adult cohort of Finnish evacuees that demonstrated that girls, but not boys, who were evacuated to Swedish foster families during World War II were more than twice as likely to be hospitalized for a mood disorder during childhood compared with their nonevacuated siblings. The sex-specific associations are interesting in their own right, but they also contribute further evidence that what is driving the associations is not confounding alone, because in that case one might expect similar patterns in cases in which the father had been evacuated. The analysis of fathers in this study serves as a negative control for that of the mothers.² What is important about this work is the focus not just on war-related exposures but also the attempt to examine family-based dynamics and intergenerational issues.

Unpacking the mechanisms at play in this study becomes challenging given the nature of the data. For instance, the authors were cognizant that one potential explanation for the association between evacuation during World War II and offspring developing psychiatric disorders is that former evacuees

were more likely to develop psychiatric disorders themselves (as found in a previous study in this sample).³ Thus, the Cox models were extended to adjust for parental psychiatric hospitalization and the associations that were observed did not appear to be accounted for by maternal psychopathology alone. However, the authors note that the study does not fully address the possibility that parental psychopathology contributed to the observed association between evacuation and psychopathology among offspring, as only severe psychiatric disorders receive hospitalization. The question thus remains as to what is driving the association that is seen in this study. If the associations that were observed exist independently of parental mental illness as indicated by psychiatric hospitalization, what other processes might be at play, especially related to the mental health of female evacuees and their female offspring? Some of the most important elements of the findings related to the sex-specific patterns in the intergenerational effects of war and the quest for the mechanisms are at play.

These topics deserve further exploration. Also needed is research that captures the greater complexity, variation in both the expression of mental health problems, and availability of different protective resources and risk factors postconflict. Future studies need to prioritize on articulating parent-child relationships and family environments, which have been found to mediate the intergenerational effect of a parent's past war trauma on offspring attachment and mental health.⁴ Parental warmth and affection are strong predictors of mental health, and war-related trauma may affect parenting styles. However, what is further complicating the examination of mechanisms is the uncertainty of the nature of the war-related exposure. The exposure was parental evacuation as a child. How much of the association of this with subsequent outcomes was due to greater exposure to war-related events vs being placed in a foster home away from the family origin is not clear. The mechanisms of exposure to violence and separation from family on the mental health of offspring are likely to be quite different. Of additional importance is a greater understanding of the postconflict environment (for instance, the availability of formal and informal support networks and resources and access to services and life opportunities may help to understand the mechanisms that can promote resilient outcomes despite such documented risks).⁵

While the study provides support for the intergenerational effects of war, it must be considered that the sample arises from a European context that is not easy to compare with modern refugee displacements. For instance, the Finnish children who were evacuated were enrolled in an organized program that placed children with Swedish families in which the

average duration of care was 2 years, with some placements lasting up to 5 years. In modern refugee displacements in low-resource settings, separation often happens in very chaotic and uncontrolled environments that involve traumatic losses, such as the violent death of loved ones; direct exposure to war-related violence, such as raids on villages, shelling, bombing, and shooting; and being forced to flee because of extreme deprivation.⁶ In addition, a review of 17 studies of 7920 children aged 5 to 17 years who were exposed to wars in Bosnia, Cambodia, Central America, the Middle East, and Rwanda indicated that extreme toxic stress exposures—both in terms of compounded exposure to multiple and interactive stressors as well as in terms of the severity of the exposures—were frequent and related to worse psychological outcomes, including higher rates of posttraumatic stress disorder, elevated depression, and anxiety disorders.⁷ Additional research suggests

that the type of exposure, as well as the frequency and severity of the exposure, may also have differential effects.⁸

Indeed, evidence is mixed on the intergenerational effects of war, even among European cultures that were affected by World War II.^{9,10} Given this heterogeneity, the generalizability of these findings is uncertain when extended to new contexts and cultures. While the findings of this study on the risk of psychiatric hospitalization among the offspring of adults who were evacuated during World War II highlight important issues, they also illuminate how much more we have to learn on this topic. Questions of sex and family contexts continue to resonate, as well as the unpacking of the actual mechanisms at play. It is imperative that future research further explores the complexity of the effect of armed conflict across generations in a range of contexts and cultures, with specific attention to sex and family contexts.

ARTICLE INFORMATION

Author Affiliations: Research Program on Children and Adversity, Boston College School of Social Work, Chestnut Hill, Massachusetts (Betancourt, Thomson); Harvard T. H. Chan School of Public Health, Boston, Massachusetts (VanderWeele).

Corresponding Author: Theresa S. Betancourt, ScD, MA, Research Program on Children and Adversity, Boston College School of Social Work, McGuinn Hall, 106M, 140 Commonwealth Ave, Chestnut Hill, MA 02467 (theresa.betancourt@bc.edu).

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REFERENCES

1. Santavirta T, Santavirta N, Gillman SE. Association of the World War II Finnish evacuation with psychiatric hospitalization in the next

generation of children [published online November 29, 2017]. *JAMA Psychiatry*. doi:10.1001/jamapsychiatry.2017.3511

2. Lipsitch M, Tchetgen Tchetgen E, Cohen T. Negative controls: a tool for detecting confounding and bias in observational studies. *Epidemiology*. 2010;21(3):383-388.

3. Santavirta T, Santavirta N, Betancourt TS, Gillman SE. Long term mental health outcomes of Finnish children evacuated to Swedish families during the second world war and their non-evacuated siblings: cohort study. *BMJ*. 2015;350:g7753.

4. Slone M, Mann S. Effects of war, terrorism and armed conflict on young children: a systematic review. *Child Psychiatry Hum Dev*. 2016;47(6):950-965.

5. Betancourt TS, McBain R, Newnham EA, Brennan RT. Trajectories of internalizing problems in war-affected Sierra Leonean youth: examining conflict and postconflict factors. *Child Dev*. 2013;84(2):455-470.

6. Morgos D, Worden JW, Gupta L. Psychosocial effects of war experiences among displaced children in southern Darfur. *Omega (Westport)*. 2007-2008;56(3):229-253.

7. Attanayake V, McKay R, Joffres M, Singh S, Burkle F Jr, Mills E. Prevalence of mental disorders among children exposed to war: a systematic review of 7,920 children. *Med Confl Surviv*. 2009;25(1):4-19.

8. Werner EE. Children and war: risk, resilience, and recovery. *Dev Psychopathol*. 2012;24(2):553-558.

9. Bean T, Derluyn I, Eurelings-Bontekoe E, Broekaert E, Spinhoven P. Comparing psychological distress, traumatic stress reactions, and experiences of unaccompanied refugee minors with experiences of adolescents accompanied by parents. *J Nerv Ment Dis*. 2007;195(4):288-297.

10. Betancourt TS. The intergenerational effect of war. *JAMA Psychiatry*. 2015;72(3):199-200.