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Erik W. Goepner

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Linking Trauma to the Prevalence of Civil War

Erik W. Goepner
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ABSTRACT: This article argues the more trauma endured by a population, the more civil war the country will experience in the future. Drawing on mental health, trauma, and neurobiological research, it builds a new theory of civil war that fills existing gaps in current civil-war literature, and then tests the theory via statistical analysis of a large sample size (large-n statistical analysis). The conclusions will help policymakers and US military leadership better understand civil wars and the limits of American power to end them.

Keywords: civil war, violence, insurgency, trauma, mental illness

Gaps in current civil-war research negatively impact the policymakers who decide whether the United States will intervene in another nation's civil war and the military servicemembers who plan for and fight in those wars. This article attempts to fill in these gaps by developing and testing a new trauma theory of civil war.

One primary theory argues civil wars occur when citizens become sufficiently motivated. Another argues civil wars occur when citizens have the opportunity to rebel. Neither explains how or why the threshold for taking human life varies across time and space. Additionally, quantitative researchers have failed to find support for most proxies of motivation, such as government type and ethnolinguistic or religious fractionalization. Furthermore, the opportunity theory appears to lack a causal mechanism. Instead, the opportunity to rebel is more likely an enabling condition rather than a theory.¹ Beyond widespread consensus that poverty, slow economic growth, and large populations are associated with an increased risk of civil war, substantial debate exists about the significance of other factors.²

This lack of understanding has resulted in the United States intervening in the civil wars of other nations yet remaining largely unaware of the underlying

1. Stephen Van Evera, *Guide to Methods for Students of Political Science* (Ithaca, NY: Cornell University Press, 1997), 10–12.

2. James D. Fearon and David D. Laitin, "Ethnicity, Insurgency, and Civil War," *American Political Science Review* 97, no. 1 (2003): 75–90; Håvard Hegre and Nicholas Sambanis, "Sensitivity Analysis of Empirical Results on Civil War Onset," *Journal of Conflict Resolution* 50, no. 4 (2006); Nicholas Sambanis, "A Review of Recent Advances and Future Directions in the Quantitative Literature on Civil War," *Defence and Peace Economics* 13 no. 3 (2002): 229; Paul Collier, Anke Hoefler, and Dominic Rohner, "Beyond Greed and Grievance," *Oxford Economic Papers* 61, no. 1 (2009): 1–27; and Håvard Hegre, "Toward a Democratic Civil Peace? Democracy, Political Change, and Civil War, 1816–1992," *American Political Science Review* 95, no. 1 (2001).

causes of the wars. Why, for example, was the prevalence of civil war so high in Afghanistan yet so low in Bosnia before the United States intervened in those countries? Answers to this question and similar ones could have helped policymakers estimate the utility of military intervention and aided the military in planning and executing a sound strategy for the achievement of US objectives.

This article develops and tests a trauma theory of civil war. The potential causal linkage is straightforward. The more trauma (for instance, torture, rape, and disasters) endured by a country's citizens, the more problems the citizens will experience later, including mental illness, substance abuse, and diminished impulse control. People dealing with these issues use violence more frequently to resolve conflict and to achieve their goals than they would absent these conditions. As a result, civil war becomes more likely.

Two key terms warrant further definition. Scholars typically define "civil war" as armed conflict between a country's government and a rebel group (or groups) that takes place within the country's borders and results in a minimum number of fatalities over a specified period. Civil-war prevalence is thus the combined probability of a war starting and an ongoing war continuing in a given year.³

The American Psychiatric Association defines a "traumatic stressor" as "[a]ny event that may cause or threaten death, serious injury, or sexual violence to an individual, a close family member, or a close friend."⁴ Examples include being tortured or raped, experiencing war, being assaulted with a weapon, experiencing a natural disaster, and witnessing the death of a loved one. Intentional, man-made, violent events directly experienced by the person have, on average, a more negative effect than naturally occurring, indirectly experienced stressors.⁵

Three sections follow. The first builds the trauma theory by importing theory from the trauma, mental health, and neurobiological fields. The second reports the results of the statistical analysis of a large sample size. The final section posits

3. Ibrahim Elbadawi and Nicholas Sambanis, "How Much War Will We See? Explaining the Prevalence of Civil War," *Journal of Conflict Resolution* 46, no. 3 (2002): 311.

4. American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed. (Washington, DC: American Psychiatric Association Publishing, 2013).

5. Maria Pacella, Bryce Hruska, and Douglas Delahanty, "The Physical Health Consequences of PTSD and PTSD Symptoms: A Meta-Analytic Review," *Journal of Anxiety Disorders* 27, no. 1 (January 2013): 42.

policy recommendations for military planners, warfighters, and national security policymakers.

Building a Trauma Theory of Civil War

Trauma may increase the prevalence of civil war in three ways. First, people often become more violent in response to severe and repeated, traumatic stressors, lowering the threshold at which citizens will use deadly force against their government. Second, trauma makes civil war more feasible by decreasing the capabilities of the government and its security force while lowering the opportunity costs of rebel recruitment. Third, trauma increases grievances among the population, which further motivates them to rebel against their governments.

Mechanism 1: Trauma, Violence, and Goal Achievement

An event during my deployment to Afghanistan illustrates how previously experienced trauma can lead people to use violence as a normal way to achieve their goals and resolve their problems. Colonel “Naseri” began berating Colonel “Habib” in the operations center in front of their subordinates and their American counterparts. Habib, the police chief for the province, had angered Naseri, the chief of the provincial security directorate, by arresting one of Naseri’s men in connection with the serial raping of an Afghan boy. Naseri used the moment to publicly mock Habib, who had spent most of his adult life in the midst of war and the trauma that came with it. The American forces loved Habib, who was one of the few brave men who consistently took the fight to the enemy, and the drug addiction we assessed he had was understandable in a land where self-medication was frequently the only medication available.

With their subordinates watching, Habib’s verbal responses proved no match for Naseri’s rhetorical skewering. As though a switch had flipped, Habib unholstered his handgun. There, in the Afghan equivalent of a war room, Habib aimed his loaded weapon at Naseri. Fortunately, a nearby American officer moved between the two men and the loaded firearm and persuaded Habib to reholster his weapon.

As trauma increases, violence becomes progressively normalized within society as a legitimate way to achieve goals and resolve problems. As the threshold for the use of lethal force lowers, civil war becomes more likely.

An increase in exposure to trauma includes one or more of the following situations. The traumatic stressors may become more severe. Intentionally caused events directly experienced by an individual, such as a physical assault with a weapon, typically lead to worse outcomes than do acts of nature or indirectly

experienced events. The severest traumatic stressors include torture, rape, and war. The amount of traumatic events experienced by a person may accumulate over time, and individuals may be exposed to multiple events. The traumatic events may continue or the time since the last exposure to a traumatic event might be recent. Figure 1 shows the potential causal linkage between trauma and civil war.

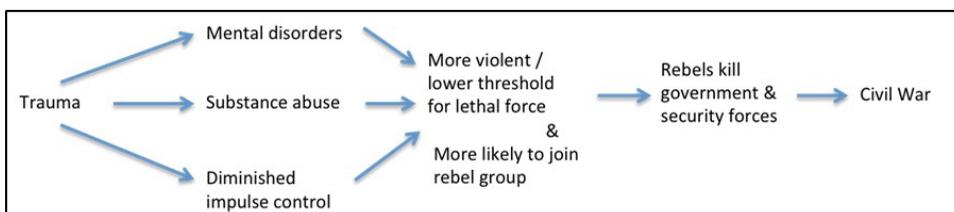


Figure 1. Potential pathway from trauma to civil war

Step One: More Mental Illness, Substance Abuse, and Impulse-Control Problems

Increased exposure to traumatic stressors causes an increased in mental illness and substance abuse and diminished impulse control.⁶ For example, 30 to 50 percent of populations caught in war zones with high rates of torture will likely develop post-traumatic stress disorder (PTSD).⁷ Other mental illnesses (such as major depressive disorder, anxiety disorders, and disruptive, impulse-control) and conduct disorders are also relevant to the study of trauma and civil war. Researchers have found more-severe traumatic stressors result in worse outcomes for the victim than less-severe traumatic events do. For instance, being the victim of torture or physical assault with a weapon is associated with more severe and long-lasting mental illness than experiencing trauma from a natural disaster or witnessing the death of a loved one.⁸

Trauma also leads to substance-abuse issues. Studies of participants in substance-abuse treatment programs found the co-occurrence of trauma and substance abuse to be as high as 90 percent.⁹ Additionally, on average,

6. Zachary Steel et al., "Association of Torture and Other Potentially Traumatic Events with Mental Health Outcomes among Populations Exposed to Mass Conflict and Displacement: A Systemic Review and Meta-analysis," *Journal of the American Medical Association* 302, no. 5 (2009): 537–49, <https://jamanetwork.com/journals/jama/article-abstract/184348>; Darrel Regier et al., "Comorbidity of Mental Disorders with Alcohol and Other Drug Abuse," *Journal of the American Medical Association* 264, no. 19 (1990); and Tim Weaver et al., "Comorbidity of Substance Misuse and Mental Illness in the Community Mental Health and Substance Misuse Services," *British Journal of Psychiatry* 183, no. 4 (2003).

7. Steel et al., "Association of Torture."

8. Pacella, Hruska, and Delahanty, "Physical Health Consequences," 42.

9. Melissa Farley et al., "Trauma History and Relapse Probability among Patients Seeking Substance Abuse Treatment," *Journal of Substance Abuse Treatment* 27, no. 2 (2004): 162; Nancy Wu et al., "Childhood Trauma and Health Outcomes in Adults with Comorbid Substance Abuse and Mental Health Disorders," *Addictive Behaviors* 35, no. 1 (2010): 70; and Merith Cosden et al., "Trauma Symptoms for Men and Women in Substance Abuse Treatment: A Latent Transition Analysis," *Journal of Substance Abuse Treatment* 50 (2015): 18.

30 to 50 percent of individuals with a mental illness will be diagnosed with a substance-abuse disorder at some point.¹⁰

Experiencing trauma (particularly during childhood) decreases an individual's impulse control, and more frequent and severe trauma intensifies the effect.¹¹ Unsurprisingly, both PTSD and depression correlate with impulse-control disorders.¹² Additionally, diminished impulse control links to a "broad spectrum of personal and social problems," including violence and crime.¹³ In the United States, an example of diminished impulse control can include a road-rage incident, during which a driver displays uncontrolled anger in response to another motorist's actions.

In a high-trauma state like Afghanistan, examples are more plentiful. I witnessed other violent outbursts during my deployment to a small Afghan province. A mayor smacked a police officer in the face before the start of a *shūrā*. The act apparently resulted from stress experienced during preparation for the arrival of distinguished visitors. On another occasion, two field-grade officers assaulted each other at the police headquarters over a petty squabble. On another occasion, a firefight erupted at an illegal checkpoint. A district chief's bodyguards, who had established the checkpoint, opened fire on plainclothes police officers who were illegally providing security for a businessman's convoy and refused to pay the illegal toll.

Step Two: More Violence and a Lowered Threshold for Lethal Force

A consensus exists in psychiatric literature that severe mental illness increases the risk of violence.¹⁴ On average, people with severe mental illness, especially when combined with substance-abuse problems, act more violently, as do people

10. Regier et al., "Comorbidity of Mental Disorders," 2,514, 2,517; and Robert Drake et al., "A Review of Treatments for People with Severe Mental Illnesses and Co-Occurring Substance Use Disorders," *Psychiatric Rehabilitations Journal* 27, no. 4 (2004): 360–61.

11. John A. Fairbank, Frank W. Putnam, and William W. Harris, "The Prevalence and Impact of Child Traumatic Stress," in *Handbook of PTSD: Science and Practice* (New York: Guilford Press, 2007), 240; Emil Coccaro, "Intermittent Explosive Disorder as a Disorder of Impulsive Aggression for DSM-5," *American Journal of Psychiatry* 169, no. 6 (2012): 584; and Bessel A. van der Kolk, "The Trauma Spectrum: The Interaction of Biological and Social Events in the Genesis of the Trauma Response," *Journal of Traumatic Stress* 1, no. 3 (1988).

12. Michel Lejoyeux et al., "Impulse Control Disorders and Depression," *Journal of Nervous and Mental Disease* 190, no. 5 (2002): 310, 314; Moshe Kotler et al., "Anger, Impulsivity, Social Support, and Suicide Risk in Patients with Posttraumatic Stress Disorder," *Journal of Nervous and Mental Disease* 189, no. 3 (2001); and Byron Good and Devon Hinton, "Introduction: Culture, Trauma, and PTSD," in *Culture and PTSD: Trauma in Global and Historical Perspective*, ed. Devon Hinton and Byron Good (Philadelphia: University of Pennsylvania Press, 2016).

13. Dianne Tice, Ellen Bratslavsky, and Roy F. Baumeister, "Emotional Distress Regulation Takes Precedence over Impulse Control," *Journal of Personality and Social Psychology* 80, no. 1 (2001): 53; and Menahem Krakowski, "Violence and Serotonin: Influence of Impulse Control, Affect Regulation, and Social Functioning," *Journal of Neuropsychiatry and Clinical Neurosciences* 15, no. 3 (2003): 294–95, 300.

14. Richard Van Dorn, Jan Volavka, and Norman Johnson, "Mental Disorder and Violence: Is There a Relationship beyond Substance Use?," *Social Psychiatry and Psychiatric Epidemiology* 47, no. 3 (2011): 487.

with diminished impulse control. The research, however, contains variation. For example, researchers debate the confounding factors that cause the increased risk of violence among people with mental illness. For instance, recent scholarship has focused on the potential effects of substance abuse, prior violence, and familial factors.¹⁵

As the *Diagnostic and Statistical Manual of Mental Disorders* observes, people with PTSD may engage in aggressive physical behavior with “little or no provocation.”¹⁶ Richard Van Dorn and colleagues observe the strongest associations with violence come from individuals with both severe mental illness and substance-use disorders.¹⁷ The manual also notes individuals who suffer from impulse control and similar disorders often exhibit behaviors that “violate the rights of others . . . and/or bring the individual into significant conflict with societal norms or authority figures.”¹⁸

Most studies treat the threshold when citizens will use lethal force to achieve their goals as a constant. This treatment is puzzling because norms vary in related areas (such as the prevalence of gun violence, murder rates, and the number of active-shooter events)—even across similar countries. For example, the UN Office on Drugs and Crime’s Intentional Homicide database indicates the United States has a homicide rate four to eight times greater than Australia, Canada, France, Germany, and the United Kingdom.¹⁹

In her work examining societal violence after civil conflict has ended, Chrissie Steenkamp refers to a “culture of violence” in which the norms and values that sustain the use of violence become established in a society. She attributes the culture of violence, in part, to the effects of trauma, when previous norms and values are replaced with ones perpetuating the use of violence in daily life.²⁰ Roos Haer and Tobias Böhmelt advance a similar argument about child soldiers. They find the effects of trauma plus the influence of learning by observation and imitation during the war normalized the use of violence as a problem-solving technique in the child soldiers’ postwar lives.²¹ Similarly, Elisabeth Schauer and Thomas Elbert observed after war ends, child soldiers continue to use physical

15. Matthew Roché et al., “Prevalence and Risk of Violent Ideation and Behavior in Serious Mental Illnesses: An Analysis of 63,572 Patient Records,” *Journal of Interpersonal Violence* 36, no. 5-6 (2021); and Hanna Pickarda and Seena Fazelb, “Substance Abuse as a Risk Factor for Violence in Mental Illness: Some Implications for Forensic Psychiatric Practice and Clinical Ethics,” *Current Opinion in Psychiatry* 26, no. 4 (2013): 350.

16. American Psychiatric Association, *Manual of Mental Disorders*, 272–73, 275.

17. Van Dorn, Volavka, and Johnson, “Mental Disorder and Violence,” 487, 491.

18. American Psychiatric Association, *Manual of Mental Disorders*, 461.

19. UN Office on Drugs and Crime, “Intentional Homicides (per 100,000 People),” World Bank Open Data (website), n.d., <http://data.worldbank.org/indicator/VC.IHR.PSRC.P5>.

20. Chrissie Steenkamp, “The Legacy of War: Conceptualizing a ‘Culture of Violence’ to Explain Violence after Peace Accords,” *Round Table* 94, no. 379 (2005): 254–55, 264.

21. Roos Haer and Tobias Böhmelt, “Child Soldiers as Time Bombs? Adolescents’ Participation in Rebel Groups and the Recurrence of Armed Conflict,” *European Journal of International Relations* 22, no. 2 (2016): 414.

violence frequently to resolve conflicts, even after the child soldiers return to their prewar environments.²²

Step Three: Rebels Kill Government Officials and Security Forces

More violent societies are likely to produce rebels willing to employ lethal force against their governments than less violent societies are. Steenkamp's "culture of violence" argument suggests societies can develop norms that allow and promote the use of violence to achieve goals or resolve problems. In such cultures, citizens who have joined or are affiliated with a rebel group will be more willing to use violence against their governments because violence has already become socially acceptable.²³

When cultural norms against violence erode and citizens increasingly use violence to achieve goals or resolve conflicts, rebels are more likely to employ lethal force in pursuit of their group's objectives. Depression and PTSD correlate with impulse-control disorders and substance abuse. Additionally, a relationship exists between severe childhood trauma, brain development, and impulse control.²⁴ All these elements increase the likelihood citizens who join a rebel group will be more willing to use lethal force against their governments.

Step Four: More Civil War

Finally, a conflict can only qualify as a civil war if rebels and government security forces do enough killing. For instance, the frequently used definitions from the Correlates of War project and Uppsala Conflict Data Program and Peace Research Institute Oslo require both sides to inflict a minimum number of deaths on each other. In the Correlates of War project definition, at least 1,000 battle-related combatant deaths must occur in a 12-month period, with the weaker side inflicting at least 5 percent of the fatalities, for the conflict to qualify

22. Elisabeth Schauer and Thomas Elbert, "The Psychological Impact of Child Soldiering," in *Trauma Rehabilitation After War and Conflict*, ed. Erin Martz (New York: Springer, 2010), 335.

23. Steenkamp, "Legacy of War," 254.

24. Lejoyeux et al., "Impulse Control Disorders," 310, 314; Kotler et al., "Anger," 162–67; Good and Hinton, "Introduction"; and Fairbank, Putnam, and Harris, "Child Traumatic Stress," 240.

as a civil war.²⁵ By definition, civil war cannot occur unless rebels kill 50 members of the government or security forces.

Mechanism 2: Trauma, Opportunity, and Civil War

Trauma may also serve as a remote cause for civil war by making war more feasible. In this instance, instead of directly causing civil war, trauma amplifies the direct cause—feasibility—such that an increase in trauma rates makes civil war more achievable. This explanation argues civil war becomes more likely as opportunity increases.²⁶ For example, when the effectiveness of a government's security force decreases, the opportunity for civil war increases. Similarly, as recruiting rebels becomes easier, the opportunity for civil war increases. In this context, higher rates of trauma help explain how rebel recruitment can become easier and why security force effectiveness might decrease, even if factors such as the number of troops and defense spending remain the same.

In countries with high rates of trauma, governments recruit bureaucrats and members of the security force from the pool of increasingly traumatized citizens. Increased exposure to traumatic stressors results in more substance abuse, a greater prevalence of mental illness, and negative changes to the brain.²⁷ These factors would make the government's security force less capable and therefore less effective. Although no studies of trauma's effects on the effectiveness of Afghan security forces, for instance, are available, RAND Corporation research on US servicemembers provides context and a potential proxy for trauma's impact on effectiveness. For example, RAND found one-third of US servicemembers diagnosed with PTSD were discharged for medical reasons between 2012 and 2015. More than a fifth of these servicemembers received an 80 percent or higher disability rating, and all received at least a 50 percent disability rating.²⁸

Mental illness can also play a role in recruiting rebels since it correlates strongly with unemployment. An estimated 60 to 90 percent of people with mental illness will be unemployed at some point.²⁹ Unemployment results in loss of income, which makes it easier to recruit rebels using financial incentives. In low-income

25. Meredith Reid Sarkees, "Codebook for the Intra-State Wars v.4.0: Definitions and Variables" (working paper, Correlates of War project, University of Michigan, Ann Arbor, 2000), <https://correlatesofwar.org/data-sets/COW-war/intra-state-war-data-codebook>.

26. Collier, Hoeffler, and Rohner, "Beyond Greed and Grievance."

27. Deborah Weber and Cecil Reynolds, "Clinical Perspectives on Neurobiological Effects of Psychological Trauma," *Neuropsychology Review* 14, no. 2 (2004); and Anke Karl et al., "A Meta-Analysis of Structural Brain Abnormalities in PTSD," *Neuroscience & Biobehavioral Reviews* 30, no. 7 (2006).

28. Heather Krull et al., *Post-9/11 Trends in Medical Separation and Separation for Service Members with Posttraumatic Stress Disorder and Traumatic Brain Injury* (Santa Monica, CA: RAND Corporation, 2021).

29. Deborah Schofield et al., "The Personal and National Costs of Mental Health Conditions: Impacts on Income, Taxes, Government Support Payments Due to Lost Labour Force Participation," *BMC Psychiatry* 11, no. 1 (2011): 72; and Ruth Crowther et al., "Helping People with Severe Mental Illness to Obtain Work: Systematic Review," *BMJ* 322, no. 7,280 (2001).

states, where the majority of civil wars occur, the effects of job loss are more pronounced because a larger portion of the population lives paycheck to paycheck, and unemployment benefits are not available.

In sum, trauma may serve as a remote cause for the feasibility (or opportunity) argument for civil war, since more trauma may decrease security force effectiveness and ease conditions for the recruitment of rebels. This in turn makes civil war more likely.

Mechanism 3: Trauma, Motivation, and Civil War

Trauma may also serve as a remote cause for civil war by increasing grievances among the population, which increases their motivation to rebel. This theory suggests people rebel against their governments when sufficiently motivated by grievances, greed, or a combination of both.³⁰ Trauma provides a rationale for the variation of grievances among countries when the traditional grievance measures of government type, ethnolinguistic fractionalization, and religious differences remain the same. Scholars have argued civil wars should be more likely in autocratic states because the citizens do not have a way to participate in their governance. Conversely, democracies should be less likely to experience civil wars because the citizens have ways (such as voting and petitioning elected representatives) to participate in democratic processes.

People in high-trauma states should be more aggrieved and, therefore, more motivated to rebel than their low-trauma counterparts. By definition, victims of man-made trauma have legitimate grievances that often persist long after traumatic events have ended. Casualties of torture, war, and rape can point to a specific person or group as the source of their pain. In these cases, grievances increase in a general sense, and these human-caused stressors contribute to an “us versus them” mindset. In response, trauma victims and their loved ones are likely to become more motivated to rebel, and they have a ready-made “them” against whom to execute their violence.

Large-scale trauma and hatred go hand in hand. After experiencing a traumatic stressor, people frequently manifest intense anger.³¹ In research conducted in Afghanistan, Barbara Cardozo and her colleagues noted high levels of hatred across survey respondents—84 percent reported feeling “a lot” of or “extreme” hatred, and 62 percent reported they had endured four or more traumatic events

30. Collier, Hoeffler, and Rohner, “Beyond Greed and Grievance.”

31. Linda Young and Elizabeth Gibb, “Trauma and Grievance,” in *Understanding Trauma: A Psychoanalytical Approach*, ed. Caroline Garland (London: Duckworth, 1998), 81.

within the past 10 years, which is approximately nine times the trauma rate found in other countries.³²

Many trauma victims look for an opportunity to redress their grievances.³³ Linda Young and Elizabeth Gibb present a continuum along which grievances can be assuaged. On one end of the spectrum, an apology suffices. At the other end, justice requires violent revenge.³⁴ A study of rape and nonsexual assault victims revealed a “relatively high” preference for revenge. For some of these victims, even “an eye for an eye” was insufficient; these victims desired acts of “extreme and unending” violence against those who harmed them.³⁵

Summary

Trauma helps improve our understanding of civil war in three ways. First, it provides an explanation for why and how violence becomes normalized within a society as a legitimate way to achieve goals and resolve problems. Second, trauma may serve as a remote cause for the opportunity theory of civil war by decreasing the effectiveness of the government’s security forces and making the recruitment of rebels easier. Finally, trauma may serve as a remote cause of the motivation theory for civil war by increasing the sense of grievance and the desire for revenge among the population.

Testing the Trauma Theory of Civil War

This section reports the results of a large-n statistical analysis that included the creation of a trauma index and trauma variables for testing and the results from three statistical tests. For more information on the data and statistical analysis, please contact the author at egoepner@masonlive.gmu.edu.

Trauma Index

The trauma index includes all countries in the international system in any given year and the countries’ scores in four areas. The first three areas include the most pernicious forms of traumatic stressors: torture, rape, and war. The fourth

32. Barbara Cardozo, “Mental Health, Social Functioning, and Disability in Postwar Afghanistan,” *Journal of the American Medical Association* 292, no. 5 (2004): 575, 583; and Kate Scott et al., “Associations between Lifetime Traumatic Events and Subsequent Chronic Physical Conditions: A Cross-National, Cross-Sectional Study,” *PLOS ONE* 8, no. 11 (2013).

33. Young and Gibb, “Trauma and Grievance”; Uli Orth, “Punishment Goals of Crime Victims,” *Law and Human Behavior* 27, no. 2 (2003); Garth Davies, Edith Wu, and Richard Frank, “A Witch’s Brew of Grievances: The Potential Effects of COVID-19 on Radicalization to Violent Extremism,” Taylor and Francis Online, May 10, 2021, <https://www.tandfonline.com/doi/full/10.1080/1057610X.2021.1923188?scroll=top&needAccess=true>; and David Mendeloff, “Trauma and Vengeance: Assessing the Psychological and Emotional Effects of Post-Conflict Justice,” *Human Rights Quarterly* 31 (2009).

34. Young and Gibb, “Trauma and Grievance.”

35. Orth, “Punishment Goals,” 179, 183.

captures more general forms of trauma, such as natural disasters. The trauma index provides a country-by-country snapshot from 1990 to 2014. Each country receives an annual score from zero to 100, with each of the four areas representing 25 percent of the score. (Earl Babbie and others recommend equal weighting unless compelling circumstances suggest doing otherwise. No methodological or theoretical concerns existed with the trauma variables, so I used equal weighting.)³⁶ Higher scores indicate higher rates of trauma.

The four areas of the index comprise nine variables, eight of which come from established data sets.

- The author created the ninth variable, which measures the prevalence of rape, using data from the Department of State and Amnesty International. The methodology and scoring criteria for the rape variable followed Dara Kay Cohen and Ragnhild Nordås's work on rape and sexual violence during war.³⁷
- The torture component comprises an average of the Political Terror Scale and Cingranelli-Richards Human Rights dataset torture measures.³⁸ These data measure the amount of torture and political violence occurring within each country.
- The measure for war trauma comprises three variables: years of peace, battle deaths per capita, and area of the country affected by fighting. The data came from the Correlates of War project, the Uppsala Conflict Data Program, the Peace Research Institute Oslo, and the Center for Systemic Peace.
- The general trauma category consists of disasters, mortality rates for persons under the age of 40, and internally displaced persons or refugees. These data came from the Centre for Research on the Epidemiology of Disasters, the UN Population Division, the Center for Systemic Peace, and the UN High Commissioner for Refugees.

36. Earl Babbie, *The Practice of Social Research*, 14th ed. (Boston: Cengage Learning, 2015), 164; Frederik Booyen, "An Overview and Evaluation of Composite Indices of Development," *Social Indicators Research* 59, no. 2 (August 2002): 127–28; and Michela Nardo et al., *Handbook on Constructing Composite Indicators: Methodology and User Guide* (Paris: Organisation for Economic Co-operation and Development, 2008), 31.

37. Dara Kay Cohen, "Explaining Rape during Civil War: Cross-National Evidence (1980–2009)," *American Political Science Review* 107, no. 3 (2013); and Dara Kay Cohen and Ragnhild Nordås, "Sexual Violence in Armed Conflict: Introducing the SVAC Dataset, 1989–2009," *Journal of Peace Research* 51, no. 3 (2014).

38. "Data," Political Terror Scale (website), n.d., <https://www.politicalterrorsscale.org/Data/>; and "The CIRI Human Rights Dataset, Version 2014.04.14," Harvard Dataverse (website), n.d., <https://doi.org/10.7910/DVN/UKCPXT>.

Table 1 shows the 10 countries with the highest and lowest trauma averages for the 25-year period.

Table 1. Countries with highest and lowest trauma averages for 25-year period

Highest Trauma		Lowest Trauma	
Country	Score	Country	Score
Sudan	76	Luxembourg	0
Afghanistan	75	Finland	2
Somalia	74	Iceland	2
Democratic Republic of the Congo	69	Norway	3
India	68	Brunei	4
Colombia	67	Malta	4
Iraq	64	Denmark	5
Myanmar	63	Netherlands	5
Uganda	63	Grenada	6
Sri Lanka	62	Samoa	6

As Table 2 shows, countries that descended into civil war had experienced substantially higher trauma levels before the wars began. For instance, trauma scores more than doubled from an average of 27 for all countries not at war to 57 for those that would experience civil war within three years' time.

Table 2. Trauma index means

		Trauma Scores			
No Civil War	Three Years Prior	Two Years Prior	One Year Prior	Civil War Ongoing	
27.34	57.00	54.22	57.49	68.90	

Tests and Results

As trauma increased, so did the likelihood of civil war. Trauma consistently showed a positive and statistically significant relationship with the prevalence of civil war across all three statistical tests.

This study analyzed every country in the international system with a population of at least 100,000 for the 25-year period (1990–2014). Previous studies have found only three variables consistently significant: population size,

income per capita, and economic growth rates. More specifically, more populous countries have more civil war, as do poorer countries and countries with shrinking economies. As such, all tests controlled for these variables.

Because everyone accepts civil war results in more trauma, steps should be taken to ensure the tests measure trauma's effect on civil war rather than inadvertently capturing civil war's effect on trauma. Without taking appropriate steps to deconflict the confounding effect of war-related trauma, the argument can become circular. Trauma may increase the prevalence of civil war, but civil war also increases the prevalence of trauma. In circumstances like these, quantitative researchers recommend the use of instrumental variable estimation to address the possibility trauma and civil war simultaneously cause each other. (Instrumental variable estimation produces a consistent estimator when, for instance, concerns x causes y and y causes x exist simultaneously).³⁹ In the civil-war literature, however, researchers rarely use instrumental variables. Instead, researchers use logistic regression and lag the independent variables. As a result, their statistical models would compare, for example, income levels in 1999 with civil wars in 2000. By lagging variables like income levels, researchers hope to eliminate the second half of the circular argument, which says civil war lowers income levels. This study used both instrumental variables and logistic regression with lagged variables.

The statistical analyses used three variations of the dependent variable for civil war: the Armed Conflict Dataset with a minimum of 1,000 battle-related deaths, the Armed Conflict Dataset with a minimum of 25 battle-related deaths, and the Correlates of War data set with 1,000 or more battle-related deaths. Data for the control variables—population size, income, and economic growth rates—came from the World Bank.⁴⁰

Finally, to parse whether the trauma index may be a proxy for previous war, the study ran models to determine whether trauma remained a significant factor after controlling for previous war (trauma remained significant).

First Test: Logistic Regression with Random Effects

In the first test, trauma had a significant effect on the prevalence of civil war. The model indicated for each one-point increase in the trauma index score, the likelihood of future civil war increased by 9 percent. In addition, population was significant; as population size grew, so did the likelihood of civil war. Economic

39. Peter Kennedy, *A Guide to Econometrics*, 6th ed. (Malden, MA: Blackwell, 2008), 139–41.

40. "Population, Total," World Bank Open Data (website), n.d., <https://data.worldbank.org/indicator/SP.POP.TOTL>; and "GDP per Capita (Current US\$)," World Bank Open Data (website), n.d., <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD> (page discontinued).

growth was also significant; as the economy shrank, the risk of civil war increased. Income, however, was not a significant factor.

Second Test: Logistic Regression with Fixed Effects

In the second test, trauma again had a significant effect on the prevalence of civil war. The model indicated for each one-point increase in the trauma index score, the likelihood of future civil war increased by 7 percent. Population was again significant. As population size grew, so did the likelihood of civil war. Income was also significant. As personal income shrank, the risk of civil war increased. Nevertheless, economic growth was not a significant factor.

Third Test: Two-Stage Least Squares

In the third test, trauma had a significant effect on the prevalence of civil war. The models indicated for each one-point increase in the trauma index score, the likelihood of future civil war increased by 7 percent. Population was again significant. As population size grew, so did the likelihood of civil war. Economic variables returned inconsistent results. Economic growth was significant in one of the two model specifications, and income was not significant in either.

Marginal Effects of Trauma on the Probability of Civil War

When trauma and the three control variables were held at their averages, civil war had a near-zero, 0.30 percent probability of occurring in any given country in any given year. A 10-point increase in trauma from its median value of 26 (to 36) only increased the probability of civil war to 0.95 percent in any given country in any given year. Once a country reached a trauma score of 57, however, the likelihood of civil war rose to one in 10. If a trauma score rose to 65, the country had a 20 percent chance of experiencing civil war the following year.

Summary

Trauma appears to have a significant and positive relationship with the prevalence of civil war. The use of instrumental variables to test the trauma theory suggests the relationship may be causal—higher trauma levels among a population cause more civil war, regardless of whether the countries experienced war previously. The relationship appears to be robust because it remained strong

across all four areas of the trauma index, multiple statistical tests, and alternate specifications of the dependent variable.

Recommendations

Do Not Intervene Militarily in the Civil Wars of Trauma States

Countries with high rates of trauma will experience more future civil war. This correlation appears to be driven partly by the normalization of violence that follows severe and repetitive trauma exposure, which presents intervening actors like the US military with a dilemma. Intervention in a trauma state such as Afghanistan has a low chance of achieving an enduring peace, leaving the intervening party stuck in an enduring conflict. Each new surge of military forces and financial aid may become tomorrow's sunk costs, and no president wants to admit failure occurred on his or her watch. Moreover, military intervention may inadvertently make the situation worse. For example, Afghanistan's trauma score rose during the five-year period after US forces arrived when compared to the country's trauma score from the five-year period prior to intervention, and the level of trauma remained elevated as of 2014 (the last year of the trauma index). An increase in the number of combatants increases trauma rates for the population, intensifying trauma's negative effects and further normalizing the use of violence. The likelihood of continued civil war increases in response to military intervention.

Plan for the Negative Effects of Trauma before Intervening

Currently, US policymakers, intelligence professionals, and military planners do not consider a nation's trauma before intervening in the nation's civil war. Ignoring this important factor suggests US policies have been suboptimal.

Since the beginning of the "global war on terrorism," the US military has adapted significantly in multiple areas. Intelligence estimates that once focused on the physical terrain now analyze the "human terrain"—the psychological, cultural, and behavioral attributes of the populations American forces seek to protect.⁴¹ Military members have learned the languages, customs, and histories of the

41. *Nomination of General David H. Petraeus, USA, for Reappointment to the Grade of General, and to Be Commander, International Security Assistance Force, and Commander, United States Forces Afghanistan, Before the Senate Committee on Armed Services*, 111th Cong. (2010) (statement of David H. Petraeus, commander, United States Central Command); and Joint Chiefs of Staff (JCS), *Counterinsurgency*, Joint Publication 3-24 (Washington, DC: JCS, 2018), https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_24.pdf.

countries in which the members fight. But the degree to which Afghans and Iraqis have already been traumatized has gone unexamined.

As the Department of Defense now recognizes the significant effects PTSD and other mental health problems can have on American troops, military planners and policymakers should account for a foreign nation's mental health status before intervening in an ongoing civil war. Had planners and policymakers analyzed the Afghan population before embarking on a decade-and-a-half of nation building, the analysis would have cast significant doubt on the prospects for peace. If planners and policymakers continue to ignore the impact of trauma on a population's mental health status, they will fail to account for important factors that affect the war outcome they seek to control.

Treat Trauma as a National Security Concern

Although it has traditionally been viewed as a humanitarian crisis, the traumatization of a population is also a legitimate security concern. Naturally, human suffering should elicit empathy among concerned citizens and a humanitarian response from the agencies available to provide help. Additionally, trauma should cause international organizations and sovereign states to estimate the future security impacts of war. If more trauma in a population's past results in more future civil war, then security-focused entities like the Department of Defense and the CIA should be using the data to predict and plan accordingly.

Deploy Evidence-Based Mental Health Capabilities to Trauma States

Optimally, support would be deployed before a trauma state descended into civil war. Failing that, the military or a government partner should apply mental health capabilities to mitigate trauma's negative effects, especially as related to host-nation government officials and security force members who will be essential in achieving an enduring peace.

To the ears of warfighters, including such soft capabilities may sound incompatible with the nature of war. But these capabilities align with US Joint doctrine, which states countering an insurgency requires "the blend of comprehensive . . . efforts designed to simultaneously defeat and contain insurgency and address its root causes."⁴² In simpler language, such effort means killing and capturing rebels while also supporting the population through "political, psychological, and economic methods." Although current counterinsurgency doctrine does not mention the mental health of the host nation, trauma and its negative effects fit nicely with

42. JCS, *Counterinsurgency*, xiii.

the military's emphasis on addressing "root causes" and supporting the population through psychological methods.⁴³

Use the Trauma Index in Predictive Models to Anticipate Civil-War Locations

Organizations like the CIA, the Department of Defense, and the Department of State have used predictive modeling to anticipate state failure and national crises.⁴⁴ The addition of the trauma index and its variables should improve such models' predictive power. Initial comparisons with models that include widely used variables (income, economic growth, and population size) indicate the addition of the trauma index improves the models. This is suggested by the results of different measures often used in model selection, such as Akaike information criterion, Bayesian information criterion, and receiver-operating characteristic analysis.⁴⁵

Conclusion

The data suggest a statistically significant relationship exists between the level of trauma previously experienced by a national population and the prevalence of civil war in the country's future (which holds regardless of past war). The theory underlying this observation proposes a causal linkage between trauma and civil war. As citizens are exposed to more frequent and severe traumatic stressors, they succumb to higher rates of mental illness, substance abuse, and diminished impulse control. On average, traumatized individuals use violence more frequently in their daily lives, and violence becomes increasingly normalized as a way to resolve problems and achieve goals. As a result, the threshold at which potential rebels use deadly force against their government decreases and the likelihood of civil war rises.

Trauma may also increase the prevalence of civil war indirectly by amplifying factors associated with the opportunity and motivation theories. First, governments and security forces should become less effective as they recruit from increasingly traumatized populations. Second, rebel recruitment should be easier because more trauma results in more unemployment, which lowers opportunity costs. Third, traumatized individuals have genuine grievances that can motivate

43. JCS, *Counterinsurgency*, III-4, IV-2.

44. Daniel Etsy et al., "State Failure Task Force Report: Phase II Findings," *Environmental Change & Security Project Report 5* (Summer 1999): 49–72; and Sean O'Brien, "Crisis Early Warning and Decision Support: Contemporary Approaches and Thoughts on Future Research," *International Studies Review* 12, no. 1 (2010).

45. Kennedy, *Guide to Econometrics*, 95; and Kelly H. Zou, James O'Malley, and Laura Mauri, "Receiver-Operating Characteristic Analysis for Evaluating Diagnostic Tests and Predictive Models," *Circulation* 115, no. 5 (February 6, 2007): 654–57.

them to use violence, and they often have a specific person or group they hold responsible for their pain.

The relationship between trauma and civil war has profound implications for policymakers, planners, and warfighters. Once started, the vicious cycle of trauma and violence is hard to stop. This feedback mechanism decreases the likelihood intervening actors like the United States will be able to end a civil war.

Erik W. Goepner

Dr. Erik W. Goepner has a PhD in public policy from George Mason University. A retired US Air Force colonel, he currently works as a civil servant in the federal government.

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