

Letters

RESEARCH LETTER

FIREARM VIOLENCE

Trends in Research Publications About Gun Violence in the United States, 1960 to 2014

The response to firearm injuries and gun violence in the United States is constrained by a lack of scientific knowledge. According to a 2013 report from the Institute of Medicine, “the scarcity of research on firearm-related violence limits policymakers’ ability to propose evidence-based policies that reduce injuries and deaths and maximize safety.”¹ In the 1980s, the Centers for Disease Control and Prevention initiated research on firearm injuries, but, in 1996, Congress forbid the agency from spending funds to “advocate or promote gun control.”² Its spending on firearm injury research fell 96% by 2012,³ and the agency retreated from the subject.

To assess trends in scientific research on the association between guns, crimes, and violence, this study examined changes over time in the number of published articles and the number of researchers writing them. As publications are a major means for the dissemination of scientific knowledge, their volume can serve as a measure of scientific attention.⁴

Methods | This study examined trends in gun violence research published between 1960 and 2014 and indexed in the SciVerse SCOPUS database (Elsevier), a large abstract and citation database.⁵

Articles were identified that contained in their title, abstract, or keywords both a firearm-related term (*gun, handgun, firearm, rifle, shotgun*) and a term related to violence, crime, or safety (*violence, murder, homicide, assault, crime, criminal, felon, death, suicide, lethal, risk, safe, defense, shooting, ownership*).

To exclude articles that did not address the association between firearms and violence, crime, or safety in the United States, 2 research assistants reviewed each abstract independently. The author reconciled disagreements. Only abstracts were reviewed, not full publications.

The analysis controlled for the number of articles indexed in SCOPUS annually, which increased by about 5.5% annually from 135 431 in 1960 to 2 521 448 in 2014.

Within the included publications, individuals who were the first author of 5 or more articles were identified.

Institutional review board approval was not sought as no human participants were involved in this study.

Results | Of 10 347 citations identified through the word search, 1706 were excluded owing to absence of an abstract. Of the remaining 8641 articles, research assistants agreed on including 952 articles, excluded 5880 articles because their content was not relevant, and disagreed or raised questions about 1809

articles, which were examined by the author. Of these, 554 were excluded, leaving 2207 articles.

Between 1985 and 1999, the annual number of publications about gun violence increased markedly, but then plateaued through 2012 at about 90 articles annually (Figure 1). Controlling for the total number of indexed articles, publications related to gun violence increased from about 10 per million citations in the early 1980s to about 90 per million citations in 1998. Subsequently, publications declined 64% to about 32 per million citations by 2012. It is encouraging that by 2014, the annual volume had risen by 64 publications, but there are still few active career researchers.

Forty-two researchers were the first author of 5 or more identified articles (13 were the first author of 10 or more articles, and 1 was the first author of 29 articles), together accounting for 369 articles (16.7% of the total). Figure 2 shows the number of these 42 researchers who were the first author of an article in a specific year between 1980 and 2014, and the number who were the first author of an article published in the prior 2 to 5 years. Between 2000 and 2014, a total of 7 to 16 of these authors were the first author of an article in a given year.

Discussion | Like all bibliometric studies, this analysis is subject to the limitations of the underlying database. The SCOPUS database was selected due to its size, but no single database provides a complete account of the scientific literature. Articles without abstracts were not assessed. As new journals are added to the database, the pool of indexed articles shifts over time. In addition, neither the quality nor scientific significance of individual studies was assessed.

The findings are nevertheless consistent with historical accounts of the emergence of scientific interest in the prevention of firearm injuries in the United States and subsequent attempts to suppress that research.⁶ Although this analysis shows that thousands of studies have been published about firearm violence, the annual number of publications on the subject did not grow between 1998 and 2012. It is encouraging that the number increased in 2013 and 2014, but there are few active career researchers.

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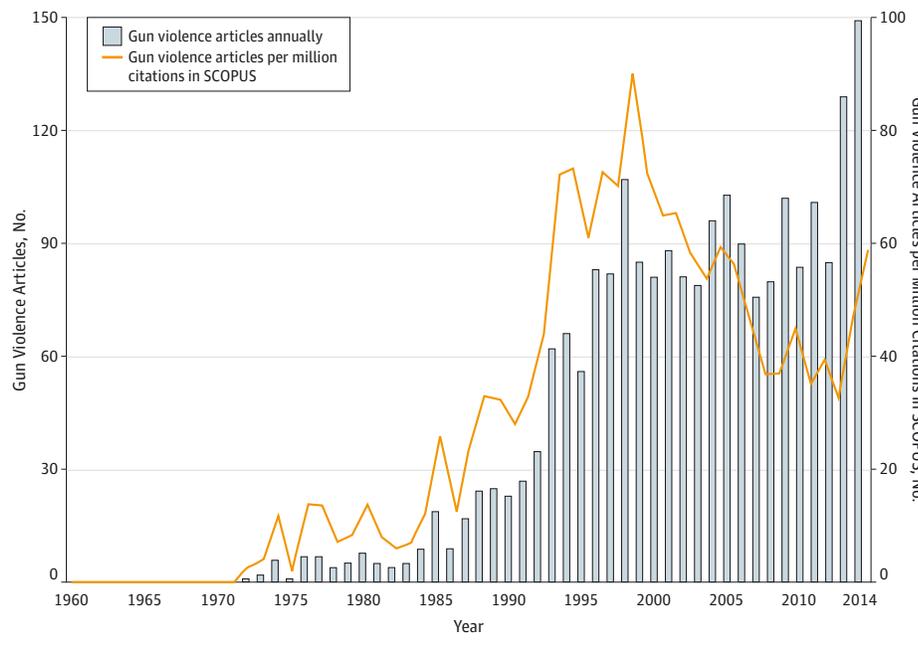
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Figure 1. Annual Publications About Gun Violence, 1960 to 2014



Controlling for the exponential growth of scientific literature as a whole, publications about gun violence fell 64% between 1998 and 2012.

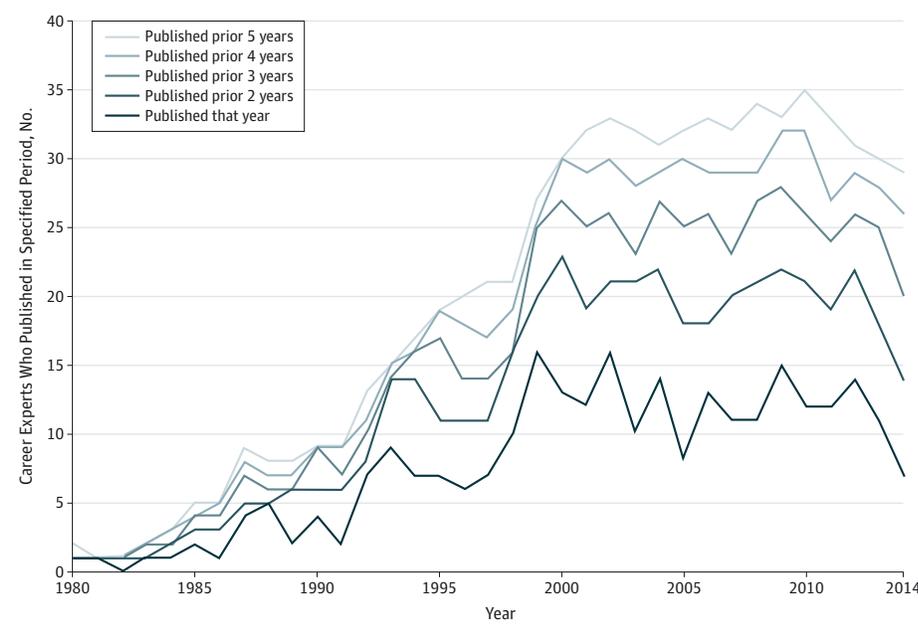
the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

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2. Omnibus Consolidated Appropriations Act of 1997, Pub L No. 104-208, 110 Stat 3009 (1996).
3. *Mayors Against Illegal Guns*. Access denied: how the gun lobby is depriving police, policy makers, and the public of the data we need to prevent gun

Figure 2. Annual Publications by First Authors of 5 or More Articles About Gun Violence, 1980 to 2014



The number of active career gun violence researchers plateaued in the late 1990s and has remained limited.

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