Long-term study pinpoints who has been shot and witnessed shootings by race, sex, and birth year

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Exposure to gun violence is one of the great traumas of American life, but its harms are not equally distributed. In a first-of-its-kind study

published Tuesday in *JAMA Network Open*, a Harvard sociology professor and his colleagues set out to examine exposure to shootings by race, sex, and birth year in a long-term study that followed respondents from childhood up to age 40.

"The idea here is to take a life-course perspective," said Robert J. Sampson, the Woodford L. and Ann A. Flowers University Professor. "When is exposure to gun violence happening? How does that change over the life course? And how do those patterns vary by race, sex, and all the societal changes that are happening?"

These questions were tackled by analyzing longitudinal data on a representative sample of 2,418 participants from Chicago—half male and half female—who were born in 1981, 1984, 1987, and 1996. Four rounds of data were collected for up to 25 years. All in all, responses underscore the profound tolls on Black and Hispanic communities while surfacing new insights related to gender and birth year.

Making this study possible was the Project on Human Development in Chicago Neighborhoods, which Sampson helped launch in the mid-1990s to follow various birth cohorts. "One of the project's advantages is the ability to disentangle age and life-course differences from what's happening in society at large," Sampson said. By now, the social scientist has drawn on PHDCN data for multiple papers and a book, with a forthcoming title arriving next year on the interaction of child and societal development.

For this study, Sampson and his co-authors found exposure to gun violence varied depending on when the respondent was born. Overall, exposure rises in adolescence, with 14 being the mean age of seeing somebody shot while 17 was the mean for being shot.

"The oldest cohorts were quite disadvantaged," Sampson noted, "because

they came of age during the peak of violence in the United States and Chicago." U.S. homicide rates topped out in the early 1990s, just as those born in the early '80s reached their teen years. Around half of respondents born in 1981 and 1984 reported witnessing gun violence, while those who had been shot hovered around 7 percent.

As crime rates declined, subsequent birth cohorts faced less exposure to firearms. Those born in 1996 reported the lowest levels of seeing somebody shot—their exposure was half that of the two oldest cohorts—but direct victimization was another story. "Surprisingly," Sampson added, "unlike witnessing violence, there was no statistical difference between the 1981 and 1996 cohorts in their risk of being shot."

"In 2015 or 2016, violence in the United States, but particularly in Chicago, started to skyrocket," explained Sampson, who noted that gun-related deaths peaked in 2021—with nearly all homicides today being gun homicides. "As being shot tends to happen later in the life course, the youngest cohort all of a sudden faced a much higher risk."

In terms of race, Sampson's study confirmed previous research establishing racial disparities in exposure to gun violence. Black and Hispanic participants were more than twice as likely to be directly victimized. More than 7 percent of both Black and Hispanic respondents reported being shot by age 40. In fact, one Black PHDCN participant and one Hispanic PHDCN participant were fatally shot. In contrast, 3% of white participants reported being shot.

The numbers were similarly stark for witnessing gun violence. Fifty-six percent of Black respondents and 55 percent of Hispanics reported seeing someone shot, compared with 25 percent of whites.

"You also see differences in the age distribution," Sampson noted.

"Gunshot victimization flatlines among the white population after age 21, whereas it keeps rising all the way up to age 40 for Black and Hispanic respondents."

More surprising to the researchers were rates of exposure by sex, given all we know about men's greater involvement in violence. Men were far more likely to be shot—11 percent of male vs. 2 percent of female participants—but the differences were modest for witnessing gun violence (58 vs. 43 percent). For Sampson, this finding speaks to the prevalence of firearms in American life.

As a final step, Sampson and his co-authors drew from the Gun Violence Archive to map the proximity of each respondent's residence to shootings. This approach revealed minimal differences by sex and age, but the racial gap again proved glaring.

Black residents were far more likely than Hispanic and White residents to live in neighborhoods plagued by shootings, in addition to compounded adversities (like concentrated poverty) Sampson has shown in prior work. "But perhaps the greatest adversity of all is violence," he said.

As Sampson pointed out, guns threaten far more than human life. Studies show that witnessing a shooting has long-term developmental and psychological effects that impact education, relationships, and employment. "The ramifying consequences are profound, which makes gun violence all the more important to pinpoint," he said.

More information: Inequalities in Exposure to Firearm Violence by Race, Sex, and Birth Cohort From Childhood to Age 40 Years, 1995-2021, *JAMA Network Open* (2023). DOI: 10.1001/jamanetworkopen.2023.12465

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