

Hi reddit! I'm Dr Todd Hartman, lecturer in Quantitative Methods, and I just published a paper on the effect living near a mass shooting in the US has on support for gun control. AMA!

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Abstract

Hi reddit! I'm Dr Todd Hartman, Lecturer in Quantitative Social Science at the Sheffield Methods Institute in the UK. I am also the SMI's Q-Step Director and a Statistical Ambassador for the Royal Statistical Society. My research focuses on political psychology. Last month I published a paper with my co-author Dr Benjamin Newman at UC Riverside on Mass Shootings and Public Support for Gun Control in the British Journal of Political Science. Polling over the last twenty years shows support for gun regulation in the US has decreased, but the number of mass shootings is rising. The US is also a bit of an anomaly compared to countries like the UK and Australia where mass shooting incidents were followed by stricter gun control legislation. We wanted to find out what effect living near a mass shooting had on residents' attitudes towards gun control. We also wanted to see whether this effect was different depending on a person's political leanings and other factors such as local gun culture. As part of our study we identified mass shootings in which three or more members of the general public were injured or killed with a firearm. This gave us a dataset of 210 incidents between 1966-2015 where a shooter opened fire on seemingly random members of the public. We paired this with several large and respected public opinion surveys, the 2010 Cooperative Congressional Election Study and 2010 Pew Political Independents Survey, which measured respondents' opinions on gun control and included other essential control variables. The zipcode information in the surveys allowed us to measure how close respondents were to a mass shooting event. Our study found that living near a mass shooting resulted in a 20 per cent increase in the probability of supporting stricter gun control. This increase in support was true for both Democrat and Republican voters. The effect also appears to be larger 1) for respondents who live near multiple mass shootings, 2) for shootings with higher numbers of victims, and 3) for more recent events. For mass shootings with more than 20 victims, for instance, the difference in probabilities more than doubles in both the 2010 CCES and the 2010 Pew data. Likewise, living near multiple mass shootings increases the estimated effect from .14 for one shooting, .35 for two shootings, and .43 for three shootings in the 2010 Pew data. I'll be here to answer your questions at 11am (EST). Ask me anything! Edit: Thanks for the questions! Edit: I just wanted to thank everyone for all of the great questions. I really appreciate your interest in the topic and thoughtful contributions to the AMA. Hopefully, you found it stimulating. Ok, I'm going to sign off for now but may check back if there are additional questions or follow-up discussions about anything else.

[REDDIT](#)

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DR_TODD_HARTMAN [R/SCIENCE](#)

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Any data on how long that increased support for stricter regulation lasts?

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The effect appears to persist over time. For instance, even for events that have occurred more than 10

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years ago, we still find a difference in support for firearms restrictions. The effect does appear to dissipate for events that are more than 20 years old.

But we don't really have access to data that measures the same respondents over many points in time. So it's difficult to know for certain how long these effects persist.

Can this data be used to predict the trend of public opinion and therefore be able to provide a very rough estimate of how many more mass shootings will happen before majority of public want change?

That's assuming of course that there is some percentage of public opinion that reliably leads to change.

[Jearik](#)

In theory, it should be possible to create a simulation of opinion change based on exposure to (nearby and) recent mass shootings using our findings. That's one of the things that we hinted at in our conclusion (the idea that if people respond to nearby mass shooting events, then at some point there should be a threshold after which we'd find differences sufficiently large to motivate a change in policy. But lobbying groups like the NRA are very vocal and have effectively mobilized support for gun rights. It's a complicated policy issue.).

Do you think advocates could use these findings to help increase support for gun control? e.g. if incidents are framed as "local" news?

[recentfish](#)

This is an interesting question. We certainly hope our research will be included in policy debates, and we advocate for evidence-based policymaking.

But I'm not sure framing the issue as a local one will work -- i.e., I think it's difficult to frame mass shootings as local events if they're not local. Of course, we think that what makes them unique is that they're seemingly random acts of violence in public spaces. If they are in fact local, then we would expect them to make a greater impact (in much the same way that 9/11 victims living in the Tri-State area showed increased feelings of anxiety, threat, etc. relative to Americans living farther away from the attacks.).

Do you think it is just a question of geography (i.e if the US was UK size there would already be overwhelming calls for stricter gun laws) or do you believe the pro-gun lobby would still be too powerful a voice?

[Buzzmerch1](#)

Size definitely plays a factor; the spatial distance of the US means that most of these events can seem pretty distant. But it's also the NRA's strong stance against any debate about gun restrictions that creates barriers to enacting change. The 2nd Amendment also is unique in that it provides a "rights" framing of the issue that is difficult to overcome (i.e., it's hard to argue for curtailing individual freedoms and rights).

The mass shooting at Sandy Hook in Newtown, Conn., in which 26 school children were murdered, shows just how entrenched this issue has become--if that doesn't motivate a change in firearms policy, it's difficult to imagine what will. Wayne LaPierre famously said that the "only way to stop a bad guy with a gun is with a good guy with a gun." (<http://washington.cbslocal.com/2012/12/21/nra-only-way-to->

[stop-a-bad-guy-with-a-gun-is-with-a-good-guy-with-a-gun/](#)).

It's a complicated policy issue with very strong opinions on either side (and powerful lobbying groups). It will be difficult to envision major changes any time soon. But opinion can and does change over time.

Are you familiar with Gavin de Becker? In his book "The gift of fear" he talks about how major acts of violence (9-11, these mass shootings ect,) seem to make things less violent for a bit. His hypothesis, or what I took from it is that there is going to be a certain amount of violence that is just a baseline. I agree in one sense, because in medical residency, say surgery, there is going to be a certain number of pathologies that will show up during that training. You will see in a 5 year residency the amount of cases you need to finish your training. Now, that's just statistically a generalization. So what if there is just a amount of violence that happens? I am all about trying to get to the root of why someone commits the act in the first place. Yes a gun is a highly effective way to kill people. But, why not just see why violence is the option that some are using to express themselves. Mental illness is one, how about how we treat children? I guess I don't see the difference in violence. If one uses a car, knife, gun, why did that person decided that this was the only option?

[midusyouch](#)

I'm not familiar with his work, thanks for sharing!

And your point is well-taken. Several datasets collect data on mass atrocities regardless of the implement used (guns, knives, explosives, etc.). We wanted to weigh in on the gun policy debate, which is why we focused on mass *shootings*, but someone could certainly take a look at other types of mass violence. I just think it makes it harder to know how policy might respond to generic violence vs. gun violence.

That's what this researcher argues (about the *rate* of mass shootings over time, rather than the total number of incidents): <https://www.politico.com/magazine/story/2017/10/04/mass-shootings-more-deadly-frequent-research-215678>

living near a mass shooting resulted in a 20 per cent increase in the probability of supporting stricter gun control

what do you think we can do with this information, how can it be applied in a useful way?

[howardCK](#)

We wanted to investigate this area because we felt as though the major groups debating the issue (on both the Left and Right) were making assumptions about public opinion without looking into what the survey data actually tells us. By merging contextual data with various large surveys, we were able to estimate the impact of the nearby events on public preferences to gun policy.

So I suppose we'd like to contribute to the debate by providing evidence of what the public wants/expects from lawmakers.

Dr. Hartman, do you think that the changes in opinion because of the mass shootings make a significant enough effect to change gun control laws? Thank you for doing this AMA.

[useful_person](#)

They don't seem to. With a Republican-controlled Congress and Trunp Whitehouse, I don't see how

legislation would be enacted curtailing any firearms restrictions (even for things that there seems to be consensus on; for example, see the Pew great research exploring attitudes among gun owners and non-gun owners on the subject: <http://www.pewresearch.org/fact-tank/2017/06/22/key-takeaways-on-americans-views-of-guns-and-gun-ownership/>).

Is there any effect on how likely a local lawmaker is to propose stricter gun laws? Is there a correlation between shootings and pushes for legislation changes?

[LondonSeoul](#)

Following mass shootings, researchers have found spikes in Google searches for terms like 'gun control', and families of the victims have pressed legislators for greater restrictions on firearms. But this is anecdotal evidence; I'm not aware of any comprehensive study looking into the matter. One difficulty is vast disagreement from the major parties on the best course of action, which ultimately leads to a failure to enact any legislation.

Even the 'bump stock' ban that was widely discussed after the Las Vegas shooting last month seemed to fail: <http://edition.cnn.com/2017/11/01/politics/bump-stock-gun-debate-congress/index.html>

Again, in part because of NRA opposition: <http://thehill.com/regulation/355183-nra-comes-out-against-legislation-banning-bump-stocks>

Thanks for doing this AMA, Dr. Hartman!

Given the tight correlation that you found between proximity to mass shootings and an increasing support for gun control, what do you think explains the decreasing support for gun control measures overall in the U.S.? Does the 20 percent "bump" last only a short amount of time? Is there a strong decrease in support for gun control among people who live far from mass shootings? Something else? All of the above? Thank you!

[kiri-kin-tha](#)

We find evidence that the increase in support for gun control holds even for events that have occurred a relatively long time ago, which makes sense. It's hard to imagine that concert goers (or people living nearby) in Las Vegas would quickly shift their views on the issue. That being said, it's a minority of people that are directly exposed to such events (even something happening a few hundred miles away is fairly distant and less threatening).

One of the difficulties is a lack of good data on the subject (over time measures of the same individuals, asking nuanced questions, including geographical identifiers, etc.).

Okay, I thought of another question: are there other social or political issues in the U.S. (say, abortion) that show a similar "proximity" effect that strongly correlates with support for a particular position? That is, is gun control typical of other social/political issues, or is it an outlier? Thanks again!

[kiri-kin-tha](#)

This is a great question. And yes, there are other researchers who study contextual effects and public opinion like [Dan Hopkins](#) (immigration), Ryan Enos (public housing), Newman (financial crisis), etc. Gun control is a special issue, but there are other issues that are impacted by spatial relationships.

Does any research show why americans think that gun should be legal to begin with? It's really something I can't even remotely figure

[lucaxx85](#)

Yes. Opinion is mixed on the issue: <http://www.pewresearch.org/fact-tank/2017/06/22/key-takeaways-on-americans-views-of-guns-and-gun-ownership/>

What sorts of questions about control measures did you ask those who were surveyed? Were the questions about gun types, who should be able to purchase guns, open-carry, etc?

[SandorVegane](#)

That's one limitation of our research; because we needed geolocation information and large numbers of respondents, we were limited in the by the available data. Most of our analyses rely on a single measure of gun policy preferences: ""In general, do you feel that laws covering the sale of firearms should be made more strict, less strict, or kept as they are?"

It doesn't allow us to do any more nuanced analyses of opinion on the issue. We're hopeful that there will be other data collected/released on the subject to help with future research.

Have you considered doing a study about how individual shootings rather than mass shootings affect feelings? What about defensive gun uses? There are several hundreds of thousands more of them a year, which could lead to interesting numbers.

[lulfas](#)

One of the things that we think makes mass public shootings unique is that they occur seemingly at random, in public places, with high numbers of victims. We think that this makes it much harder to explain away or rationalize that gun violence is something that happens to others (i.e., I don't engage in criminal behavior, go to locations known to have high numbers of violence, etc.). Mass shootings, on the other hand, are often targeted at vulnerable common spaces like schools, churches, theaters, shopping malls, etc.

But it would be interesting to see how exposure to different types of gun violence impacts attitudes.

Did you compare the urban classification of this data as well?

I hypothesize that people in cities would generally respond less intensely than those in rural areas.

[crowcawer](#)

Yes. Our models included a number of individual-level (party identification, ideology, gender, age, race, income, etc.) and contextual control variables (e.g., population density, firearms stores per capita, murders per capita, shootings in state, Republican vote share, etc.).

But what you're saying would require an interaction (I don't recall whether we tested this possibility; however, we did test several interactions gleaned from the literature--e.g., different reactions as a function of party identification, the number of victims, etc.).