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FOUR WEEKS, SIX MASSACRES

Would stronger gun laws help? We crunch the numbers.
They're not reassuring.

For Police Issues by Julius (Jay) Wachtel. When we left off in "Two Weeks" the toll was three massacres and twenty-two dead in seventeen days. But we had missed one. On March 29, a Maryland man embarked on a vicious shooting spree. His gunfire claimed four lives, including those of his parents, and seriously wounded a fifth person. He then committed suicide. Joshua Green, 27, used two handguns that he bought and legally registered last year. He had no criminal record. So we changed the essay's title to "Two Weeks, *Four* Massacres."

Then on April 8, as we began working on this essay, tragedy struck in South Carolina. A former NFA player used two pistols to slay an elderly physician and his wife and two of their grandchildren at a Rock Hill home. Phillip Adams, 32, also shot and killed a handyman. Adams had played pro football during 2010-2015 but left the sport after suffering several injuries, including at least two concussions. He clearly found the transition to ordinary life difficult. Family and friends observed that Adams was growing increasingly moody and temperamental and seemed to be "struggling with his mental health." Of course, no one expected that he'd embark on a murderous spree.

But he did. Tracked by police to his parents' home, the former athlete shot himself dead.

Then on April 15, when we though this essay was really, *really* done, a young gunman toting two assault rifles stormed an Indianapolis FedEx facility (see image above) and opened fire, killing eight and wounding seven. Brandon Scott Hole then committed

suicide. A former FedEx employee, the 19-year old was placed on a brief "mental health hold" last year after his mother warned police that he "might try to 'commit suicide by cop'." Hole then had a shotgun, which police seized and apparently did not return. But that didn't slow him down. He went on to legally purchase one assault rifle in July and another in September. Although Indiana has a so-called "Red Flag" law that can be used to bar gun ownership by mentally disturbed persons (more on that later) it was apparently never invoked.

What could stem the slaughter? Many gun control advocates fiercely insist that stronger laws help. Given your writer's past career as a Federal firearms agent, he's not inherently hostile to that approach. Yet when we assessed the effects of gun law strength and related factors on gun deaths and murders four years ago the results weren't reassuring:

> Our number-crunching confirmed statistically significant associations between gun laws, overall gun deaths and gun suicides, but not between gun laws and gun homicides. While our efforts are admittedly limited, they suggest that gun laws as implemented in the U.S. are far more apt at reducing gun deaths from non-criminal rather than criminal causes.

So we did it again. This time we used *Gifford's* widely-accepted scale of gun law strength. Keeping ostensible causes and effects separate, here are our measures ("variables" in statistics-speak):

Causal variables

- **Gun law strength**. *Giffords'* 2020 State gun law strength (range 1-50). Giffords assigns #1 to the State with the strongest laws, and #50 to the State with the weakest. We flipped that around. Scaled low law strength to high law strength.

- **Gun ownership**. RAND 2016 gun ownership by State (proportion of adults living in a household with a firearm in 2016). Scaled low proportion of gun owners to high.

- **Percent residents in poverty, by State**. From the Census. Scaled few to many.

Effects variables

- **2019 homicide rates**/100,000 pop., by State. From the CDC.

- **2019 firearm murder rates**/100,000 pop., by State. From the UCR.

- **2019 firearms mortality**/100,000 pop., by State. From the CDC.

- **2019 firearms suicide**/100,000 pop., by State. From the CDC.

- **2017-2021 number of persons shot (killed or wounded) in mass shootings** (four or more shot on a single occasion) / 100,000 pop., by State. From the *Gun Violence Archive*. Due to missing or questionable data eight states were excluded. We also did not factor in the 2017 Las Vegas massacre, which killed sixty and wounded 411.

Correlation analysis (the *r* statistic) was used to assess the relationships between pairs of variables. Here's a brief discourse:

Explanation: *r*'s are on a scale of -1 to +1. If the *r* is zero the variables aren't associated, meaning that as the scores of one change the other does its own thing. If the *r* is either 1 or -1 the relationship is in lockstep. If the *r* is positive, the scores of the variables increase and decrease together; if it's negative, as the scores of one variable increase, the scores of the other decrease. Lesser *r*'s (say, .2 or -.2) denote weaker relationships, thus less synchronicity in the variables' movements. Due to the nature of the data we omitted the asterisks (*) that report an *r*'s "significance." However, in our experience any *r* that's .50 or greater, whether positive or negative, definitely bears attention.

	Homicide	Gun homicide	Gun suicide	Gun death	Mass shoot
Homicide	-	.95	.25	.75	.76
Gun homicide	.95	-	.15	.65	.87
Gun suicide	.25	.15	-	.82	.04
Gun death	.75	.65	.82	-	.47
Mass shoot	.76	.87	.04	.47	-

We first assessed the relationships among the "effect" variables. As expected, each was "positive," meaning their scores increased and decreased together. Many of the relationships were also strong, meaning that the scores changed in substantial synchrony. That's particularly true for homicide and gun homicide, which seem like two measures of the same thing (nearly 3 out of four murders in 2019 were committed with firearms.) As expected, gun suicides, which accounted for about sixty percent of gun deaths in 2019 (23,941 / 39,707, click here and here) are strongly related to overall gun deaths. Mass shootings were also very strongly related to gun homicides, thus homicides overall.

We then brought in the "causal" variables: gun law strength, gun ownership and percent of residents in poverty. Here's the matrix with everyone on board:

		Homicide	Gun homicide	Gun suicide	Gun death	Mass shoot	Gun law strength	Gun Owner	Pct Poverty
Causes	Gun law strength	-.33	-.20	-.76	-.73	-.23	-	-.84	-.44
	Gun ownership	.26	.17	.84	.75	.16	-.84	-	.33
	Pct poverty	.74	.72	.30	.64	.63	-.44	.33	-
Effects	Homicide	-	.95	.25	.75	.76	-.33	.26	.74
	Gun homicide	.95	-	.15	.65	.87	-.20	.17	.72
	Gun suicide	.25	.15	-	.82	.04	-.76	.84	.30
	Gun death	.75	.65	.82	-	.47	-.73	.75	.64
	Mass shoot	.76	.87	.04	.47	-	-.23	.16	.63

Stronger gun laws are supposed to reduce crime. And maybe they do. All the r's for gun law strength are negative. As gun laws get tougher, each of the effect measures (say, gun deaths) declines. And as gun laws weaken, the other measures increase. But the strengths of the relationships varies. Gun law strength seems only moderately associated with homicide overall ($r=-.33$) and its relationships with gun homicides ($r=-.20$) and mass shootings ($r=-.23$) are relatively weak. On the other hand, gun law strength is strongly associated with both gun suicides ($r=-.76$) and gun deaths ($r=-.73$).

State gun suicide rates			
Gun law strength	-.76	Gun owner	.84
Control for gun Ownership		Control for gun law strength	
Gun law strength	-.20	Gun owner	.57

But there may be a statistical fly in the ointment. Gun law strength has a very robust, negative relationship with gun ownership rates ($r=-.84$). Problem is, strong associations between variables can exaggerate the apparent strength of their relationships with other variables. So we turned to partial correlation. We begin on the left side of the graph, which reports the relationship between gun suicide rates and gun law strength. Note that when we "control for" (exclude the influence of) gun ownership, the relationship between gun suicides and gun law strength plunges from $r=-.76$ to $r=-.20$. Switch to the right side, which describes the relationship between

gun suicide rates and gun ownership. Once we exclude the influence of gun law strength, the association between gun suicides and gun ownership falls from r=.84 to r=.57. What remains, though, is still a good-sized r. Our takeaway is that gun ownership rates seem to be a substantially more powerful influencer of gun suicides than gun law strength.

State gun death rates			
Gun law strength	-.73	Gun owner	.75
Control for gun Ownership		Control for gun law strength	
Gun law strength	-.30	Gun owner	.35

Let's do the same with gun death rates. Once gun ownership gets the boot, the association between gun deaths and gun law strength drops precipitously, from r=-.73 to r=-.30. Same thing happens when we exclude the influence of gun law strength from the association between gun death rates and gun ownership. Bottom line: when it comes to gun deaths, gun law strength and gun ownership are somewhat important, but perhaps much less so than what one might expect.

And things get more interesting. Check out this matrix. Gun law strength and gun ownership are weakly associated with the three variables that reflect guns' criminal misuse: homicides, gun homicides and mass shootings. Those "effects" seem far better explained by another "cause." Can you find it?

	Homicide	Gun homicide	Gun suicide	Gun death	Mass shoot	Gun law strength	Gun Owner	Pct Poverty
Gun law strength	-.33	-.20	-.76	-.73	-.23	-	-.84	-.44
Gun ownership	.26	.17	.84	.75	.16	-.84	-	.33
Pct poverty	.74	.72	.30	.64	.63	-.44	.33	-

Good job! Yes, it's poverty. Essays in our Neighborhoods special topic have long examined this social condition, which many criminologists consider a key underlying factor in crime and violence. Check out the relationships between poverty and homicide, poverty and gun homicide, poverty and gun deaths and poverty and mass shootings. Each r is positive and strong, meaning that as poverty increases, so do the others, and in nearly lock-step fashion.

Everyone knows that many poor neighborhoods are burdened by gun violence. So here's a "lever," right? Well, not so fast! After all, the apparently strong relationships between poverty and its soulmates could be a instant replay of what happened earlier. Poverty has moderately strong relationships with both gun ownership and gun law

strength. Is it possible that their influence is exaggerating poverty's relationships with other variables? Once again let's turn to partial correlation.

Look at the left graph. "Controlling" for either gun ownership or gun law strength hardly affects the "*r*" between homicide deaths and poverty. It remains very strong. Ditto gun homicides and poverty.

State homicide rates				State gun homicide rates			
Poverty rates		.74		Poverty rates		.72	
Control for gun ownership		Control for Gifford gun law strength		Control for gun ownership		Control for Gifford gun law strength	
Poverty rates	.72	Poverty rates	.70	Poverty rates	.71	Poverty rates	.71

The next two graphs convey about the same story. Controlling for gun law strength slightly reduces the association between gun death rates and poverty, but it remains robust at *r*=.52. And the strong relationship between mass shootings and poverty is unaffected.

State gun death rates				Mass shootings – persons shot rates			
Poverty rates		.64		Poverty rates		.63	
Control for gun ownership		Control for Gifford gun law strength		Control for gun ownership		Control for Gifford gun law strength	
Poverty rates	.63	Poverty rates	.52	Poverty rates	.63	Poverty rates	.62

So what's the takeaway? Here are the perpetrators of the six massacres in our series:

- **March 16: Robert Aaron Long, 21,** used a 9mm. pistol he bought that morning to murder eight at three Atlanta-area massage parlors

- **March 22: Ahmad Al Aliwi Alissa, 21,** used an AR-556 "pistol" to murder ten at a Boulder, Colorado supermarket. He also carried a 9mm pistol

- **March 29: Joshua Green, 27,** (mentioned here) used two handguns to murder four persons in Maryland

- **March 31: Aminadab Gaxiola Gonzalez, 44,** used a 9mm. pistol to murder four persons at a Southern California business

- **April 8: Phillip Adams, 32,** (mentioned here) used two pistols to murder five persons at a private residence in South Carolina

- **April 15: Brandon Hole, 19,** (mentioned here) used two assault rifles to murder eight persons and wound seven at an Indianapolis FedEx facility

Best we can tell, none of the gunmen – and all *were* male – was a convicted felon or had ever been committed to a mental institution. Best we can tell none was prohibited by either Federal law or, indeed, the law of *any* State from owning or acquiring the firearms they misused. That includes California, which Giffords commends for having the strictest gun laws in the U.S.

Is it really that hopeless? Let's go through some of the "levers".

- **Mental health**. Four shooters – Long, Alissa, Adams and Hole – had serious mental issues of which friends and family were well aware. Twenty States have "Red Flag" laws that empower courts to issue "extreme risk protection orders" that authorize police to seize guns from potentially dangerous individuals. Applications for these orders can be made by law enforcement officers and, in seven States, by family members. Alissa, Hole, Gonzales and Green lived in states with Red Flag laws (Hole's Indiana requires that police apply.) Of course, obtaining such orders is time-consuming. Serving them can also be risky. And getting family members to inform authorities or cooperate is no easy task.

- **Waiting periods**. Of the six states in our series, only California imposes a waiting period that delays the delivery of guns purchased at retail (it's ten days.) Gonzalez, the lone California resident, used guns that he reportedly owned for some time. That doesn't necessarily mean waiting periods are useless. Long, whose rampage began only hours after buying a gun, resides in Georgia, which has no waiting period. Had he been forced to wait a week or so, he might have "cooled off" or reconsidered.

- **Minimum age**. Federal laws prohibit licensed gun dealers from selling handguns to persons under twenty-one and long guns (rifles and shotguns) to

persons under eighteen (18 USC 922[b][1]). A handful of states have more stringent provisions for long-gun buyers. For example, California only allows dealers to sell bolt-action type rifles to persons under twenty-one, and then only if they have a hunting license. However, no state restricts the purchase or possession of firearms by otherwise qualified persons who have reached full adulthoodm meaning twenty-one. Hole, the only killer younger than twenty-one, was of legal age to buy long guns of any kind in Indiana and nearly everywhere else.

- **Gun lethality**. Four killers used handguns; two, Alissa and Hole, were armed with assault weapons. (As we mentioned in our previous essay, Colorado classified Alissa's firearm, really a short-barreled AR-15, as a "pistol.") That post also addressed the lethality of modern-day handguns and the vicious effects of the ammunition used by assault weapons. Yet even in supposedly gun-hostile California, legislators invariably build in loopholes that lessen the impact of gun control laws on enthusiasts and the firearms industry. Given that propensity, when it comes to guns with fearsome ballistics our response is always the same: "Ban the Damned Things!"

Full stop: what about "regular" gun violence? While six massacres and thirty-nine dead innocents in four weeks is deplorable, those numbers don't begin to approach the everyday toll of criminal and gang-related gunplay in America's urban areas. Indeed, a *Chicago Tribune* columnist recently complained that the "outcry over recent violence in Atlanta, Colorado and California" ignores the incessant gun violence that plagues her community:

> But 15 people were shot at a party in Chicago's Park Manor neighborhood on March 14 (two days before the Atlanta-area shootings) and eight people were shot outside a Wrightwood neighborhood storefront on March 26 (four days after the Boulder shooting and five days before the Orange shooting.)...What does it say that the violence here is so rarely included in larger discussions — in the media, among politicians — about mass shootings and the trauma they inflict on our nation?

For more about that, check out "The Usual Victims." Work your way through some of the related posts. Incredible!

No, we're not suggesting that gun laws are useless. Even an *r* of -.20 (that's the raw relationship between gun law strength and gun homicides) is *something*. So tinker with laws and regulations all you want. To make a real impact, though, we must look to the

fundamentals. As our Neighborhoods essays repeatedly point out – and as the data clearly suggests – economic deprivation is deeply linked to the violence that besets many American neighborhoods. For our most recent essay on point, check out "Fix Those Neighborhoods!" And while you're at it, don't forget to read "Memo to Joe Biden," recently published in John Jay's *The Crime Report*.

Reducing the toll from gun violence, whatever its form, calls for a return to the fundamentals. What is a "society" all about? How can we strengthen the bonds between humans regardless of their income, social standing, place of residence, ethnicity, or skin color? How can we place America's downtrodden places on the path to prosperity? We don't have any quick answers, but that "Marshall Plan" we so frequently peddle could be a good start.