Brady Gun Grades Revisited

Version 2
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State gun laws are heavy drivers of gun violence prevention policy in this country, helping to keep guns out of the hands of prohibited and dangerous people and make our neighborhoods and communities safer. (The Brady Campaign State Scorecard, March 2015, http://crimadvisor.com/data/Brady-State-Scorecard-2014.pdf)

Really?

In 2006, I did a short piece showing that there is no demonstrable correlation between state Brady grades and actual crime rates, per the FBI Uniform Crime Reporting System. Statistical analysis of Brady grades vs. murder rates showed a connection that is no stronger than running pairs of random numbers through the analysis. Back then, the prime interest rate and the air pressure in your car's tires had as much influence on murder rates as the strength of each state's gun laws, as rated by the Brady Campaign.

Several years have elapsed since that paper. The Brady Campaign has switched from giving letter grades to giving numerical grades, for one thing. I wondered: Does the original result still hold?

Murder rates are widely used as a general indicator of violent crime rates. For the sake of simplicity, I have considered only the murder + nonnegligent manslaughter rate per 100,000 from the FBI's 2014 report, and the Brady Campaign's state score of the strength of state firearm laws published at http://crimadvisor.com/data/Brady-State-Scorecard-2014.pdf.

The Brady Campaign omits grades for Washington, DC and for Puerto Rico, both of which are included in the FBI report. Both entities have extremely strict gun laws, and should earn high Brady grades. Both also have extremely high murder and nonnegligent manslaughter rates, 15.9 and 19.2 respectively (vs. the national average of 4.5). One might wonder why these two cases were excluded.
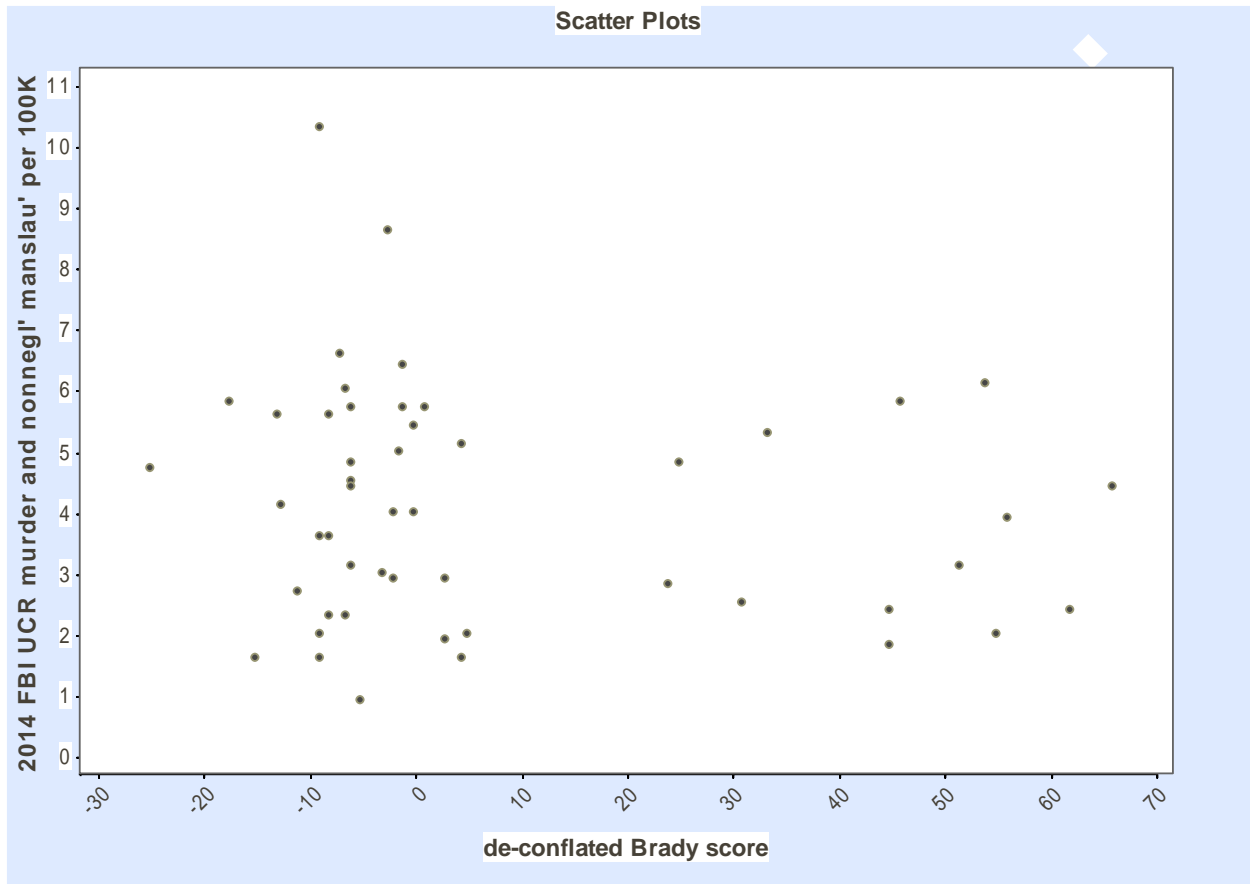
The Brady Campaign's analysis includes the "gun death rate" as a factor in its analysis of the strength of state gun laws, plus it includes "per capita export of crime guns". This is a rookie level blunder that disqualifies the analysis from any serious consideration in policy related discussions. These are not factors describing the

restrictiveness of gun laws. They are hoped-for outcomes. To include them in the manner that the Brady Campaign did is reminiscent of the sign outside New Cuyama, CA.

Results of the analysis:

Before any meaningful analysis can be done, it is necessary to subtract out the spurious input factors that the Brady Campaign introduced. The Brady Campaign provides a spreadsheet that shows how factors were stacked to get the overall state ratings. It was tedious, but this information allowed the removal of these factors. I have labeled the result the "de-conflated Brady score". If this is not done, the results are not trustworthy.

Scatter Plots

If there is any benefit to having more strict firearms laws, it is difficult to discern from the scatterplot. There is no obvious connection between murder + nonnegligent manslaughter and the deconflated Brady score.

Can we learn more by looking at the math? Maybe. Here is the ANOVA table.

Analysis of Variance

Source	DF	Seq SS	Seq Var	Adj SS	Adj Var	MS Adj	F	VIF	P
de-conflated Bra	1	9.937	1.86%	9.937	1.86%	9.937	0.9464	1	0.34
Model	1	9.937	1.86%	9.937	1.86%	9.937	0.9464		0.34
Error	50	525	98.14%	525	98.14%	10.5			
Total	51	534.9	100%	534.9	100%				

R-Sq = 1.86%   R-Sq Adj = 0%   Epsilon-Sq =1.86%   S = 3.24

Y = 4.725 -0.01852*de-conflated Brady score

P values below .1 to .05 are usually taken as indicating a real effect. This P value of .34 strongly discredits any claim to a real effect. The R-Sq of 1.86% essentially says that

the restrictiveness of firearms laws is no better at explaining state to state variation in murder rates than random numbers would be.

You have to read the Brady Campaign statement carefully. It says that state gun laws are heavy drivers of gun violence prevention **policy.** It does not say that they are heavy drivers of actual gun violence **prevention**. That is appropriate, because there is still no evidence to support the notion that more restrictive gun laws help prevent violence.

So, let's get everyone to increase the setting on their home's thermostat by .01 degree C this winter. According to the math, that will have as much of a favorable effect on murder + nonnegligent manslaughter rates as passing more restrictive gun laws, which is to say, no effect at all. I would remind readers that the cri de coeur "We must do *something!*" must be tempered with the knowledge that there are many things we can do that are much worse than doing nothing.

The results of 2006 have held.