

Practical Aspects of Gun Control, Part 6

Edward D. Duvall

3 Apr 2013

Having reviewed the cultural, historical, moral, and technological aspects of gun control, we turn now in this edition to the statistical aspect.

5 The Statistical Aspect

It has been said that a good statistician can take any three numbers and justify whatever conclusion he is being paid to come up with. In this essay, I'll consider some of the statistics concerning citizen disarmament, but first, let us consider a few elements of basic logic.

Consider two families, both with young children. They live in houses next door to each other. One home has a bathtub and the other does not. How much more likely is it that a child in the home containing a bathtub will "drown in a bathtub in their home", compared to the children living in the house without the bathtub? It is evident that the children living in the house with no bathtub have zero chance of drowning in a bathtub in their home, since there are none. Therefore, statistically speaking, children in homes with bathtubs are infinitely more likely to drown in a bathtub than the neighbor children, although drowning in bathtubs is fairly rare.

The School Bus Information Clearinghouse [1] reports that in the U. S., 6 children per year are killed in school bus accidents, while another 29 children per year are killed either getting on or off a school bus, or are killed accidentally while waiting for a school bus. When you consider how many children are riding school busses every day, it is evident that they are pretty safe. But consider the children who are home schooled, or who walk to school: they never take a school bus. Therefore, the children who ride school busses, although deaths are exceeding rare, are in a statistical sense infinitely more likely to be killed in school bus accidents than those who do not ride them.

If a person has an automobile accident, is it more or less likely that the accident will have occurred within 25 miles from home, or more than 25 miles from home. I am certain that it is the former: accidents are not called 'deliberates'; they are most likely to occur wherever the typical person is most of the time relative to their home. Since most people do not drive more than 25 miles from home on a typical day, most car accidents should occur near home than away from it. Accidents in the home occur in a very familiar place.

I'm a mental midget with a public school education, and even I could figure those out. But our illustrious gun-control fanatics are always seeking to convince us that guns in the hands of the citizens are an abnormality in "civilized" society; that they cause suicides; that they cause crime in general; and are to be greatly dreaded, and then prohibited. These fanatics seek to impose their quest for power by repeating weak claims that can be neither proven nor disproven; by pretending that correlation equals causation; sometimes by simply lying. Let us consider a few examples.

5.1 Regarding Suicide and Presence of Guns

The advocates for gun control pretend that a high rate of gun ownership leads to a high rate of suicide. It is easy to determine factually whether such a claim proves cause-and-effect, or if gun ownership and suicides are even correlated. Figures for gun ownership rates and the suicide rates are readily available for a many nations [2, 3]. The data is presented as number of guns per 100 persons (which is easily converted to number of guns per 100,000) to match the suicide rate data in number per 100,000. Now, if

guns cause suicide, or make suicide more likely, then we should find high suicide rates in nations with high gun ownership rates. It is obvious that not all suicides are the result of gunshot wounds, but suffice to say, even if guns only make suicide easier, then the same proposition would have to hold: one would expect high suicide rates in nations with high gun ownership rates, and vice-versa. The results for a sample of 37 nations are shown on Figure 1.

Continent	Gun ownership rank (continent)	Nation	Guns per 100,000	Suicides per 100,000	Gun ownership rank (this data)	Suicide rate rank (this data)	Raw suicides per gun	Suicides per gun x 1 million	Rank, suicides per gun
North America	1	U. S.	88800	12.0	1	13	0.0001351	135.1	34
	2	Canada	30800	11.5	10	18	0.0003734	373.4	28
	3	Mexico	15000	4.0	15	30	0.0002667	266.7	30
South/Central America	1	Uruguay	31800	15.8	9	8	0.0004969	496.9	22
	2	Panama	21700	5.5	12	28	0.0002535	253.5	31
	3	Peru	18800	0.9	13	36	0.0000479	47.9	37
	4	Paraguay	17000	3.6	14	31	0.0002118	211.8	33
	17	El Salvador	5800	8.0	23	25	0.0013793	1379.3	15
	18	Dom. Rep.	5100	2.3	26	34	0.0004510	451.0	24
	19	Cuba	4800	12.3	28	12	0.0025625	2562.5	10
	20	Ecuador	1300	7.1	31	26	0.0054615	5461.5	6
Europe	1	Switzerland	45700	11.1	2	20	0.0002429	242.9	32
	2	Finland	45300	16.8	3	7	0.0003709	370.9	29
	3	Serbia	37800	19.5	4	6	0.0005159	515.9	21
	4	Cyprus	36400	3.6	5	32	0.0000989	98.9	35
	5	Sweden	31600	11.9	6	14	0.0003766	376.6	27
	6	Norway	31300	11.9	7	15	0.0003802	380.2	26
	7	France	31200	15.0	8	10	0.0004808	480.8	23
	29	Portugal	8500	11.5	19	19	0.0013529	1352.9	16
	30	Slovakia	8300	9.9	20	21	0.0011928	1192.8	17
	31	England	6200	11.8	22	16	0.0019032	1903.2	14
	32	Hungary	5500	21.7	24	3	0.0039455	3945.5	8
	33	Scotland	5500	11.8	25	17	0.0021455	2145.5	13
	34	Netherlands	3900	8.5	30	24	0.0021795	2179.5	12
	35	Poland	1300	15.4	32	9	0.0118462	11846.2	4
	Asia	1	Pakistan	11600	0.9	16	37	0.0000759	75.9
2		Russia	8900	21.4	18	5	0.0024045	2404.5	11
3		Georgia	7300	4.3	21	29	0.0005890	589.0	19
4		China	4900	22.0	27	2	0.0044898	4489.8	7
5		Philippines	4700	2.1	29	35	0.0004468	446.8	25
24		South Korea	1100	31.7	33	1	0.0288182	28818.2	2
25		Tajikistan	1000	2.6	34	33	0.0026000	2600.0	9
26		Kyrgyzstan	900	8.8	35	23	0.0097778	9777.8	5
27		Japan	600	21.7	36	4	0.0361667	36166.7	1
Australia/NZ	1	New Zealand	22600	13.2	11	11	0.0005841	584.1	20
	2	Australia	15000	9.7	17	22	0.0006467	646.7	18

Figure 1: Gun Ownership and Suicide Rates for 37 Nations.

Here I have shown gun ownership and suicide rates for 37 nations, sorted by continent. For each continent, I have chosen the ones with the highest gun ownership rate with a corresponding number from the same continent with the lowest ownership rate. Those values can be seen in the second column. For

example, Switzerland, Finland, Serbia, Cyprus, Sweden, Norway, and France have the highest gun ownership rates in Europe, counterbalanced by Poland, the Netherlands, Scotland, Hungary, and England, Slovakia, and Portugal having the lowest gun ownership rates of the 37 nations in Europe. The fourth column indicates the number of guns per 100,000 residents. The fifth shows the suicide rate per 100,000. Next, the sixth and seventh columns show the rank of gun ownership and rank of suicides for this data. The eighth column is the ratio of gun presence to suicides (i.e., the overall number of suicides per gun); note how small the numbers are. To make this data more readable, I have multiplied them by a factor of 1 million, as shown in the second-to-last column. The last column indicates the rank of suicides per gun for this set of 37 nations. There was insufficient data for Africa.

Consider the top five nations and bottom five nations for gun presence and their respective suicide rates. The U. S. is first in gun rate, 34th in suicide rate. Likewise, Switzerland is second and 20th; Finland is third and 7th; Serbia is fourth and 6th; and Cyprus is fifth and 32nd. On the other hand, South Korea is 33rd in gun ownership, but ranks first in suicide rate. Likewise, China is 27th in gun rate, 2nd in suicides; Hungary is 24th and third; Japan is 36th and 4th; and Russia is fifth and 18th. In other words, some nations have high gun rates and high suicide rates (Finland and Serbia); some have high gun rates and low suicide rates (U. S. and Cyprus); some have low gun rates and low suicide rates (Tajikistan and Philippines), and some have low gun rates and high suicide rates (Japan and Poland), and the others fall somewhere in between as expected. If the claims of the gun-control advocates were true, one would expect that the rate of gun possession in general would lead to higher rates of suicide in general. But the large dispersion in the data proves that gun presence and suicide rates are not correlated.

In fact, if I were corrupt like our gun-control fanatics, I could use the preceding facts to make the false assertion that guns prevent suicide. Of course such a proposition is false - no rational person could believe it. But enough dummies would believe it if I had the means to get the media to repeat it a hundred billion times. Congress would then pass a law requiring depressed persons to prove they owned guns.

The second-to-last column shows the number of suicides per gun (magnified by a million to make the numbers easier - the real rate of suicides per gun is shown in the third-from-right column). There is again a wide dispersion in the data, from a low of 47.9 in Peru to a high of 36166 in Japan. This suggests, although does not prove, that suicide in nations like Japan involves means other than gunshot wounds; but may indicate a high correlation of immediate access to guns as a factor in places like Peru.

It must be observed that the gun rate is the overall number of guns per unit population; it says nothing about how often guns are used in suicides. The data for suicide method is shown in Figure 2, based on data assembled by the World Health Organization [4] and researchers in Taiwan [5].

The results in Figure 2 show that the expectation from Figure 1 is about right: even in nations with fairly widespread gun ownership, hanging and poisoning are the most common methods of suicide. Gunshot wounds are the chosen method for more than 40% of suicides only in the U. S. and Uruguay. Even in nations with fairly high gun rates, such as Finland, Sweden, Serbia, and Norway, hanging is the method of choice. Even in Peru, which had the lowest ratio of suicides per gun, only 12% of suicides were by gunshot wound. This suggests, although does not prove, that the presence of guns does not affect the suicide method in general. This data does not address the question about the suicide method chosen for those with ready access to guns in their homes. I would expect that people who choose to commit suicide would choose to do so by the fastest method rather than poisoning themselves with arsenic over a six-month period. The important point is that the widespread availability of guns in a society does not increase the general suicide rate (Figure 1), nor does it affect the method of suicide in a significant manner (Figure 2).

	Source	Suicide Method by Percentage, Men					Suicide Method by Percentage, Women					Note
		All Pois- onings	Hanging	Drowning	Firearms	Falls & other	All Pois- onings	Hanging	Drowning	Firearms	Falls & other	
U. S.	Ref [4]	7.4	20.4	0.9	60.6	10.7	31.5	16.9	2.1	35.7	13.9	
Canada	Ref [4]	10.6	44.4	2.3	21.6	21.0	39.3	36.8	4.0	3.8	20.6	
Mexico	Ref [4]	6.2	68.8	0.5	20.5	4.0	28.4	51.3	0.7	13.4	6.2	
Uruguay	Ref [4]	3.0	41.1	2.7	47.8	5.3	10.5	27.5	9.1	35.7	17.1	
Panama	Ref [4]	19.7	63.5	0.0	11.9	5.0	49.2	44.1	0.0	2.2	4.4	
Peru	Ref [4]	56.9	14.1	3.3	11.8	13.8	84.8	7.3	2.4	1.2	4.2	
Paraguay	Ref [4]	16.0	42.9	1.6	30.4	9.1	41.0	27.1	1.9	21.5	8.5	
El Salvador	Ref [4]	86.6	8.4	0.3	3.8	0.8	95.1	3.2	0.0	1.4	0.4	
Dom. Rep.	Ref [4]	24.9	42.8	2.5	20.2	9.6	42.7	31.9	3.6	8.4	13.2	
Cuba	Ref [4]	10.6	76.8	0.6	3.4	8.6	21.8	27.4	1.3	0.7	48.8	
Ecuador	Ref [4]	33.8	41.3	1.6	19.2	4.1	66.6	23.9	0.8	5.3	3.4	
Switzerland	Ref [4]	13.9	27.3	3.0	33.5	22.4	38.5	19.1	10.1	3.4	28.6	
Finland	Ref [4]	17.8	33.1	3.5	26.7	18.8	49.7	20.3	10.6	2.6	16.8	
Serbia	Ref [4]	4.5	57.6	3.3	20.1	14.5	14.0	57.2	7.9	5.2	15.7	
Cyprus		No data										
Sweden	Ref [4]	16.3	39.4	5.3	17.1	22.0	43.0	25.1	12.4	0.9	18.5	
Norway	Ref [4]	11.3	37.9	4.6	27.1	19.0	33.8	32.3	13.5	2.0	18.4	
France	Ref [4]	9.6	48.9	3.9	22.1	15.5	28.3	29.2	12.4	4.1	25.9	
Portugal	Ref [4]	16.4	52.2	4.3	11.1	16.0	32.7	31.2	11.6	3.2	21.2	
Slovenia	Ref [4]	4.3	64.7	2.5	11.8	16.7	11.7	53.1	12.2	1.2	21.8	
England	Ref [4]	15.1	55.2	2.4	3.5	23.7	41.4	35.9	4.7	0.6	17.6	
Hungary	Ref [4]	11.6	70.3	1.4	4.0	12.7	35.1	43.4	4.5	0.6	16.4	
Scotland	Ref [4]	15.1	55.2	2.4	3.5	23.7	41.4	35.9	4.7	0.6	17.6	
Netherlands	Ref [4]	13.1	47.9	6.6	4.4	28.0	25.8	33.6	11.0	0.6	29.0	
Poland	Ref [4]	2.1	91.2	0.5	1.1	5.2	8.7	77.6	3.0	0.2	10.5	
Pakistan	Ref [5]	26.0	40.0		15.0	10.0	26.0	40.0		15.0	10.0	1
Russia		No data										
Georgia	Ref [4]	7.9	53.2	0.9	3.2	34.8	8.6	50.8	0.8	0.8	39.1	
China	Ref [5]	69.0	20.0	5.0			69.0	20.0	5.0			
Philippines		No data										
South Korea	Ref [4]	37.9	39.2	3.2	0.4	19.3	43.6	26.0	3.8	0.1	26.6	
Tajikistan		No data										
Kyrgyzstan		No data										
Japan	Ref [4]	3.8	68.7	2.6	0.2	24.6	7.2	59.9	7.8	0.0	25.2	
Singapore	Ref [5]	5.9	16.6			72.4	5.9	16.6			72.4	2
Australia	Ref [4]	9.1	45.4	1.3	11.5	32.7	27.2	36.4	3.9	2.6	29.9	
New Zealand	Ref [4]	7.4	48.4	1.9	11.2	31.1	20.1	42.5	4.4	2.2	30.7	
1. Source data did not distinguish between sexes; assumed to be equal.												
2. Jumping from high places is the chosen method for 72.4% of suicides in Singapore.												

Figure 2: Suicide Method by Percentage for 37 Nations

[1] www.schoolbusinfo.org

[2] Small Arms Survey 2007 Part 2 (http://www.smallarmssurvey.org/files/sas/publications/year_b_pdf/2007/2007SAS_English_press_kit/2007SASCh2_summary_en.pdf); summarized on wikipedia at <http://en.wikipedia.org/w/index.php?oldid=547789057>

[3] <http://en.wikipedia.org/w/index.php?oldid=547795916>

[4] V. Ajdacic-Gross, M. G. Weiss, M. Ring, U. Hepp, M. Bopp, F. Gutzwiller, W. Rossler, "Methods of Suicide: International Suicide Patterns Derived from the WHO Mortality Database", Bulletin of the World Health Organization, Vol. 86, No. 9, Sep 2008, pp. 657-736; available at: <http://www.who.int/bulletin/volumes/86/9/07-043489/en/>

[5] K. Chein-Chang Wu, Ying-Yeh Chen, P. S. F. Yip, "Suicide Methods in Asia: Implications in Suicide Prevention", International Journal of Environmental Research and Public Health, 2012, No. 9.