Is America Safe Again?

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The election year has brought increased attention to the issue of terrorism. Numerous claims have been made about whether the United States and the world is safer today than in the past, with statements ranging to a clear decrease in the number of attacks because of presidential candidate's efforts to former mayors of New York City claiming that "no domestic terrorist attacks occurred under Bush" (Gulliani). This paper attempts to take a stance as to whether the world is safer from terrorism than before, with a specific emphasis on the safety of Americans and American interests. This will eventually show that Americans are safer from terrorism than they were before September 11th, but the rest of the world has increased terroristic activity.

The data used is from the Global Terrorism Database (GTD) maintained by the University of Maryland in conjunction with the National Consortium for the Study of Terrorism And Responses to Terrorism (START) (National). This dataset covers all incidents that fit a specific definition of terrorism between 1970 and 2015 and is freely available for scholarly and research purposes if the data is properly cited and is not redistributed or republished in its raw form. However, this dataset has two major issues that affect its reliability. Incidents between 1998 and 2007 were added retroactively, potentially failing to include some events. Additionally, more events have been included within recent years, because of the increased media attention in reporting events as well as changes in the methodology due to the collection of information to the University of Maryland in 2012 (National). Other datasets would have been used instead to remove these problems, but most had some sort of cutoff before 2015; while the GTD dataset has major issues, it is a publicly available dataset that includes recent data. Because of these issues with the reliability of certain counts, a focus will be on the types of attacks and lethality from the sample of those listed and not necessarily a census of all attacks.

Another major issue with all datasets in this field is the lack of a consistent definition for terrorism. The GTD defines terrorism as: "the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation (National). However, numerous other definitions exist that may include or exclude events within and outside of this dataset, including whether states have a monopoly on the use of force or if they can commit terrorism as well as whether terrorism can occur between two parties in a state of war. While it's not clear what impact this has on any conclusions made, it should be emphasized that some analysis with this and other datasets may include or exclude data based on what is terrorism.

In order to gauge whether the United States is truly safe today, we need a reference point to compare our data to. The incidents that occurred on September 11th, 2001 would be an outlier in any discussion on modern terrorism because of their extreme coordination and number of casualties. This date has been viewed as a focal point that began discussions on combating terrorism and marked a shift towards increased presence of "coalitions of the willing" in other nations to

make the world safer for democracy and American interests. Thus, the events that occurred around the Northeastern US will be omitted from the data analyzed, which will further be subdivided into events before and after the incidents that occurred that day.
The data will be examined both by itself as well as a subset containing all incidents occurring within the United States. Both sets will then be subdivided into incidents that occurred before and after 9/11; anything from the date itself will be omitted, as will outliers. A qualitative summary of the groups involved as well as any trends and significant terroristic groups in both sets of data will be compared before appropriate (Wilcoxin signed rank) tests to determine if there is a significant difference the number of deaths before and after 9/11. The data will then be manipulated to attempt to explain the difference, if any exists, as well as to help explain any interesting results.

```
> terror = read.csv("globalterrorismdb_0616dist.csv")
> before = terror[0:73054,]
> after = terror[73059:156773,]
> before = subset(before,nkill < 1000)
> after = subset(after,nkill < 1000)
> summary(after$nkill)

   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  0.000   0.000   1.000   2.404   2.000 670.000

> summary(before$nkill)

   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  0.000   0.000   0.000   2.224   1.000 422.000
```

A quick examination of the summary of terror attacks from both before and after 9/11 with outliers removed shows that the number of people killed in terror attacks and the frequency of attacks is higher since 9/11 than before, as well as attacks becoming far more frequent. GTD does emphasize that this is a significant difference and is mostly because of the differences in how data was collected; this difference is not significant, outside of the outlier of September 11th, in this dataset (National)(Muhlhausen). However, this table is still relevant because it emphasizes how we cannot assume normality for this dataset. The mode of virtually all factors is 0; in most incidents listed as terrorist attacks, no one dies. There is no feasible way to assume normality of this data; while a t-test can be robust with the large sample sizes used, it cannot be used for all analyses because of the small sample sizes of some subsets of data as well as the extreme abnormality of the data.

```
> Murica_before = subset(before, country_txt == "United States")
> Murica_after = subset(after, country_txt == "United States")
> #summary(Murica_before$gname) Need to just display the first few, not everything
> #summary(Murica_after$gname)
```

There also appears to have been a shift in the groups affiliated with these incidents, though 9/11 may not necessarily be the best cutoff date for this shift. Earlier incidents of American terrorism were mostly sponsored by "left wing militants" abortion rights activists, and Puerto Rican nationalists. More recent events are still often sponsored by abortion rights activists and more organized left wing activists, most notably the respective Earth and Animal Liberation Fronts. This also shows that most individuals are unaffiliated with any group or do not make their motivations clear in their act and ignoring that If we just limit our data to deadlier terror attacks, there is no real pattern between any individual groups responsible for deadly American terror attacks.

```
> summary(Murica_after$nkill)

   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
   0.00    0.00    0.00    0.44    0.00   16.00

> summary(Murica_before$nkill)

    Min.  1st Qu.   Median     Mean  3rd Qu.     Max.
  0.0000   0.0000   0.0000   0.2968   0.0000 189.0000

> wilcox.test(Murica_before$nkill,Murica_after$nkill, alternative = "two.sided")

        Wilcoxon rank sum test with continuity correction

data:  Murica_before$nkill and Murica_after$nkill
W = 300650, p-value = 0.0006957
alternative hypothesis: true location shift is not equal to 0

> Murica_before = subset(Murica_before, nkill < 100)
> Murica_before = subset(Murica_before, nkill > 2)
> Murica_after = subset(Murica_after, nkill > 2)
> wilcox.test(Murica_before$nkill,Murica_after$nkill, alternative = "two.sided")

        Wilcoxon rank sum test with continuity correction

data:  Murica_before$nkill and Murica_after$nkill
W = 62.5, p-value = 0.9206
alternative hypothesis: true location shift is not equal to 0
```

An American subset of the data at first seems very similar to the table above, but analysis of the data gives a different conclusion.Significantly fewer terrorist attacks occur on US soil after 9/11 than before. Before, there were approximately 2329 American terror attacks over a span of nearly 32 years, for about 72.78 occurrences per year. Afterwards, there were approximately 279 incidents over almost 15 years, averaging to approximately 18.6 terror occurrences per year. This is despite the possible issues with the dataset suggesting that there should be more incidents of terror in the United States based on changes about

how they are reported, not less. A quick Wilcoxin Rank-sum will show that significantly more people are dying per attack, but that still results in fewer deaths than before because of how infrequent attacks have become ($p < .0001$). This is without removing a significant outlier in the list of incidents before 9/11 in the Oklahoma City bombings, which killed over ten times as many as the next most deadly incident. This significant difference seems to be explained by the difference in terrorist attacks with casualties; the proportion of events where there were no casualties is significantly lower before 9/11 than after. Ignoring all incidents that killed two people or fewer, there is no significant difference between the two ($p = .92$). This does suggest that there is some evidence of a difference between terror attacks before and after 9/11, but there is no difference in deadly terror attacks once outliers have been removed. Overall, this evidence suggests that the United States is safer, as average terroristic events and deaths have actually decreased, but there is a higher chance of terror attacks causing casualties and a large increase in deadly attacks.

```
> #summary(before$country.txt) These lines are disabled until I can find a way to not displa
> #summary(after$country.txt)
```

However, the events of September 11th and their aftermath have significantly impacted terror around the world. The summary below suggests that, before 9/11, the two regions with the most terror attacks were South America and Western Europe; South America because of the Shining Path an FARC, and Western Europe because of France's antireligious policies as well as the IRA and various Spanish secessionist movements. Since then, terrorist attacks have mostly occurred from mostly Middle and Far Eastern countries. Pakistan, Iraq, and Afghanistan are the top three recipients of these incidents, all of which had extreme destabilization by the United States in an attempt to protect its interests. Columbia, the former hotspot of terrorism, has decreased to 10th on the weakening strength of FARC as well as attempts to reconcile their differences via more peaceful methods. Western countries have dropped off these lists entirely; the United Kingdom and France have declined from some of the largest sources of terrorism to 25th and 31st on the list respectively, with the United States and Spain at 33rd and 35th. In general, the actions of these countries are suggested to have improved their internal security at the expense of the rest of the world.

```
> #summary(before$gname) Giving what I did, not replicating output for now
> #summary(after$gname)
```

There is no clear correlation in the different largest terrorist groups either. Before 9/11, most terrorist attacks had been carried out by Shining Path, the FNML in El Salvador, and the IRA in the United Kingdom. Columbia had been mentioned as a hotspot of terror, but their large number of terrorist attacks were divided between FARC and the ELN. More recent attacks are mostly attributed to the Taliban, Daesh, Al-Shabaab from Yemen, and Boko Haram.

Looking at the differences between the two groups though, many individual groups that committed the most atrocities seem to disappear or lose support in the long run; FARC is the only notable group of those mentioned previously that still commits major atrocities today. While countries struggle with security in the short run, there seems to be very little evidence of any of these groups surviving for any meaningful amount of time on a historical scale, though more data is required to answer this question.

```
> wilcox.test(before$nkill,after$nkill,alternative = "two.sided")

        Wilcoxon rank sum test with continuity correction

data:  before$nkill and after$nkill
W = 2445300000, p-value < 2.2e-16
alternative hypothesis: true location shift is not equal to 0

> before = subset(before, nkill > 1)
> after = subset(after, nkill > 1)
> wilcox.test(before$nkill,after$nkill,alternative = "two.sided")

        Wilcoxon rank sum test with continuity correction

data:  before$nkill and after$nkill
W = 203490000, p-value < 2.2e-16
alternative hypothesis: true location shift is not equal to 0

> wilcox.test(before$nkillter,after$nkillter,alternative = "two.sided")

        Wilcoxon rank sum test with continuity correction

data:  before$nkillter and after$nkillter
W = 26880000, p-value = 0.009915
alternative hypothesis: true location shift is not equal to 0

> wilcox.test(before$suicide,after$suicide)

        Wilcoxon rank sum test with continuity correction

data:  before$suicide and after$suicide
W = 160820000, p-value < 2.2e-16
alternative hypothesis: true location shift is not equal to 0
```

This hypothesis that the events of 9/11 have changed the world seems to be confirmed by analyzing the results of terror attacks. There has been a massive increase in the number of attacks, with nearly half a person more dying per terrorist attacks since 9/11 ($p < .2.2E\text{-}16$). This is even when removing outliers, such as the deadliest terror attack on record in Tikrit, Iraq, where at

least 1500 were killed. Whereas before we could eliminate all of the less deadly attacks and eliminate this discrepancy, here we cannot, as the p value seems unchanged despite any attempts to manipulate the data. The only difference seems to be that the number of terrorists killed is extremely significant once these less deadly attacks have been removed from our data set ($p < .00001$). This is likely because there is an almost equally significant difference between the number of suicide bombings before and after September 11th, suggesting a shift in strategy that can raise the number killed and overall seems far more effective at creating casualties.

In conclusion, the world has been made safer for democracies, but this is strongly correlated with more problems for many other countries. The United States has fewer terror casualties and attacks than before 9/11, though deadly attacks are more common, they are not significantly more deadly than before. Whether this can be tied to the actions of any individual's policies or leadership is unclear. -Additionally, some of that stability has come at the expense of the rest of the world. Terror is more common and deadly than ever before, becoming an outlet to actors who cannot normally respond. The actions of some of these countries correlates with creating new hotspots of terror in Iraq, Afghanistan, and Pakistan and may have hurt numerous other countries in the name of their freedom. There is no clear correlation in major terror groups before or after 9/11, but people of unknown affiliations and motivation are still the largest source of terrorism in the world, which is not as easy to pin down as a single group.

Works Cited

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