Terrorism

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Avinash TAMBY
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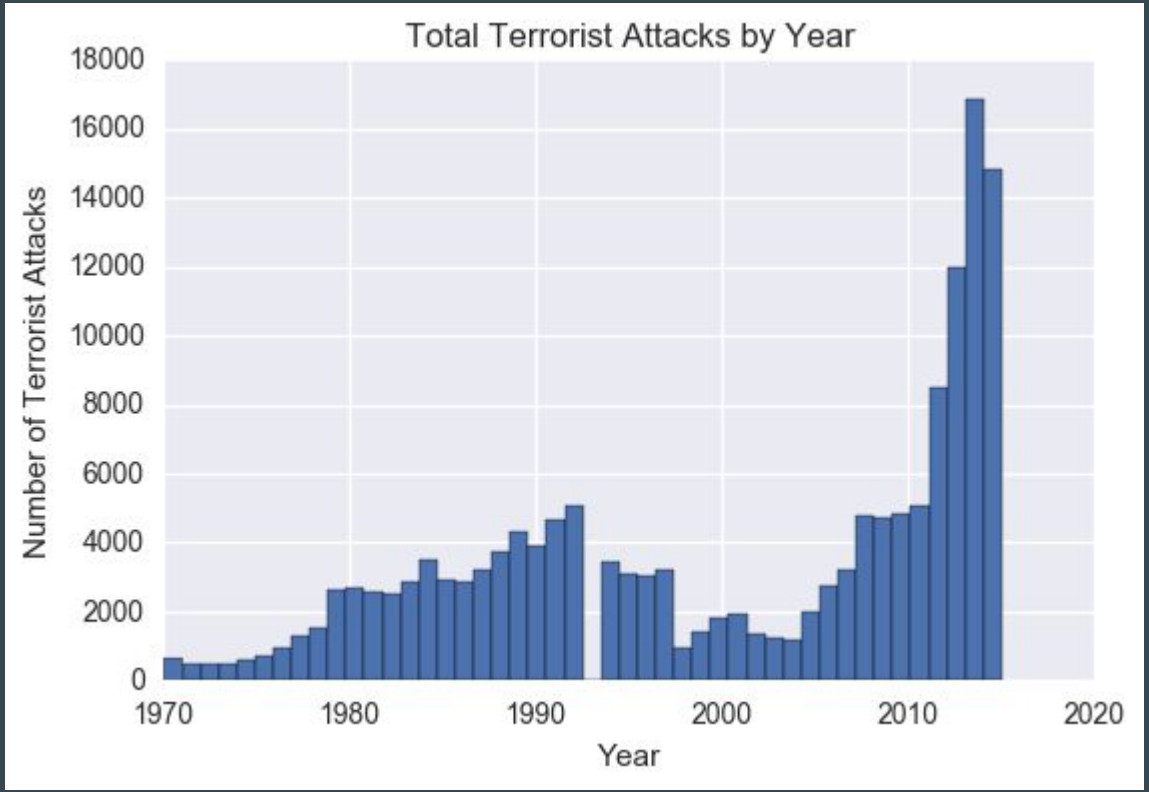
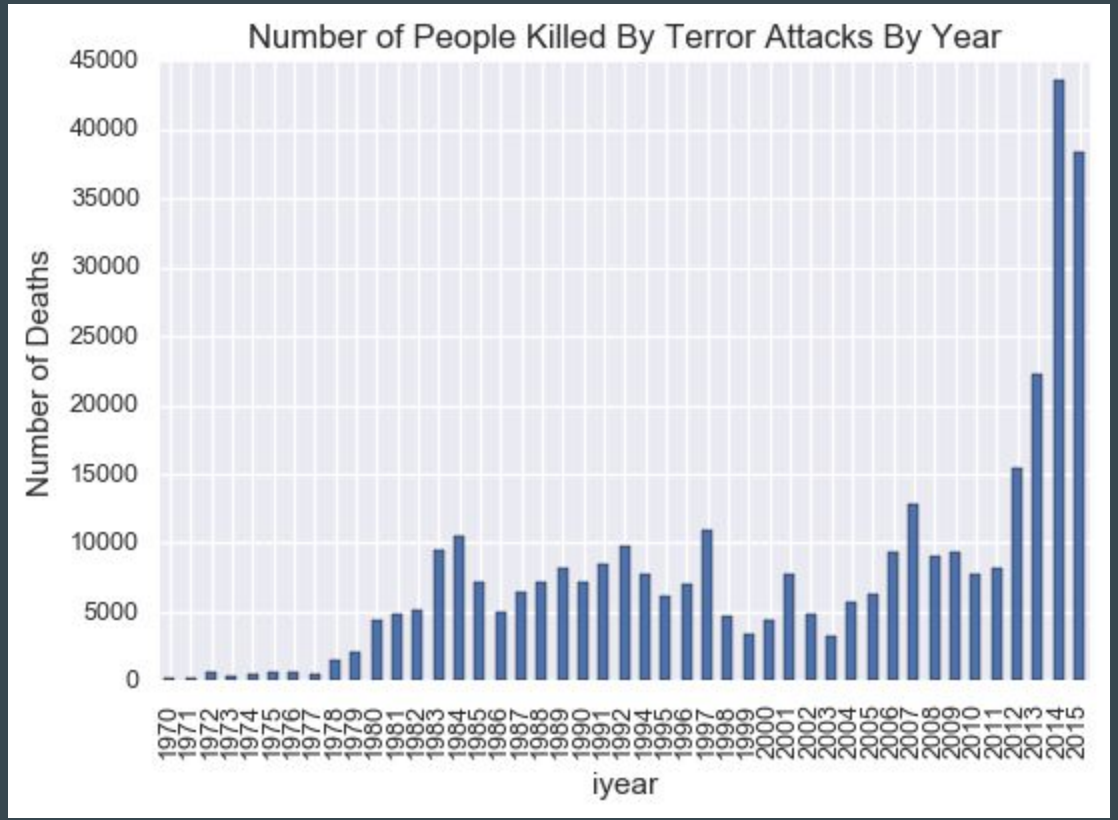
Introduction & Agenda

I. Understanding the Data
   A. Global Terrorism Database lists attacks between 1970 and 2015
   B. Region, Attack Type, Deaths, Wounded, Perpetrator
   C. Look at the distribution of terrorist attacks across the world
      1. What kind of attacks happened where?

II. Bayesian Analysis: Did 9/11 affect terror-related deaths in the US? Did it affect number of attacks in the US?

III. 1993 is missing from the dataset. Can we predict the number of bombings in 1993?


Total Terrorist Attacks by Year
Number of Terrorist Attacks
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
1970
1980
1990
2000
2010
2020
Year


Number of People Killed By Terror Attacks By Year
Number of Deaths
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
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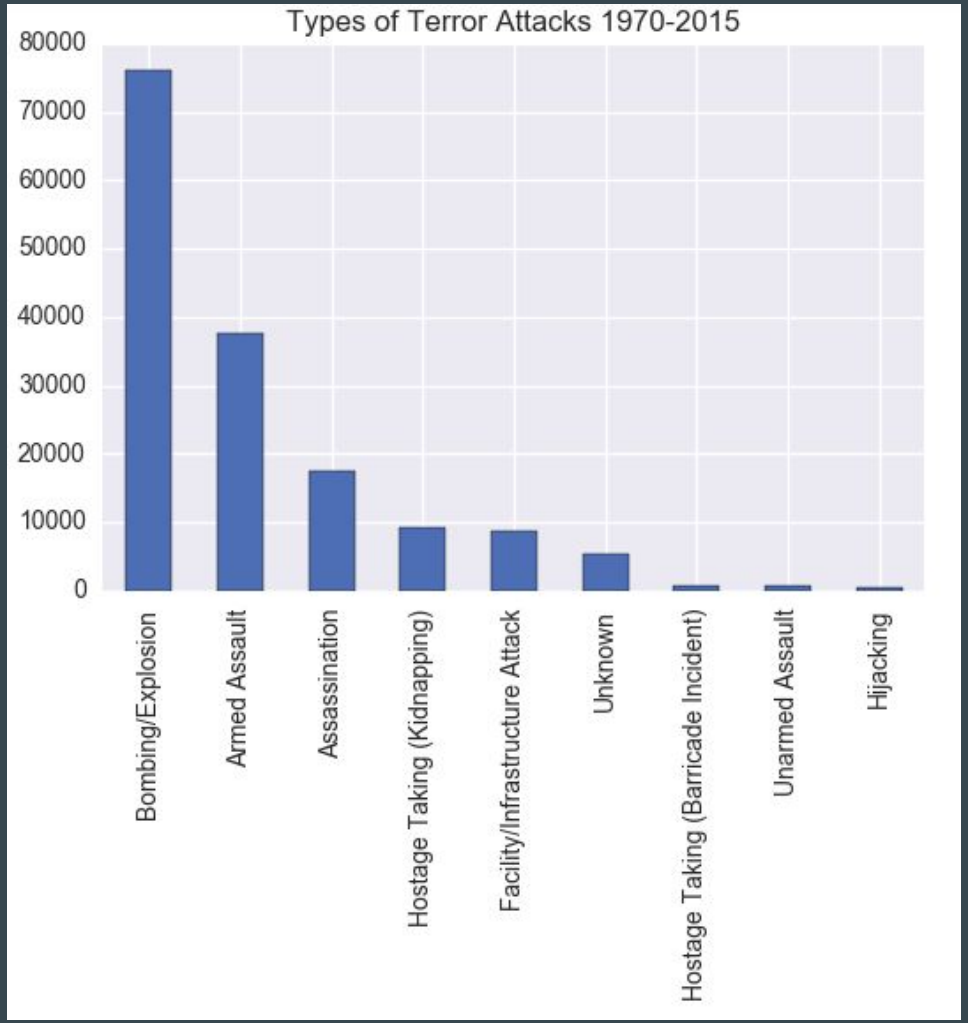
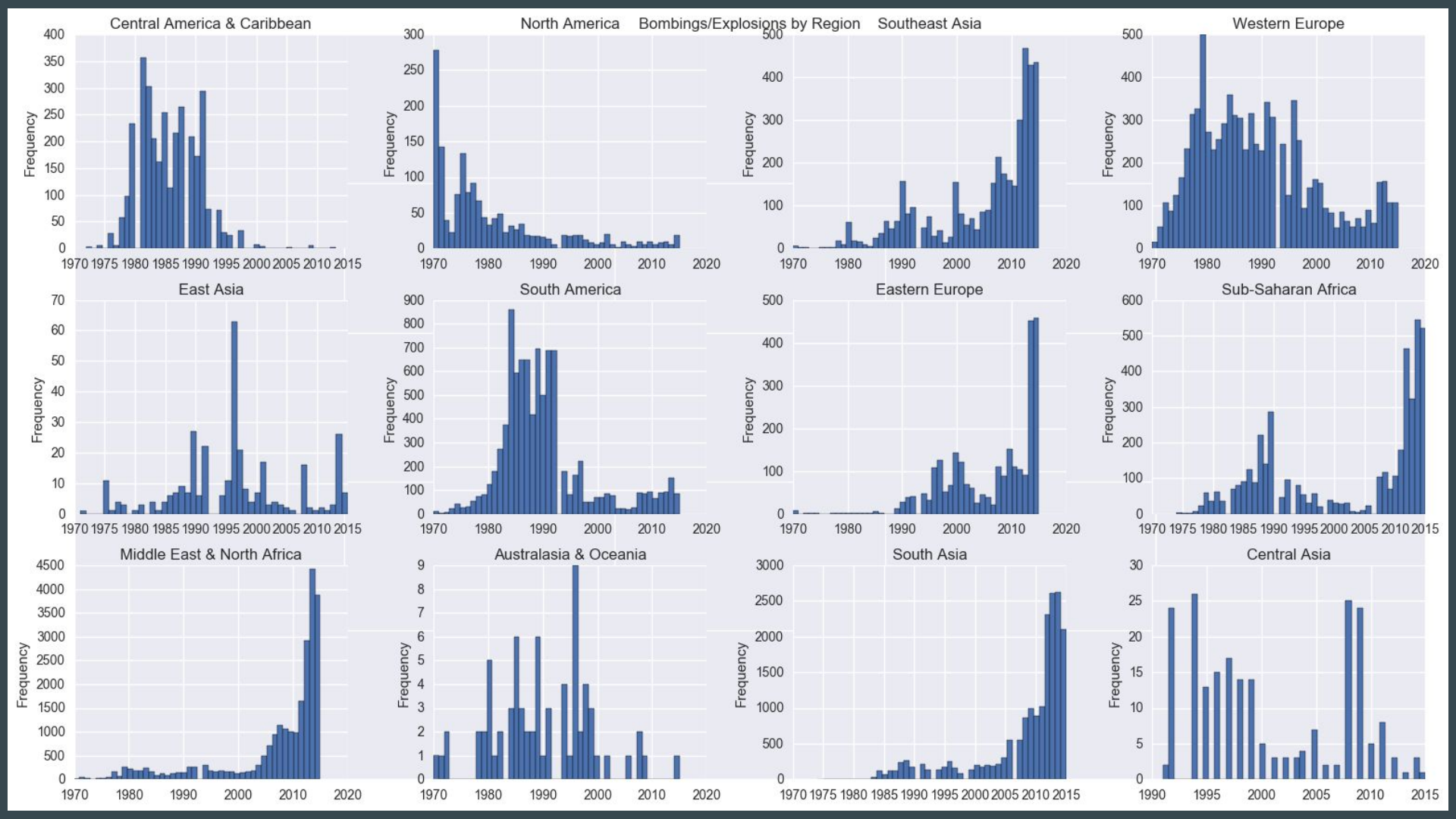
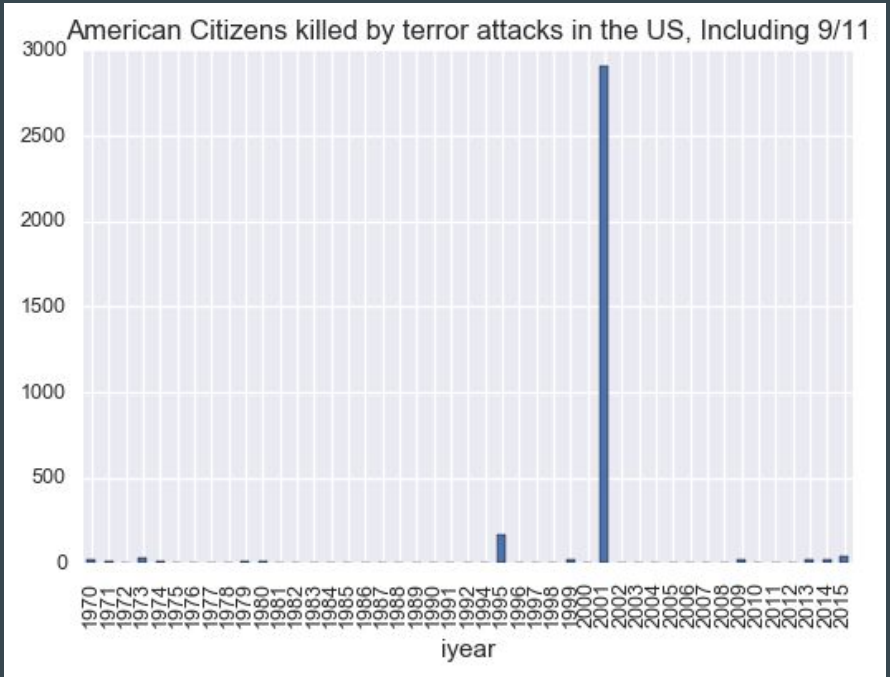

Types of Terror Attacks 1970-2015
80000
70000
60000
50000
40000
30000
20000
10000
0
Bombing/Explosion
Armed Assault
Assassination
Hostage Taking (Kidnapping)
Facility/Infrastructure Attack
Unknown
Hostage Taking (Barricade Incident)
Unarmed Assault
Hijacking

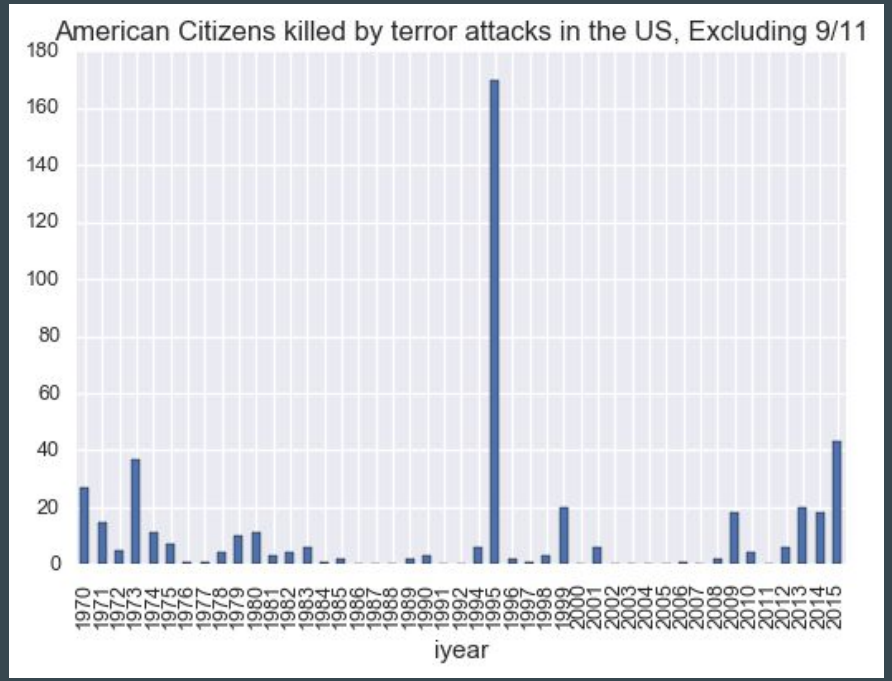

Bombings/Explosions by Region
Central America & Caribbean
North America
Southeast Asia
Western Europe
East Asia
South America
Eastern Europe
Sub-Saharan Africa
Middle East & North Africa
Australasia & Oceania
South Asia
Central Asia
Frequency

II. Bayesian Inference

- Relatively few Americans have died due to acts of terror in the US
- This makes it difficult to assume that a high number of samples would approach a normal distribution
- Using Bayesian inference, I want to see if American deaths due to terrorism on US soil during the 15 years BEFORE 9/11 are statistically significantly different than the 15 years AFTER 9/11
- Are the number of terrorist attacks on American soil during the 15 years BEFORE 9/11 significantly different than those in the 15 years AFTER 9/11?

American Deaths to due Acts of Terror on US Soil

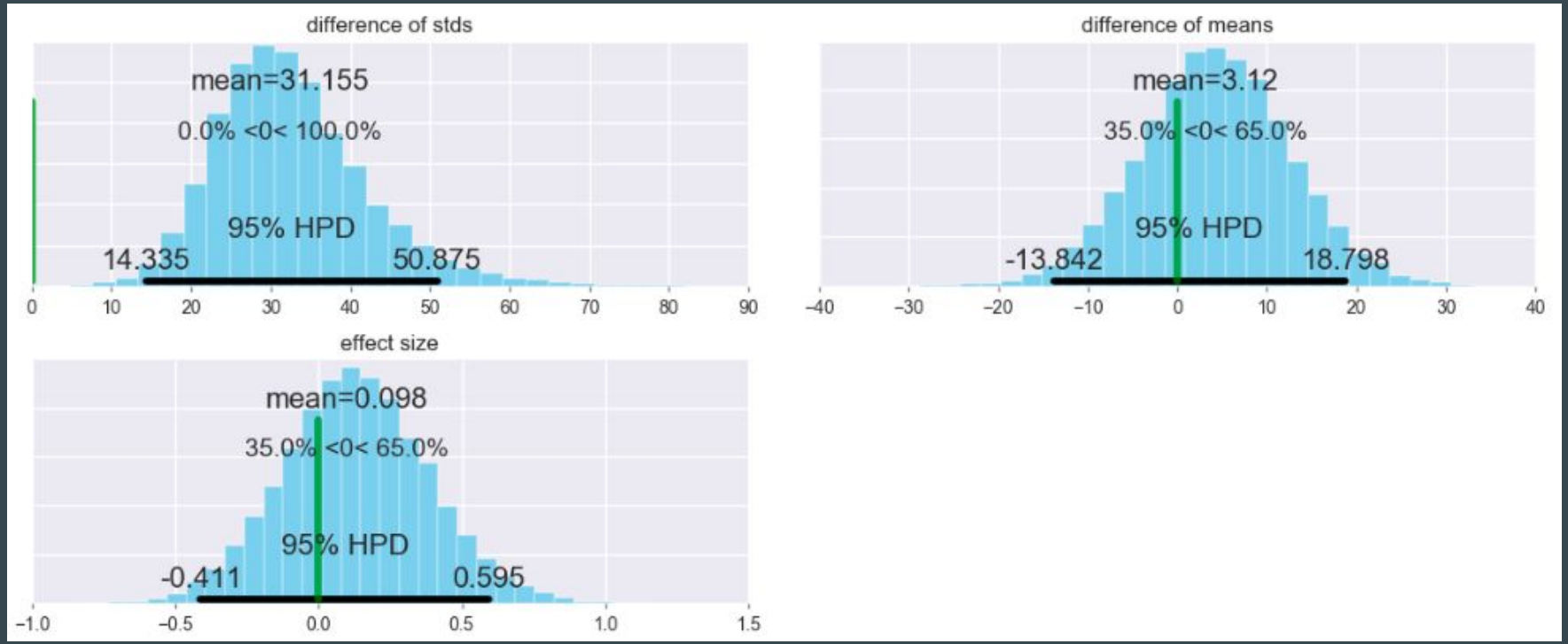




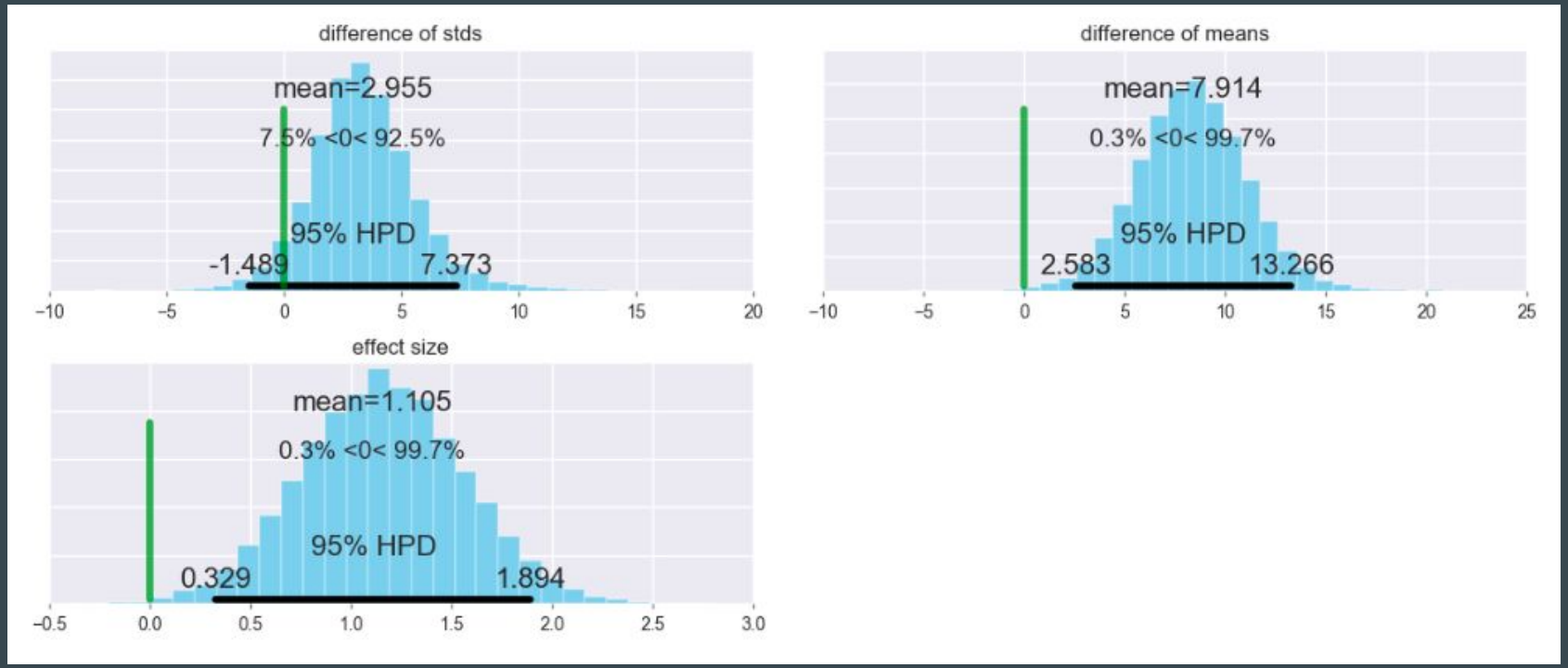
Methodology

- Assume a prior distribution: American deaths from 1970 - 1984
- Posterior 1:
  - Update prior with new info: American deaths from 1985 - 2001 (excl. 9/11)
  - Update prior with new info: Attacks on American soil from 1985 - 2001
- Posterior 2:
  - Update prior with different info: American deaths from 2002 - 2015
  - Update prior with different info: Attacks on American soil from 2002 - 2015
- How significantly do the posteriors differ?

Are Number of Deaths Significantly Different?



Are Number of Attacks Significantly Different?



Interpretation

- Number of deaths ARE NOT significantly different
- Number of attacks ARE significantly different (On average, there were more attacks before 2002 (excluding 9/11) than after 2002
- Are we safer?
  - There are fewer attacks
  - Average number of deaths are still the same

1993

- In 1992, Bombing or Explosion / Total Incidents = 0.3425
- In 1994, Bombing or Explosion / Total Incidents = 0.3334
- The CodeBook, Appendix II: Country-level statistics for 1993
    - Number of incidents = 4,954 * 0.33 = **1,675** Bombing/Explosion Incidents
- In 1992, Deaths from Bombing / Total Deaths = 0.1692
- In 1992, Deaths from Bombing / Total Deaths = 0.1633
    - Number of Deaths = 10,162 * 0.16 = **1,690** Deaths from Bombing/Explosions

Questions?