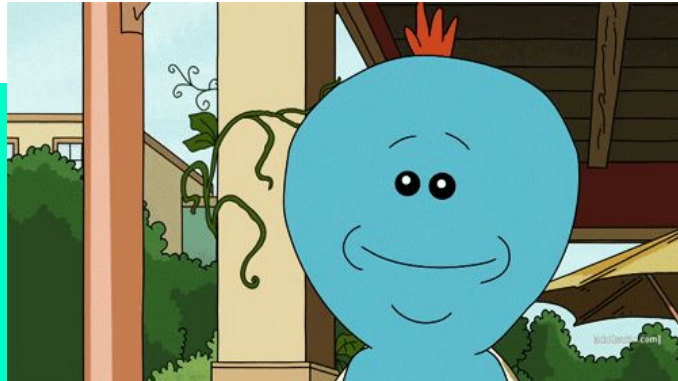


WHAT IS THE HAPPIEST GENERATION?



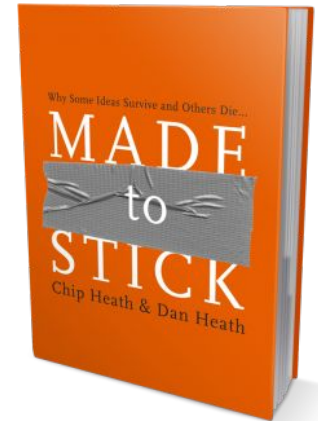
Amy Williams
Capstone 1
7/24/2021

BACKGROUND AND MOTIVATION

There are 6 main generations in the world today:

- Generation Z: 1997-2012
- Millennials (Generation Y): 1981-1996
- Generation X: 1965-1980
- Baby Boomers: 1946-1964
- Silent Generation: 1928-1945
- G.I. Generation: 1901-1927

Which is the Happiest?





The Data

- 1985-2016
- Not very much data provided for 2016



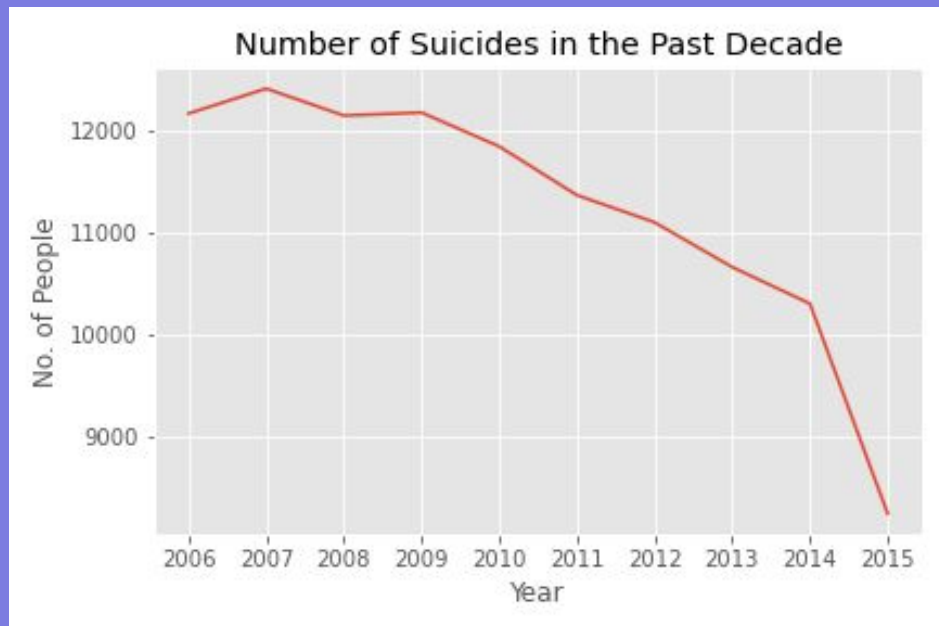
	country	year	suicides_no	suicides/100k pop	gdp_for_year (\$)	generation
0	Albania	1987	21	6.71	2,156,624,900	Generation X
1	Albania	1987	16	5.19	2,156,624,900	Silent
2	Albania	1987	14	4.83	2,156,624,900	Generation X
3	Albania	1987	1	4.59	2,156,624,900	G.I. Generation
4	Albania	1987	9	3.28	2,156,624,900	Boomers
...
27815	Uzbekistan	2014	107	2.96	63,067,077,179	Generation X
27816	Uzbekistan	2014	9	2.58	63,067,077,179	Silent
27817	Uzbekistan	2014	60	2.17	63,067,077,179	Generation Z
27818	Uzbekistan	2014	44	1.67	63,067,077,179	Generation Z
27819	Uzbekistan	2014	21	1.46	63,067,077,179	Boomers



**This is only a preview of the data.

EXPLOTATORY DATA ANALYSIS)

	suicides_no	suicides/100k pop
generation		
Boomers	2284498	73563.05
G.I. Generation	510009	65708.86
Generation X	1532804	67648.45
Generation Z	15906	944.18
Millenials	623459	31461.74
Silent	1781744	117217.55

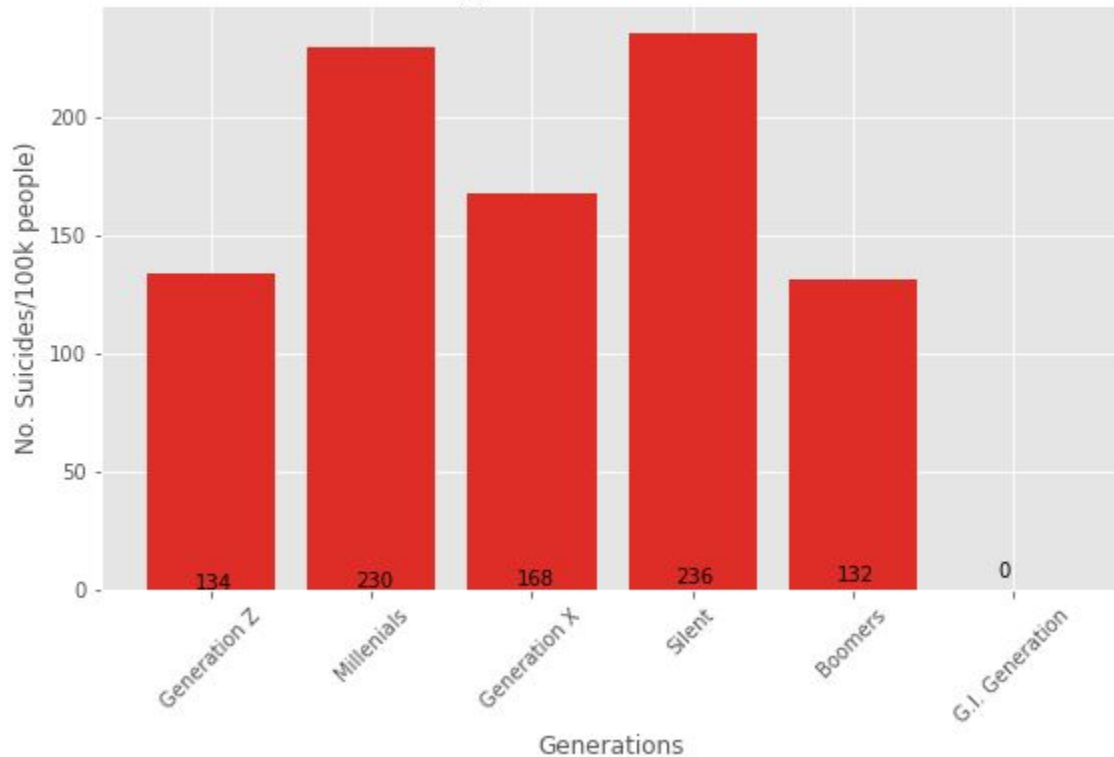


TOP 10 HAPPIEST COUNTRIES

	suicides_no	suicides/100k pop	years_of_data	avg_suicides
country				
Antigua and Barbuda	2	23.60	8	0.250000
Grenada	7	96.97	10	0.700000
Maldives	8	21.74	4	2.000000
Barbados	18	84.11	8	2.250000
Saint Vincent and Grenadines	47	583.89	10	4.700000
Bahamas	41	144.59	8	5.125000
Seychelles	56	899.08	10	5.600000
Aruba	41	424.24	6	6.833333
Saint Lucia	65	474.47	8	8.125000
Oman	33	26.50	3	11.000000



Suicides/100k People for each Generation
(10 Happiest Countries 2006-2015)




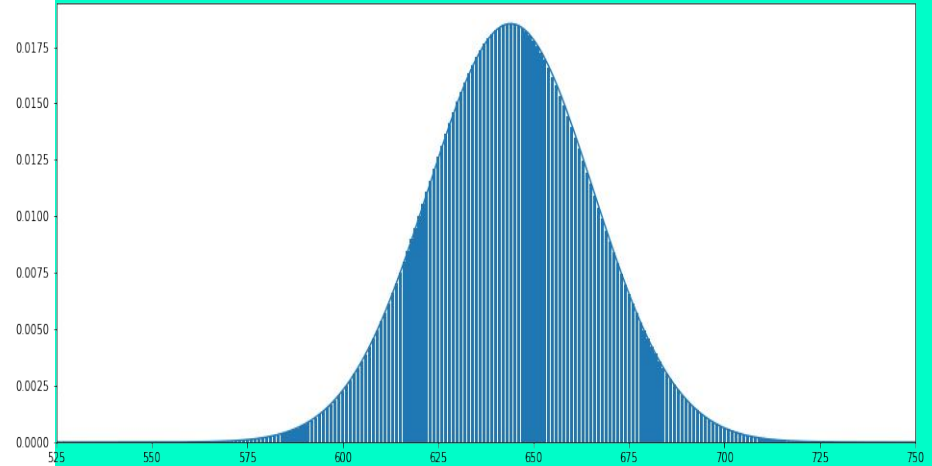
Statistical Analysis

With the information that I had, I decided to conduct a hypothesis test. In the entire 10 year span for the countries provided in the data set, there were 2,300,872 suicide deaths. This averaged to about 230,087 deaths per year. 636,436 of the total count were Boomers alone (making our mu about .28). For simplification purposes I divided all my values by 1000.

I want to find the probability that a suicide death in this time span was committed by a Boomer, where my null hypothesis is that a randomly elected suicide death in the decade will not be a Boomer more than 28% of the time. $\text{Boomer Suicide} \approx \text{Binomial}(636, 0.28)$

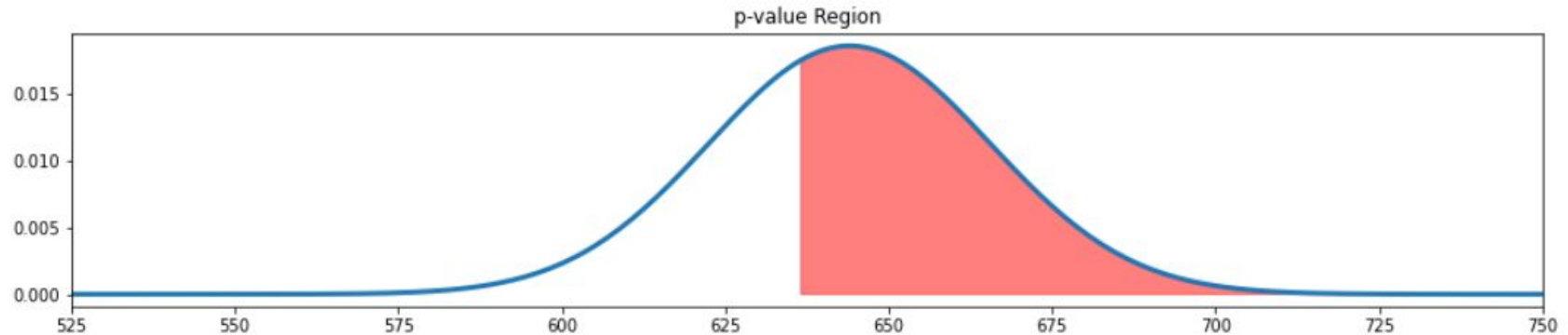
My alpha is 0.05. (success = the individual is a Boomer, failure = individual is not a Boomer)

- 
- Success = Boomer
 - Failure = Not Boomer
 - Mu = 0.28
 - Alpha = 0.05



Statistical Analysis (continued)

`p_value = 1 - normal_approx.cdf(636) --> p-value for 10 year suicide experiment: 0.64`



IN CONCLUSION...

FUTURE STEPS:

- COMPLETE DATA SET.
- FILL MISSING DATA
- FIND CORRELATION WITH GDP
- COMPARE GLOBAL SUICIDE RATES TO DEATH RATES
- BAYESIAN TESTING

