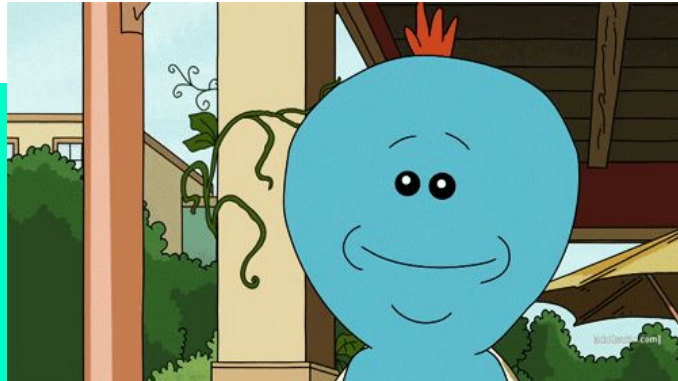


WHAT IS THE HAPPIEST GENERATION?



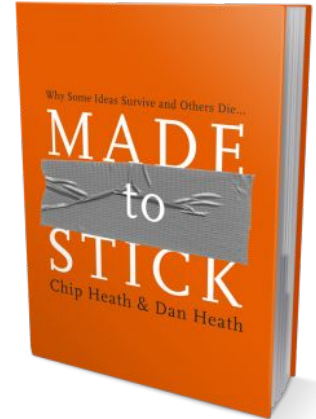
Amy Williams
Capstone 1
7/24/2021

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



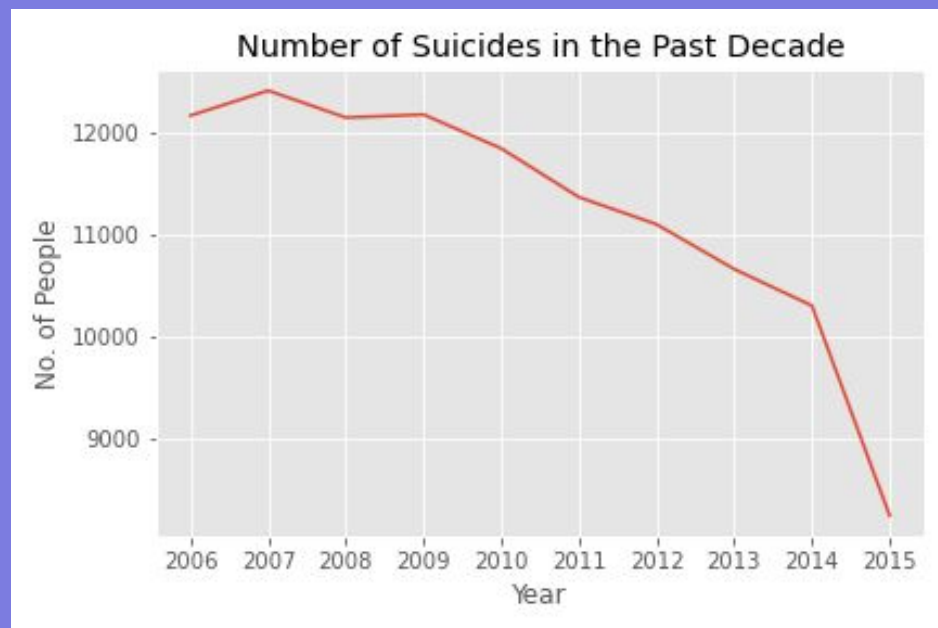
	country	year	suicides_no	suicides/100k pop	gdp_for_year (\$)	generation
0	Albania	1987	21	6.71	2,156,624,900	Generation X
1	Albania	1987	16	5.19	2,156,624,900	Silent
2	Albania	1987	14	4.83	2,156,624,900	Generation X
3	Albania	1987	1	4.59	2,156,624,900	G.I. Generation
4	Albania	1987	9	3.28	2,156,624,900	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

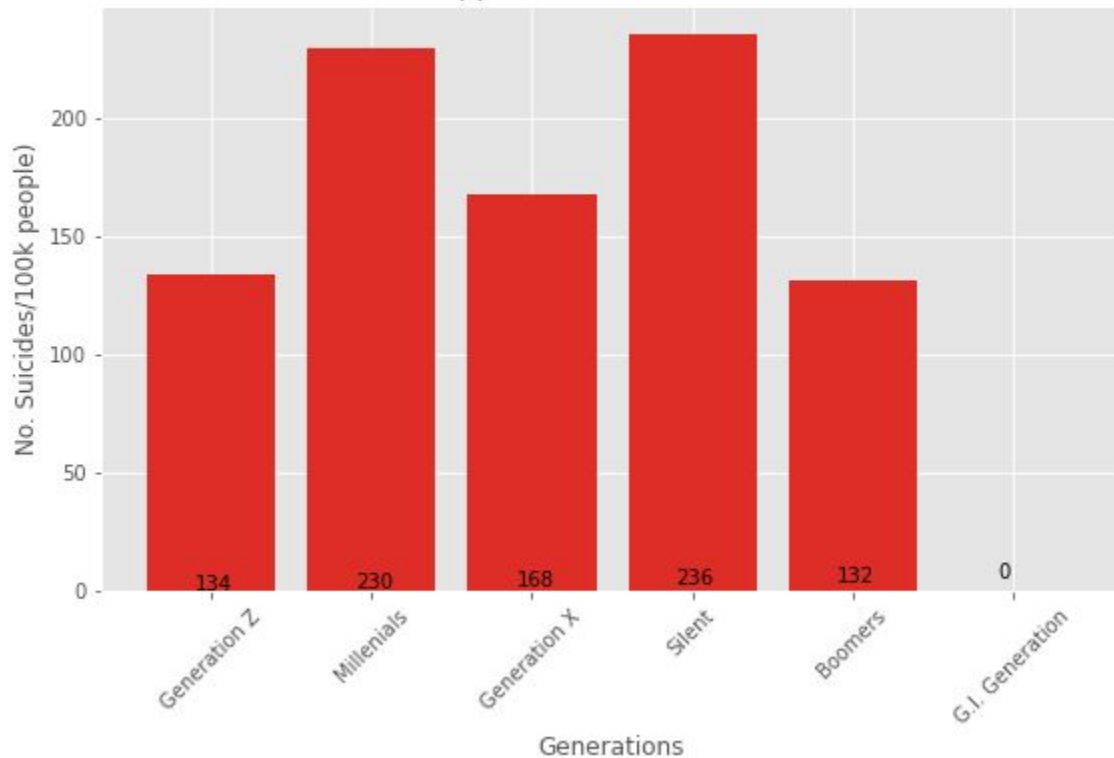


TOP 10 HAPPIEST COUNTRIES

	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)

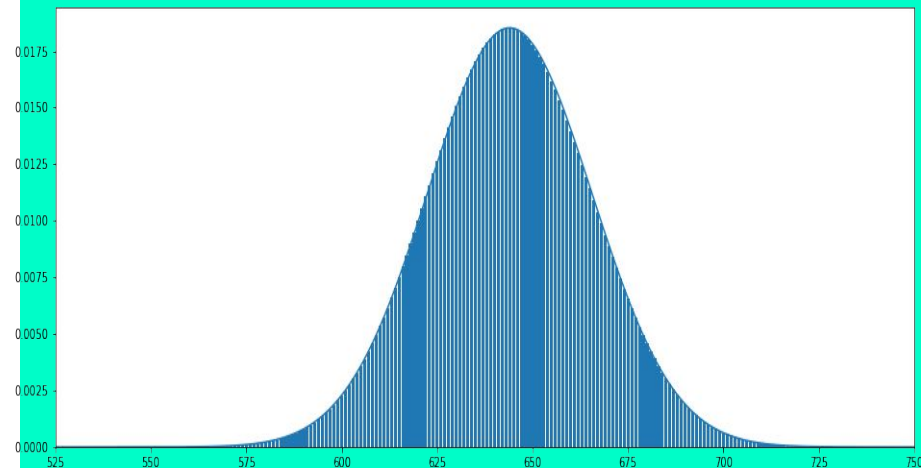


STATISTICAL ANALYSIS

- HYPOTHESIS TEST
- 2,300,872 SUICIDE DEATHS
- AVERAGED TO ABOUT 230,087 DEATHS PER YEAR
- 636,436 OF THE TOTAL COUNT WERE BOOMERS ALONE
- DIVIDED ALL MY VALUES BY 1000
- PROBABILITY THAT A SUICIDE DEATH IN THIS TIME SPAN WAS COMMITTED BY A BOOMER
- NULL HYPOTHESIS IS THAT A RANDOMLY SLECTED SUICIDE DEATH IN THE DEACADE WILL NOT BE A BOOMER MORE THAN 28% OF THE TIME.
BOOMER

$$\text{SUICIDE} \approx \text{Binomial}(636, 0.28)$$

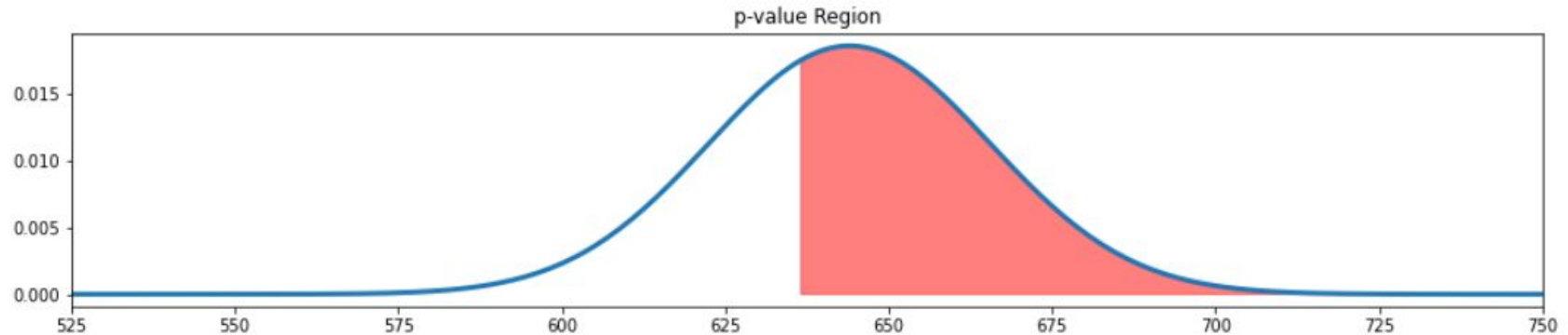
→ SUCCESS = BOOMER
→ FAILURE = NOT
BOOMER
→ $\mu = 0.28$
→ $\alpha = 0.05$



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

