GROUP 2 PROJECT ANALYSIS

GLOBAL SUICIDE

SUICIDE TRENDS ACROSS THE WORLD

Meet the Team

BOBBY HUFFSTETLER

Data Analytics Consultant

KRISTI MCGRATH

Data Analytics Consultant

STEFANEE RICHARDSON

Data Analytics Consultant

TIFFANY TEASLEY

Data Analytics Consultant

Presentation Outline

TODAY'S DISCUSSION

- Data Sources
- Retrieving the Data
- Data Preparation
- Data Exploration
- Summary and Conclusions

DATA SOURCES

- Data used to conduct the analysis
  - Kaggle.com Suicide Rates overview 1985 to 2016 (https://www.kaggle.com/russellyates88/suicide-rates-overview-1985-to-2016?select=master.csv)
- Sources for supplemental data and statistics
  - Datahub (https://datahub.io/JohnSnowLabs/country-and-continent-codes-list#pandas)
  - National Institute of Mental Health (https://www.nimh.nih.gov/health/statistics/suicide.shtml)
  - Center for Disease Control and Prevention
  - World Health Organization

DATA CLEANUP & EXPLORATION

I1 | fx | HDI for year

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	country	year	sex	age	suicides_no	population	suicides/100	country-year	HDI for year	gdp_for_year ($)	gdp_per_cap	generation	
2	Albania	1987	male	15-24 years	21	312900	6.71	Albania1987		2,156,624,900	796	Generation X	
3	Albania	1987	male	35-54 years	16	308000	5.19	Albania1987		2,156,624,900	796	Silent	
4	Albania	1987	female	15-24 years	14	289700	4.83	Albania1987		2,156,624,900	796	Generation X	
5	Albania	1987	male	75+ years	1	21800	4.59	Albania1987		2,156,624,900	796	G.I. Generation	
6	Albania	1987	male	25-34 years	9	274300	3.28	Albania1987		2,156,624,900	796	Boomers	
7	Albania	1987	female	75+ years	1	35600	2.81	Albania1987		2,156,624,900	796	G.I. Generation	
8	Albania	1987	female	35-54 years	6	278800	2.15	Albania1987		2,156,624,900	796	Silent	
9	Albania	1987	female	25-34 years	4	257200	1.56	Albania1987		2,156,624,900	796	Boomers	

Sheet1 | master | +

Average: 0.776601148 | Count: 8365

```
#Dropping HDIForYear since there are thousands of null values.
global_suicide_data.drop('HDIForYear', axis=1, inplace = True)
```

```
#Dropping Country/Year since country and year exist as 2 separate columns.
global_suicide_data.drop('Country/Year', axis=1, inplace=True)
```

QUESTIONS ABOUT SUICIDE

GLOBALLY	GENDER	AGE	USA
What are the global trends in suicide?	Does gender play a role in suicide?	Which age group falls victim to suicide most frequently?	What are suicide trends in the USA?

What are the global trends in suicide?

GLOBAL STATISTICS ON SUICIDE

10%

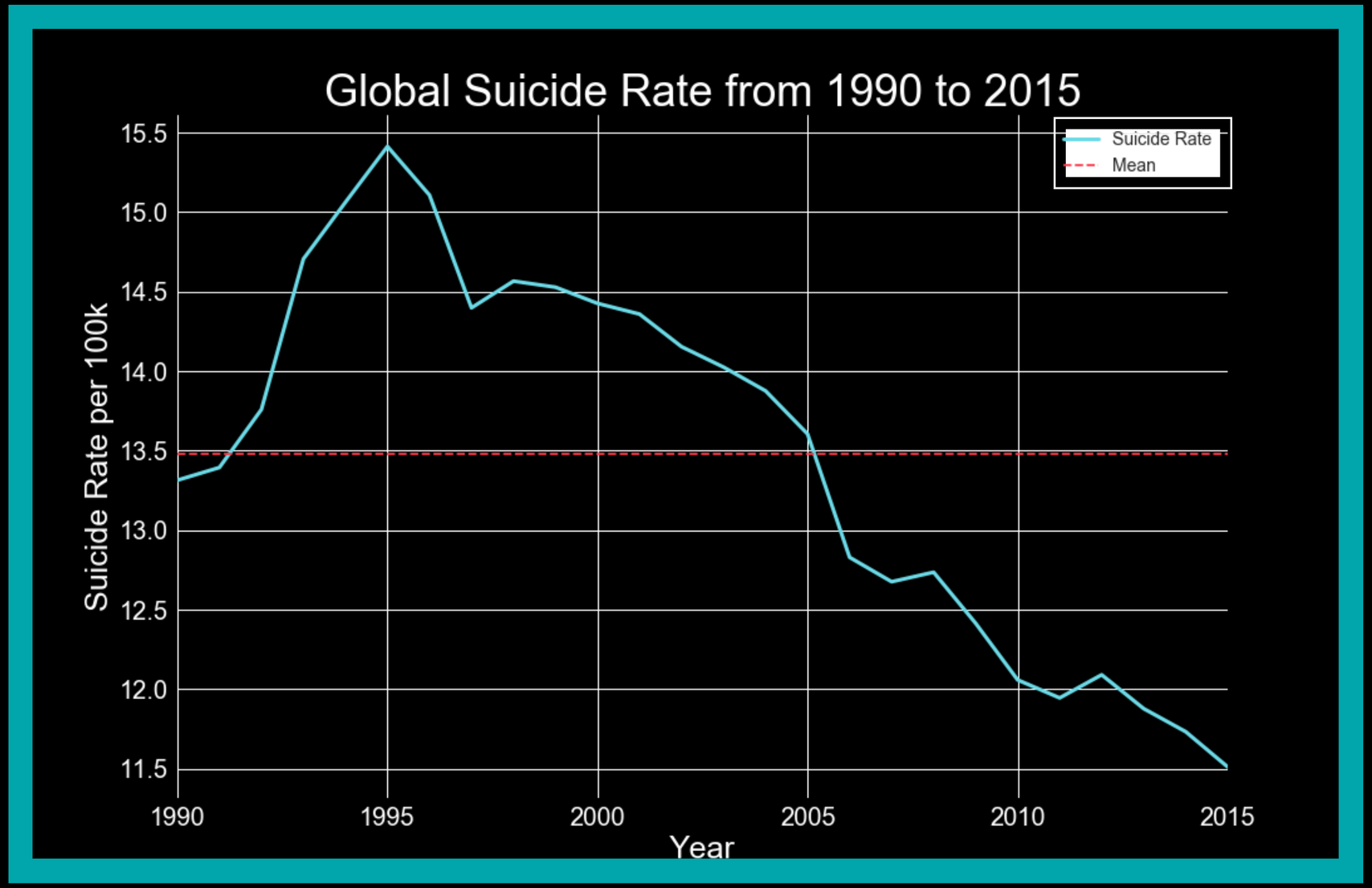
* global target of reducing the suicide rate in countries by 10% by 2020.

20%

*of global suicides are due to pesticide self-poisoning,

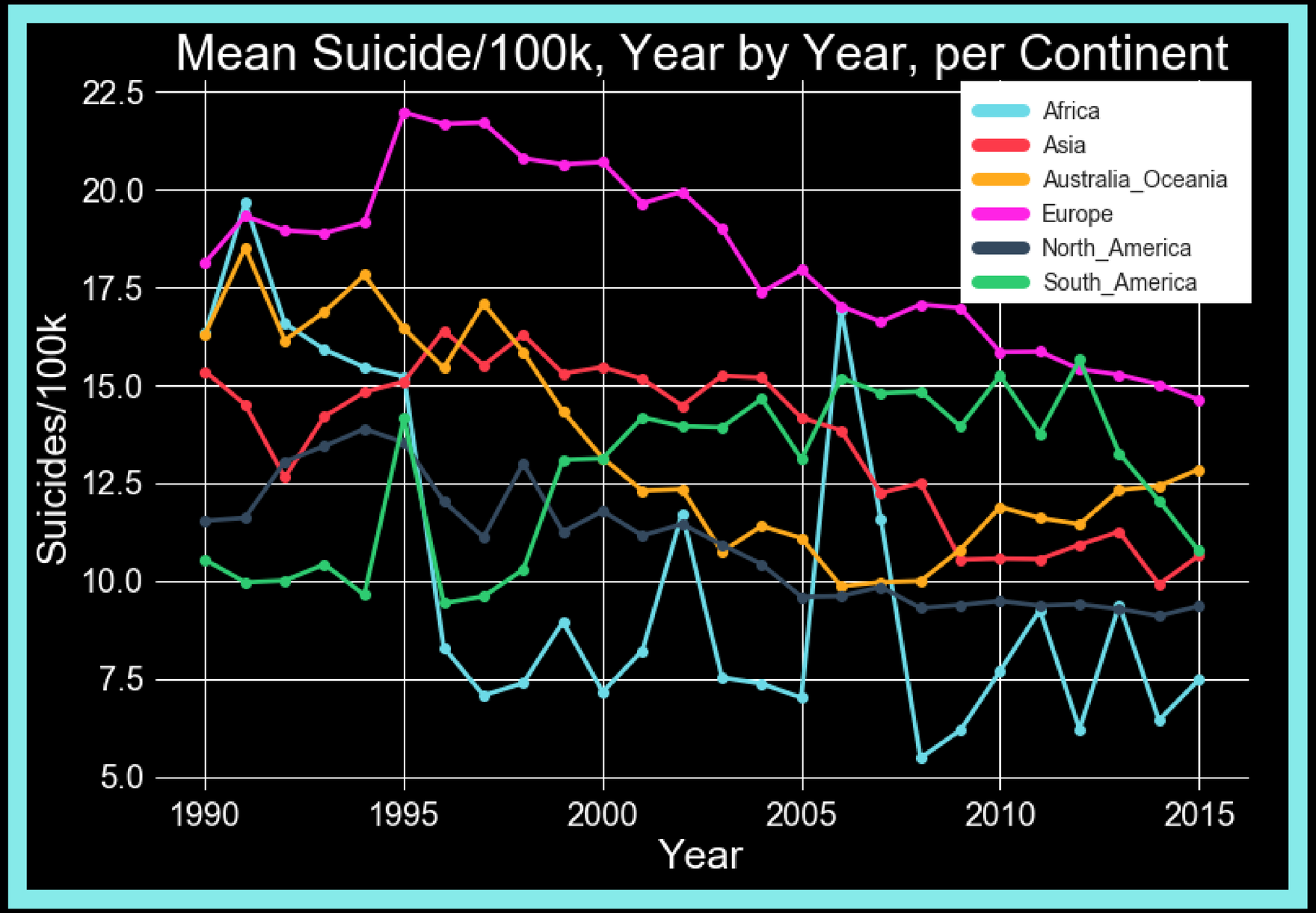
79%

*of global suicides occur in low- and middle-income countries

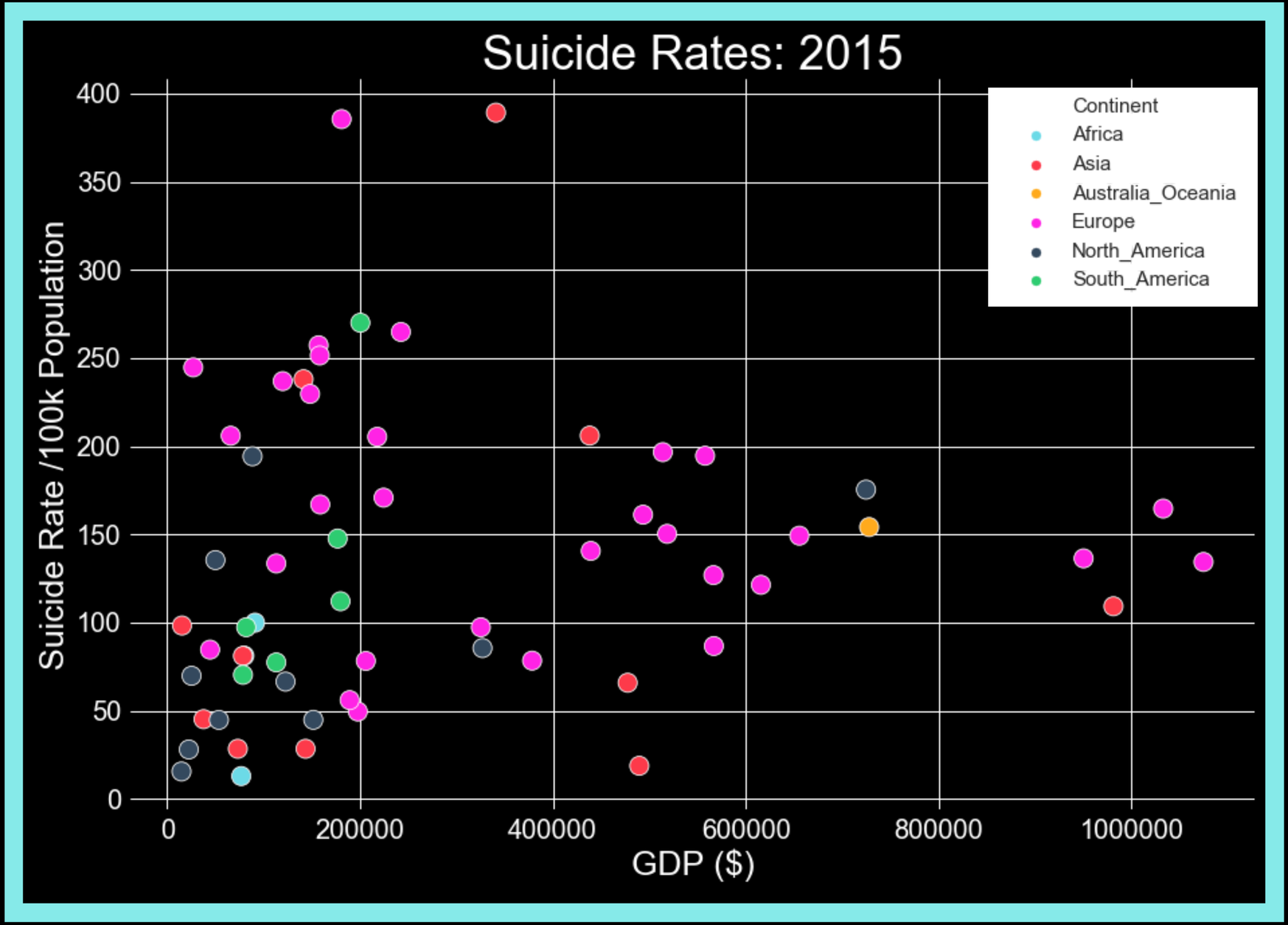


*Statistics obtained from WHO website.

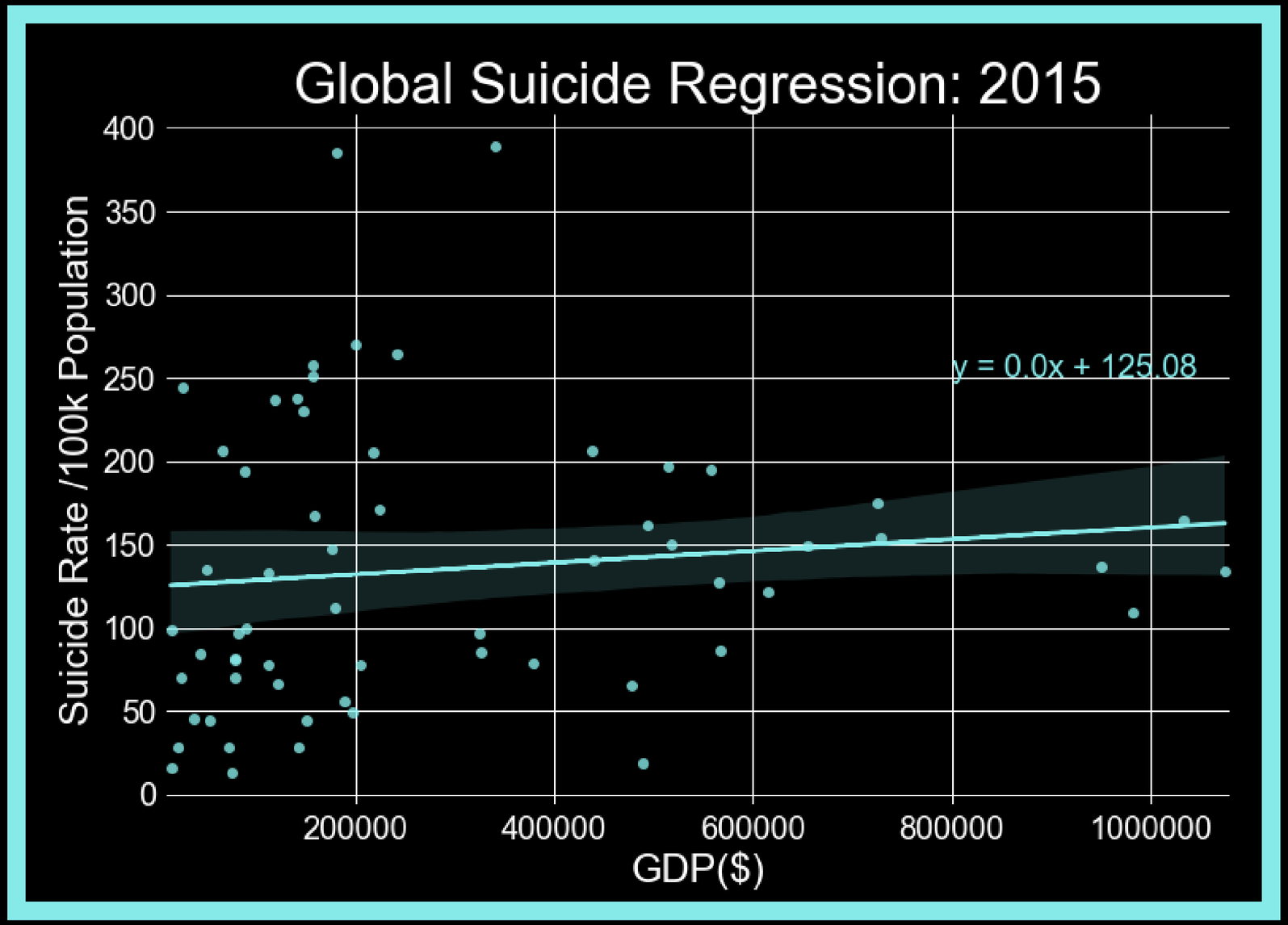
GLOBAL STATISTICS ON SUICIDE



GLOBAL STATISTICS ON SUICIDE

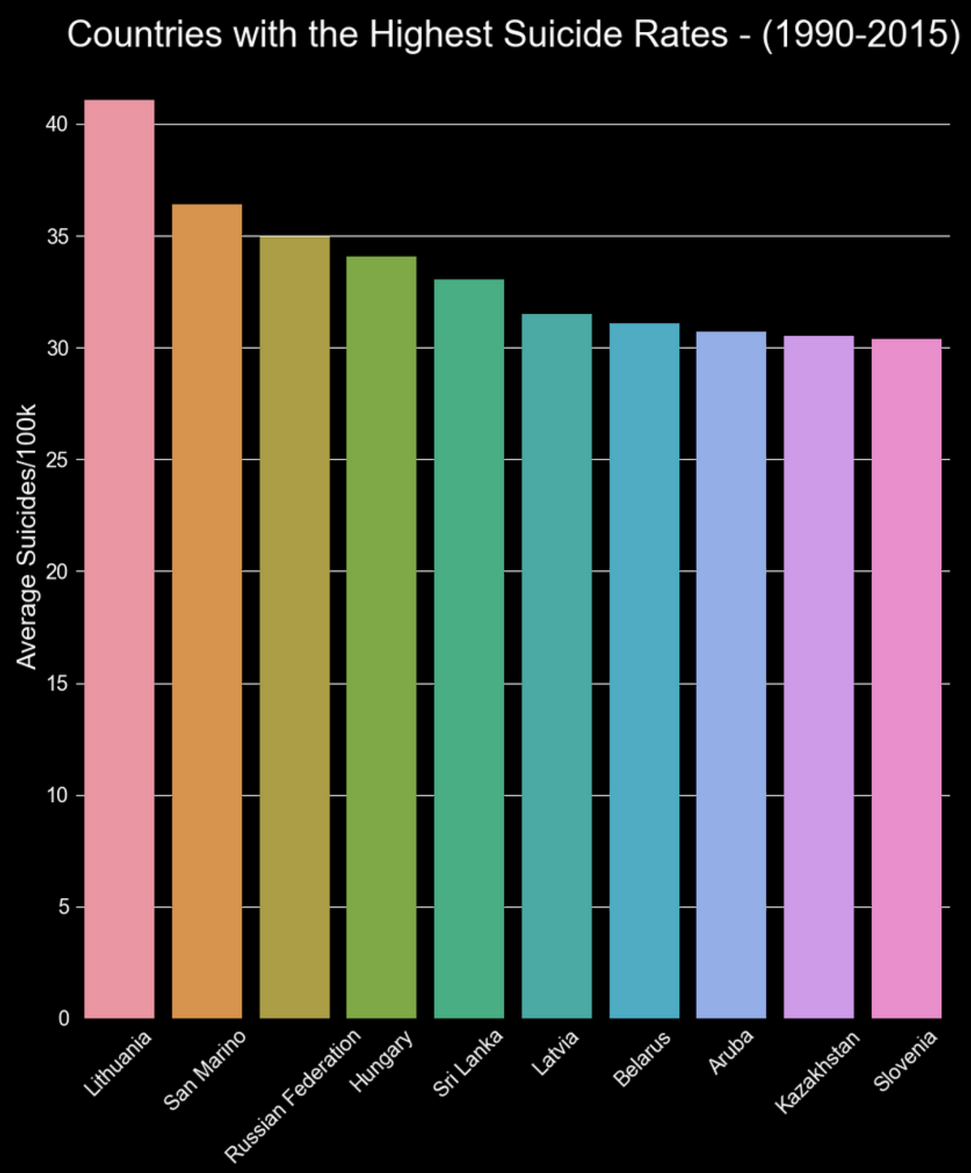


GLOBAL STATISTICS ON SUICIDE



r = .11

GLOBAL STATISTICS ON SUICIDE



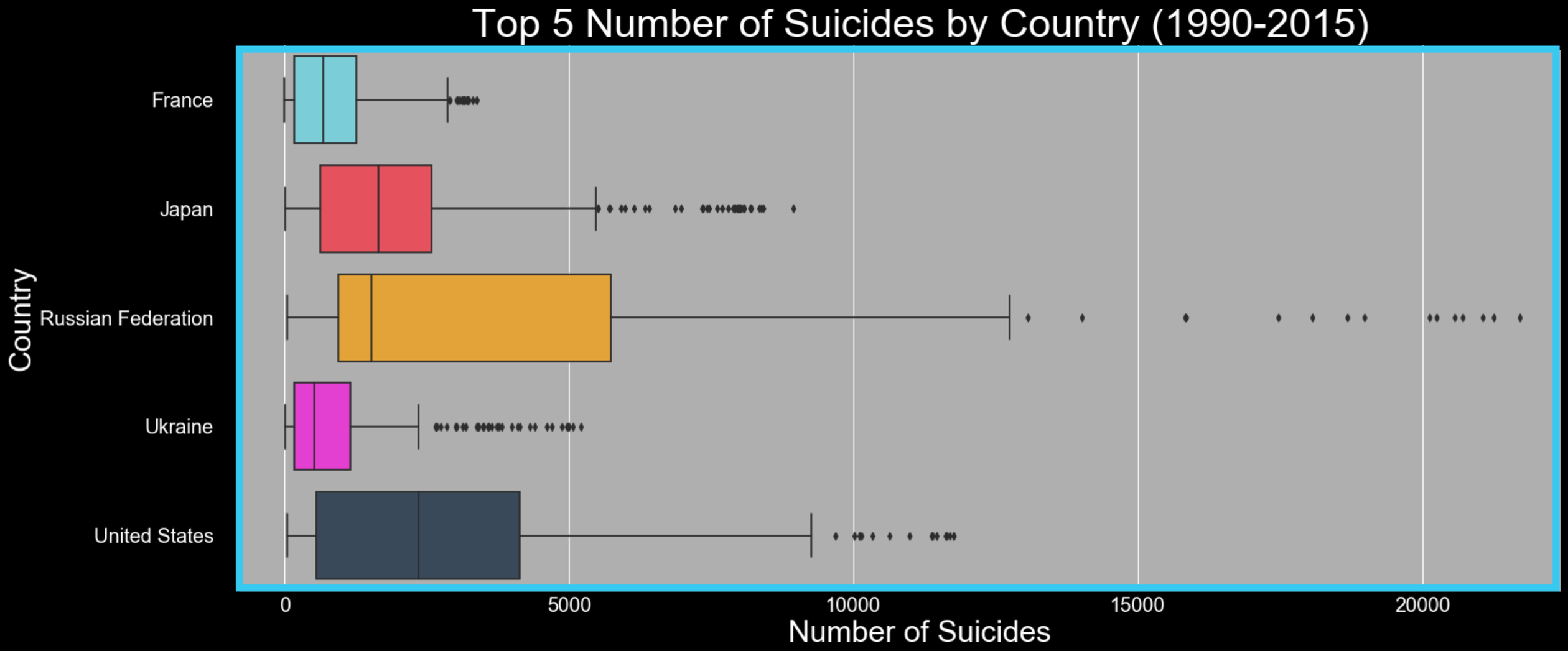
SUICIDES PER YEAR

800K

*Close to 800 000 people die due to suicide every year

*Statistics obtained from WHO website.

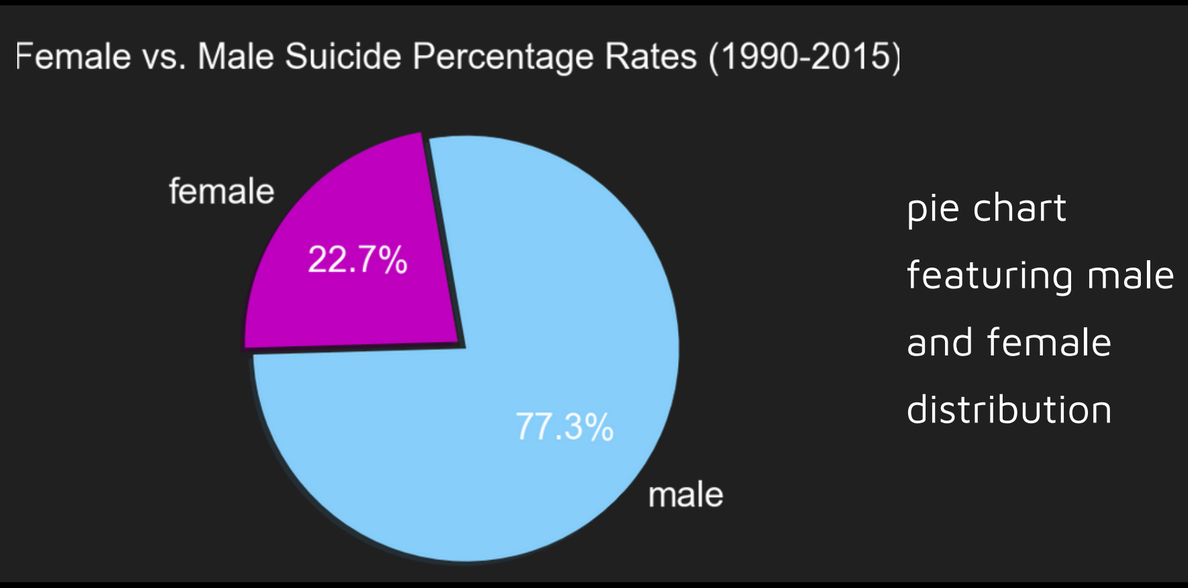
GLOBAL STATISTICS ON SUICIDE



Does gender play a role in suicide?

SUICIDE AND GENDER

MALES COMMIT SUICIDE MORE THAN FEMALES



pie chart featuring male and female distribution

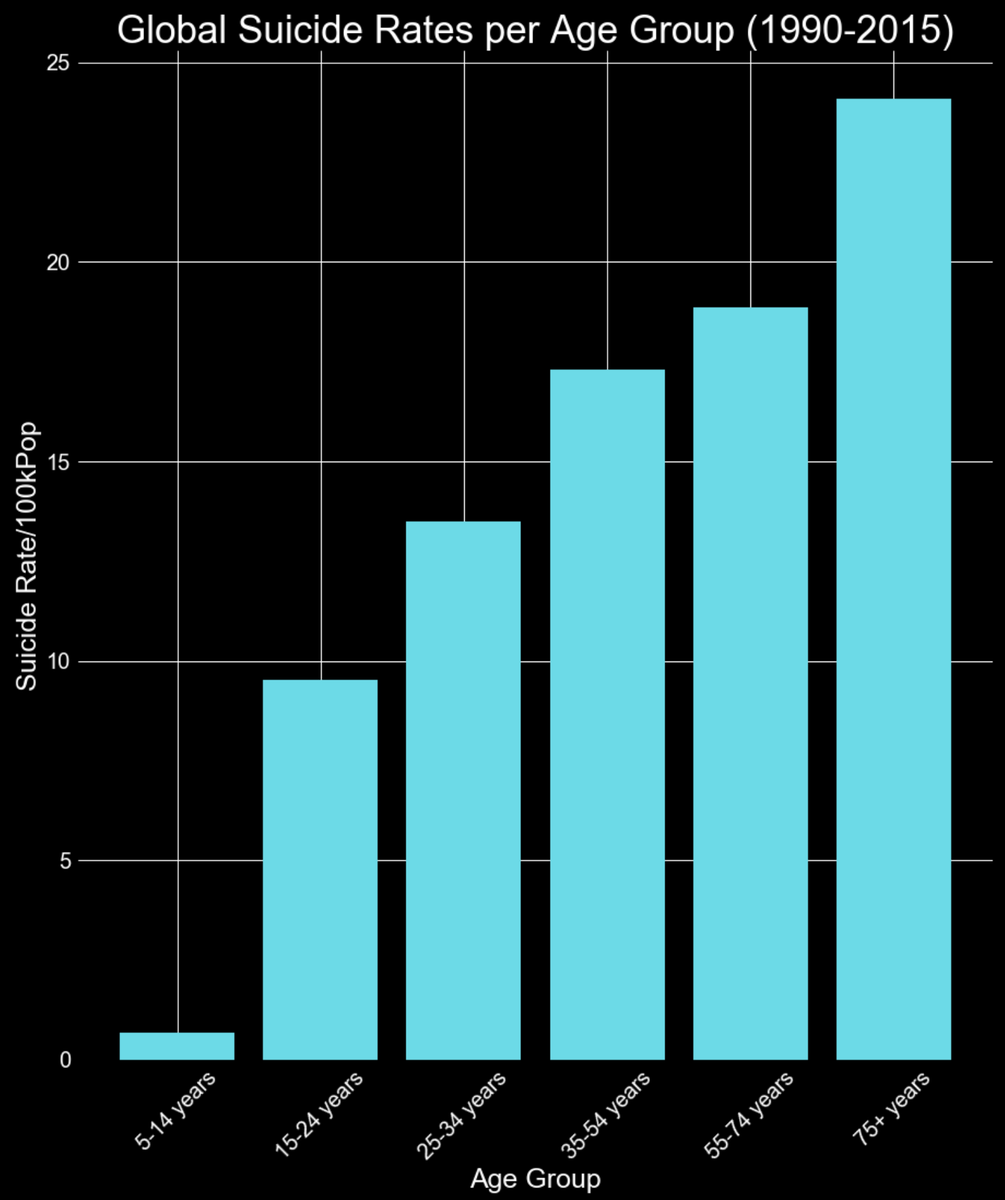
1.2X

*Adult women in the US reported a suicide attempt 1.2 times as often as men.

*Statistics obtained from CDC website.

Which age group falls victim to suicide most frequently?

SUICIDE AND AGE



15-19 YEAR OLDS

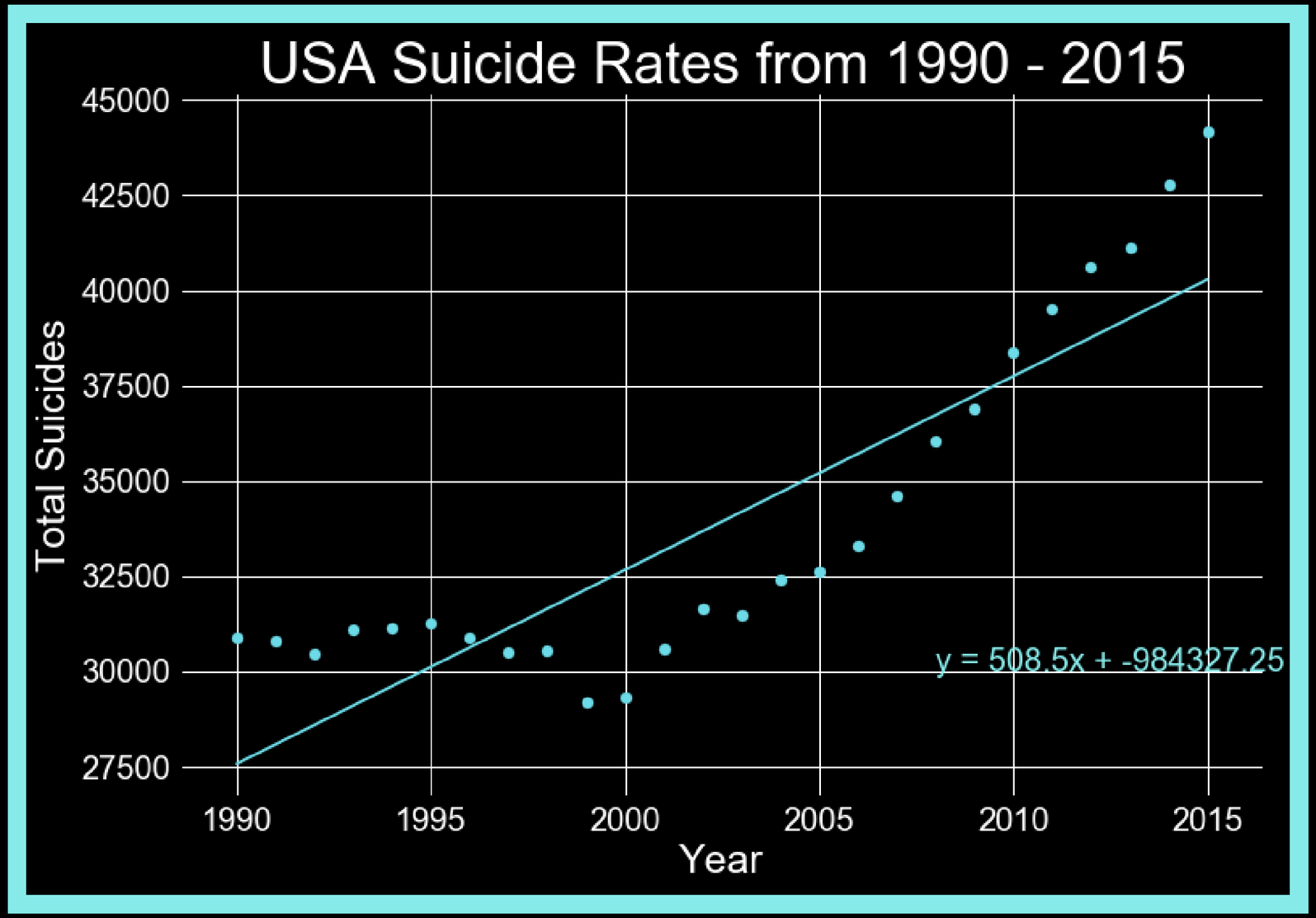
*Suicide is the third leading cause of death in 15-19-year-olds.

*Statistics obtained from WHO website.

What are suicide trends in the USA?

SUICIDE IN THE USA

10th	*Suicide Is the 10th leading cause of death In the US
r=0.87	The correlation coefficient for the number of suicides per year in the United States is 0.87
41K	The prediction value for 2018 Is 41,826
48K	*In 2018, 48,344 Americans died by suicide

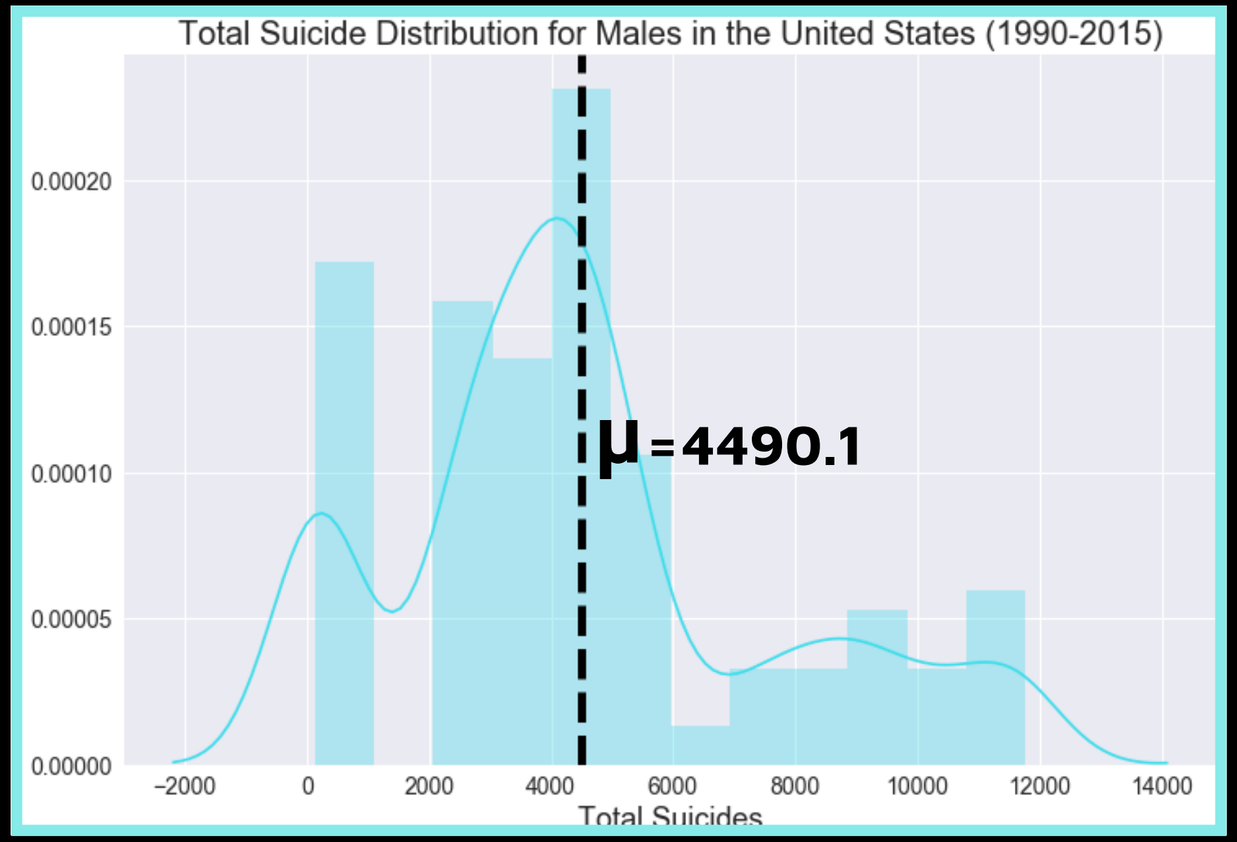


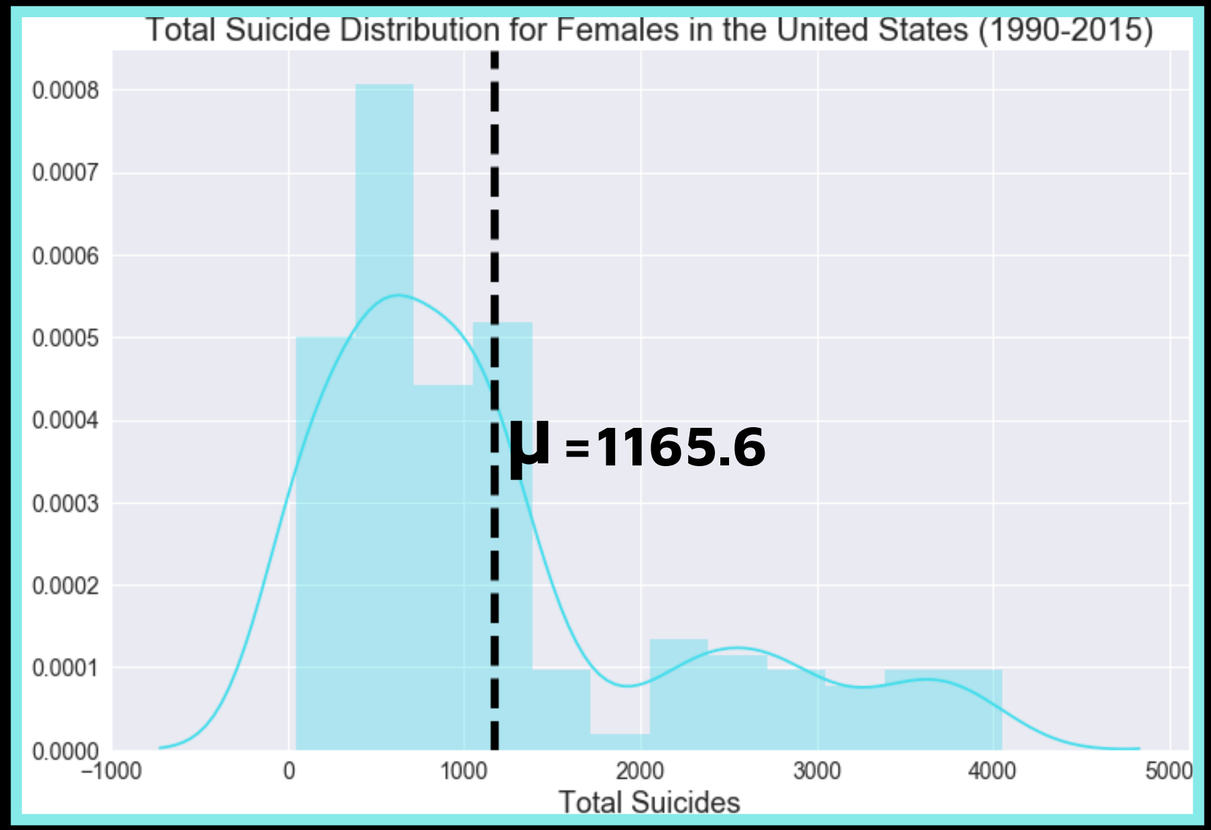
*Statistics obtained from CDC website.

SUICIDE AND GENDER IN THE USA T-TEST CODE

- independent t-test
- H(0): $\mu 1 = \mu 2$
- $\alpha = .05$
- statistic 12.663, p-value=.0007
- Accept H(A) alternate hypothesis

SUICIDE AND GENDER IN THE USA T-TEST





SUMMARY AND CONCLUSIONS

- **What are the global trends in suicide?**
  - Overall there has been a decrease in global suicides from 1995 to 2015.
- **Does gender play a role in suicide?**
  - Overall males have a higher rate of suicide compared to females globally.
- **Which age group falls victim to suicide most frequently?**
  - People aged 75 and older have higher rates of suicide.
- **What are the suicide trends in the US?**
  - There has been an increase in total suicides in the US from 1990 to 2015.

POST MORTEM

- **Additional topics we would like to explore:**
  - T-Test - why is there a significant difference in the number of suicides between males and females in the USA?
  - Human Development Index - there were several null values in the original source data; though this is a key metric when evaluating suicide.
  - The dataset gave us the "who" and "where." It would be interesting to explore more data that would help us to understand more of the ... "why?"

- **Challenges:**
  - Developing code as a group (ie merging code in github)

Questions?

SUICIDE PREVENTION RESOURCES

PHONE NUMBER

1-800-273-8255 (TALK)

EMAIL ADDRESS

jo@samaritans.org