

COVER PAGE

PRACTICAL ASSIGNMENT

Subject	UCCC3073 Data Science
Trimester	MAY 2021
Lecturer	Dr. Tong Dong Ling (tongdl@utar.edu.my)
Submission Date	(Monday, 16 August 2021, 5 p.m.)

Individual Information:

Name	Student ID	Programme
1) Tan Jing Jie	18ACB04560	CS
2) Jacynth Tham Ming Quan	18ACB01600	CS
3) Tan Wei Mun	18ACB03705	CS

Course Learning Outcomes Assessed:

CLO2	Assess and manipulate data sources from various online sources.
------	---

Assignment Criteria	Total Marks	Given Marks
Part 1	25	
Part 2	20	
Part 3	25	
Total	70	
Final	20%	

TABLE OF CONTENTS

COVER PAGE	i
TABLE OF CONTENTS	ii
LIST OF TABLES	iii
LIST OF FIGURES	iv
Task 1: Data Summary	1
Task 2: Initial Analysis	5
Task 3: Data Memo	10
3.1 Visualizing Suicide Rates by Geographical Location	10
3.2 Visualizing Suicide Rates by Gender	14
3.3 Visualizing Suicide Rates by Age	18
3.4 Explaining the Suicide Numbers Spike In 1985	20
3.5 Comparing Guyana, Lithuania, and the Republic of Korea	22
3.6 Recommendations	26
3.7 Conclusion	27

LIST OF TABLES

Table Number	Table Title	Page Number
Table 1.1	Data Attributes Details	2
Table 3.3.1	Generation Description	18
Table 3.5.1	Chosen Countries' Descriptions	22

LIST OF FIGURES

Figure Number	Figure Title	Page Number
Figure 2.1	Suicide Numbers per 100k Against Country GDP per Capita	5
Figure 2.2	Suicide Numbers and GDP Per Capita by Continent	6
Figure 2.3	Global Suicide Trend from 1985 to 2015	7
Figure 3.1.1	Global Suicide Numbers and Suicide Trends	10
Figure 3.1.2	An Overview of Suicide Numbers in Europe	11
Figure 3.1.3	Top 10 Suicide Numbers by Country (Europe)	11
Figure 3.1.4	An Overview of Suicide Numbers in The Americas	12
Figure 3.1.5	Top 10 Suicide Numbers by Country (The Americas)	12
Figure 3.2.1	Global Suicide Numbers and Trends by Gender	14
Figure 3.2.2	Global Suicide-Gender Pattern by Continent	15
Figure 3.2.3	Top 5 Countries by Suicide-Gender Proportion	16
Figure 3.2.4	Bottom 5 Countries by Suicide-Gender Proportion	16
Figure 3.3.1	Global Suicide Numbers and Trends by Age	18
Figure 3.3.2	Global Suicide Numbers and Trends by Age and Continent	19
Figure 3.4.1	‘High Risk’ Suicide Instances Between 1996 and 2015 (Grouped by Decade, Age & Sex)	20
Figure 3.5.1	Suicide Rate Comparison Between Guyana, Lithuania, and Republic of Korea	22
Figure 3.5.2	Suicide Numbers Comparison by Sex	23
Figure 3.5.3	Suicide Numbers Comparison by Age	24
Figure 3.5.4	Male Suicide Rate Comparison by Age Range	25
Figure 3.7.1	Interactive Tableau Dashboard	28

Task 1: Data Summary

According to the [World Health Organization](#) (WHO), one person dies by suicide every 40 seconds. Undeniably, suicide is a global phenomenon that the world has been battling since the dawn of time. One of the biggest challenges in this field is the inability to explain the spike in suicide rates in developed countries. Professionals have sought the root cause of suicide for years but to no avail. Hence, the objective of this project is to tackle the problem of inaccurate predictive analytics on suicide that still persists today.

Furthermore, in 2020, [The Commonwealth Fund](#) researchers reported that the United States of America, the country that spends the most on healthcare yearly, has the highest suicide rates among all the wealthy nations. The suicide rates in the USA reached a maximum of 14 deaths per 100 thousand people. This research hinted at a possible relationship between a country's economy and suicide rates. Thus, this project also aims to analyze global suicide trends and unravel the underlying correlation between suicide, wealth, and other demographics in order to mitigate the problems associated with suicide.

The dataset used in this project is titled “[Suicide Rates Overview 1985 to 2016](#)”. Inspired by suicide prevention, this Kaggle-based dataset originated from a combination of WHO, the United Nations Development Program, and the World Bank. This CSV dataset consists of 13 attributes and 27821 rows. Table 1.1 below tabulates the attributes in the chosen dataset, their descriptions, and their data types:

Table 1.1 Dataset Attribute Details

Attribute Name	Attribute Description	Attribute Type	Example Data
country	Country where data was recorded	nominal	Albania
continent	Continent where data was recorded	nominal	Europe
year	Year in which the data was recorded	interval, numeric	1987
gender	Gender of the suicide victims	nominal	Female
age	Age range of the suicide victims	interval, numeric	25 - 34
suicides_no	Number of suicide victims	ratio, numeric	21
population	Country's population	ratio, numeric	308000
suicides/100k population	Number of suicide victims per 100,000 of a country's population	ratio, numeric	6.71
country-year	Concatenation of country name and year	nominal	Albania1987
HDI for year	Human Development Index – a statistical index representing a country's education level, life expectancy and per capital income indicator for a particular year (used to rank countries in terms of human development)	ratio, numeric	0.619
gdp_for_year (\$)	Gross Domestic Product – the total monetary value of all the goods and services produced in a country (used to track a country's economy)	ratio, numeric	2,156,624,900
gdp_per_capita (\$)	Per Capita Gross Domestic Product – A metric calculated by dividing the GDP of a country by its population	ratio, numeric	796
generation	A group of people who are of similar age	nominal	Generation X

[Annual GDP \(gdp_for_year\) and GDP per capita](#) are frequently used by economists to estimate the health of a country's economy. Essentially, GDP per capita provides a much more accurate determination of a country's living standards as compared to GDP per year. Basically, a high GDP per capita means that a nation has a more efficient economy.

As evidenced by the table above, the chosen dataset consists of attributes related to the suicide victims' demography as well as the countries' yearly economic status. Hence, a thorough analysis is needed to find factors correlated to the increase in global suicide rates among different groups of people across the socio-economic spectrum. In order to solve the problems related to suicide, this project aims to answer the following questions:

- Do richer countries have higher suicide rates?
- Are there any correlations between gender and suicide rates?
- Do suicide rates increase with age?
- Is the current global suicide trend predicted to increase or decrease in the future?

Before the data analysis process, data cleaning was performed to smooth noisy data. Listed below are the key points of the data cleaning process:

- Seven countries (Cabo Verde, Dominica, Macau, Bosnia-and-Herzegovina, Oman, Saint-Kitts-and-Nevis, San Marino) were removed because they only had less than three years of data in total.
- Data for 2016 were removed because only a few countries had data for this year.
- HDI column was removed because it had ~66.67% missing data for all countries.

Next, an initial analysis is performed on the dataset to unravel key insights.

Part 1: Marking Rubric (25 marks)

Criteria	5 – 4 marks Excellent	3 marks Good	2 – 0 marks Unsatisfactory	Total
Data set (5 marks)	The selected data set has met all the requirements outlined in the assignment.	The selected data set has met most of the requirements outlined in the assignment but has some minor flaws.	The selected data set is not appropriate for the assignment.	
Description (5 marks)	The data set is clearly and thoroughly explained.	The data set is partially explained, leaving some important information out (ambiguity)	The description is mainly brief and leaving doubts to reader.	
Content (5 marks)	All questions are meaningful and are answerable from the data set.	At least two meaningful questions have been outlined and they are answerable from the data set.	Only one meaningful question has been outlined.	
Writing (5 marks)	A well-written and well-structured report with proper use of grammar, punctuation and spelling.	A relatively well-written report with some minor flaws on grammar, punctuation and spelling errors that do not impede overall understanding.	A fair-written report with major flaws on grammar, punctuation and spelling errors that may disrupt reader's understanding.	
Overall Understanding (5 marks)	Evidence of some extensive independent study to understand the data set.	Some good understanding on the chosen data set evident with a relatively detailed explanation on the data set.	Some evidence of an understanding on the chosen data set.	
TOTAL				

Task 2: Initial Analysis

Wealth Does Not Guarantee Happiness – Discoveries Show That Income and Other Demographics Affect Suicide Rates

Is wealth the new cause of suicide? An initial analysis of the Suicide Rates Overview 1985 to 2015 dataset discovered that richer countries have significantly higher suicide rates than middle-income and lower-income countries. In the past, the causes of suicide have been commonly afflicted with mental illnesses, stress, financial difficulties, etcetera. However, one of the key insights discovered was a weak but significant positive correlation between wealth and suicide rates, as illustrated in the scatterplot below.

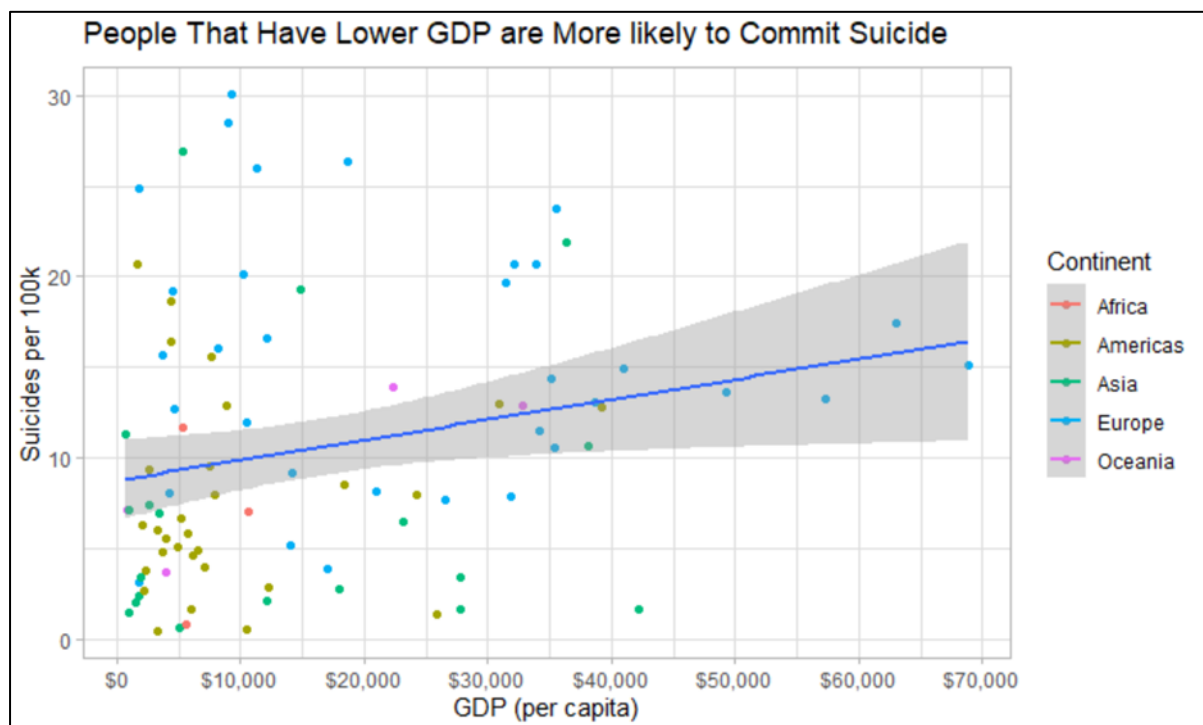


Figure 2.1 Suicide Numbers per 100k Against Country GDP per Capita

As observed in the figure above, many poor countries tend to have higher suicide rates. This can be explained due to the suicide victims' inability to cope with financial stress, which tally with the general perspective of suicide. However, surprisingly, the statistics found that more prosperous countries defied the claim that wealthier people tend to live happier lives. Instead of a negative correlation between suicide numbers and a country's GDP, a slightly positive correlation was observed in the scatterplot.

To confirm whether this astonishing trend is observed by all continents in the dataset, the suicide rates and GDP per capita are visualized by continent as shown in the figure below. The red lines represent the suicide rates, and the blue lines represent the GDP per capita trend for each continent.

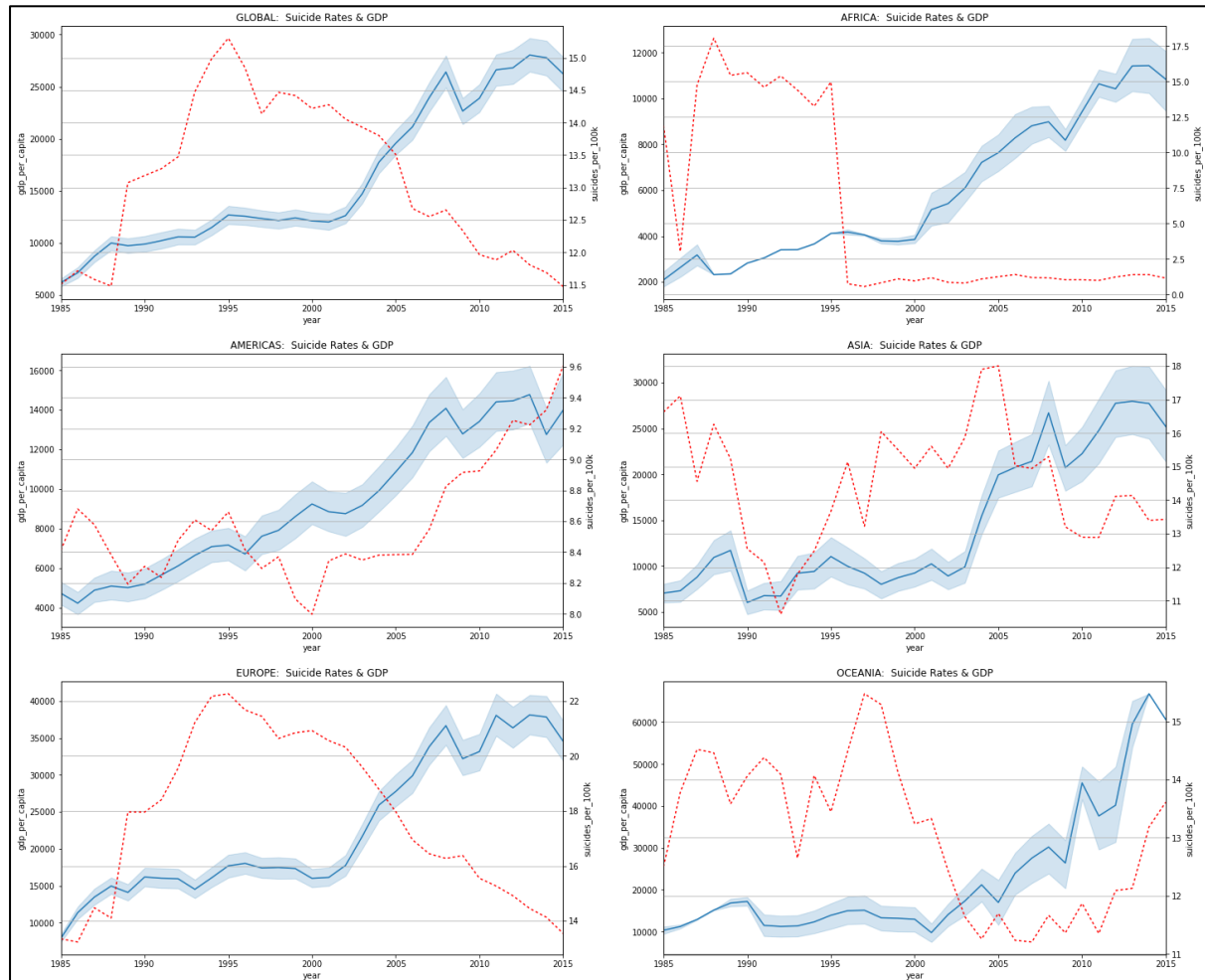


Figure 2.2 Suicide Numbers and GDP per Capita by Continent

In the figure above, the global trend showed an interesting finding. Initially, the worldwide GDP per capita was low, which corresponded to high suicide rates. When the GDP per capita started to rise from 2003 onwards, the suicide rates responded with a gradual declination. Similar trends were observed by Europe and Africa. Furthermore, Asia had fluctuating trends for both suicide rate and GDP per capita. Upon closer inspection, a positive correlation between suicide rate and GDP per capita can be seen from 2007 onwards. Similarly, for the Americas and Oceania, positive correlations between suicide rates and GDP per capita were observed. In other words, this translates to a rise in suicide rates when the continent is richer (higher GDP per capita).

A possible explanation for this phenomenon is because richer people such as celebrities tend to upkeep a good image. Any suicidal thoughts, if caught by the media, might reflect negatively on wealthy people. Due to social pressure, wealthy people are less likely to seek for help from suicidal prevention organizations, resulting in abnormally high suicide rates in a particular continent.

The positive correlation between a country's wealth and suicide rates has ignited a passion for further analysis on the relationship between other demographics (gender, age, and geographical location) and suicide numbers.

Next, the global suicide rate trend was zoomed in on for a closer look. Before the initiation of the in-depth analysis, another key trend of the suicide dataset – the relationship between suicide cases and years – was analyzed and illustrated in the figure below.

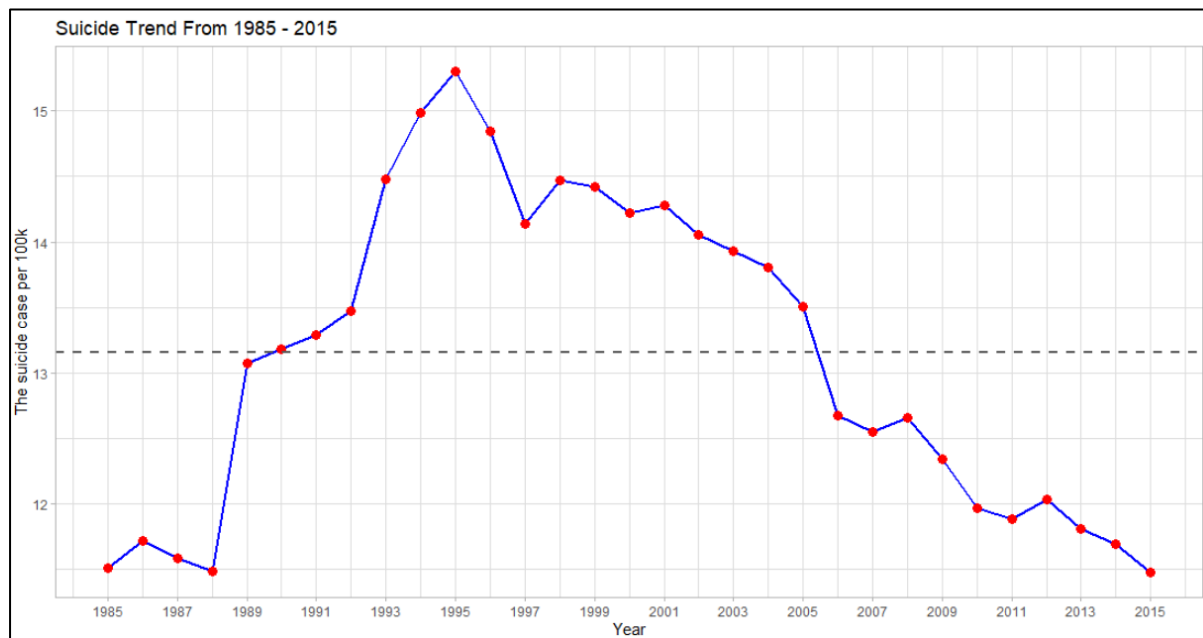


Figure 2.3 Global Suicide Trend from 1985 to 2015

As evidenced by the figure above, the global suicide trend once experienced a surge in numbers that began in the late 1980s and lasted for seven years. After 1995, suicide rates plummeted to below the global average annual suicide rate of 13.1 deaths per 100 thousand people. Fortunately, global suicide rates are predicted to drop even further beyond their pre-90's rates after 2015. To explain the suicide trend across the years, demographic factors need to be investigated.

Besides the need to further explore the relationship between demographics and suicide rates, one interesting finding to be analyzed and explained is the sudden soar in suicide rates in 1995. The results and findings of the in-depth analysis are described in the following section.

Part 2: Marking Rubric (20 marks)

Criteria	5 – 4 marks Excellent	3 marks Good	2 – 0 marks Unsatisfactory	Total
Lead Sentence (5 marks)	The lead sentence clearly and concisely illustrates the most interesting thing in the data set in a way that makes the reader want to learn more.	The lead sentence illustrates something interesting in the data set but is not written as clearly and concisely as it could be.	The lead sentence does not do a good job of identifying something interesting in the data set and/or does not make the reader want to know more.	
Statistical summary (5 marks)	The summary clearly shows key insights of the data set.	The summary shows some insights of the data set.	The summary does not show key insights from the data set.	
Visualisations (10 marks, maximum 5 marks can be awarded if only one chart is provided)	All visualisations clearly illustrate key insights of the data set and contain a strong “takeaway” message. All visualisations are easy to read and understand.	The visualisations illustrate some insights of the data set and are easy to read and understand.	The visualisations do not illustrate key insights of the data set and/or contain major flaws.	
TOTAL				

Task 3: Data Memo

This data memo describes the findings on the correlations between demographics and suicide rates to unravel underlying patterns. As the severeness of suicides affects the global population, this data memo targets **suicide prevention organizations** and the **general public** worldwide.

3.1 Visualizing Suicide Rates by Geographical Location

There is a need to visualize the suicide rates by continent and country to gain insights on the existence of a correlation between suicide rates and a person's geographical location. The figure below shows the suicide numbers grouped by continent and the suicide trend from 1985 to 2015.

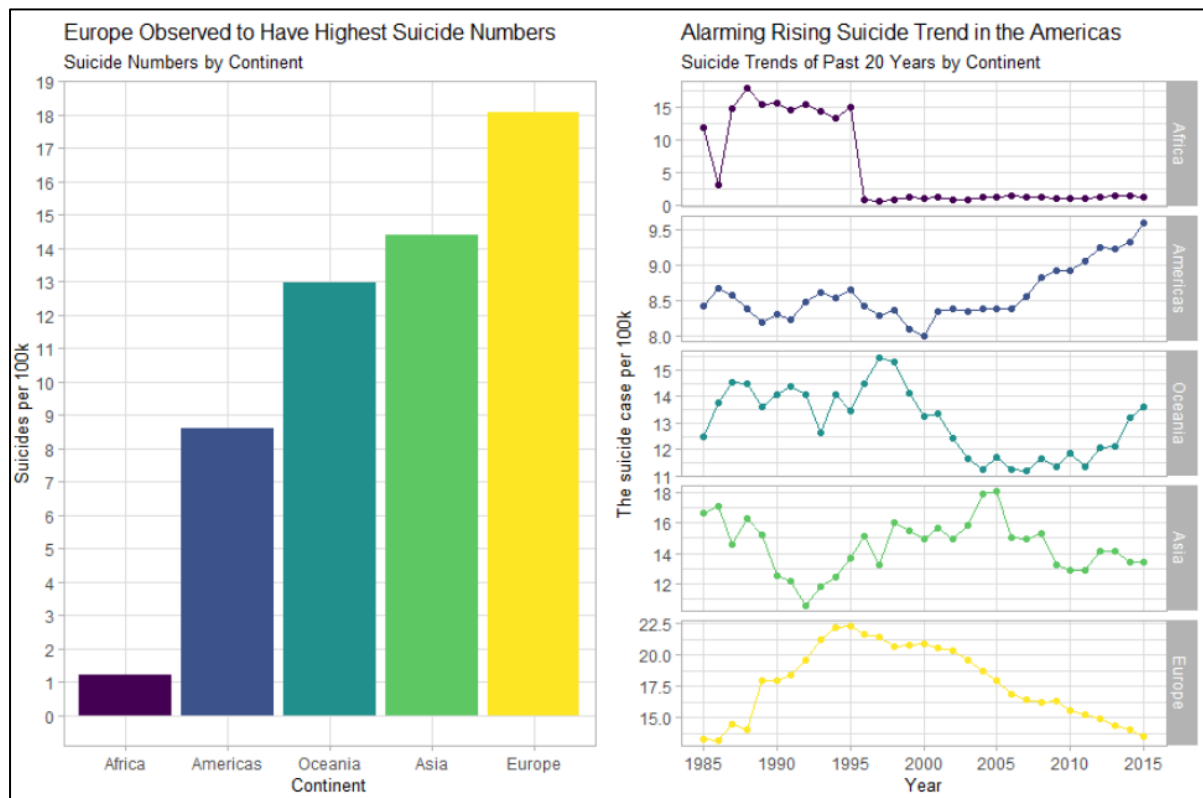


Figure 3.1.1 Global Suicide Numbers and Suicide Trends

The figure above shows that Europe had the highest suicide numbers overall but experienced a steady 40% decline in the suicide trend since its peak in 1995. Furthermore, Asia and Oceania had fluctuating suicide rates throughout the years. Besides, the suicide trend of Africa was not explainable due to the lack of records. However, the most alarming trend was the rising suicide trend in the Americas from 2006 to 2015.

The figures below illustrate the heatmaps and top ten countries with the most suicide cases for Europe and the Americas, respectively:

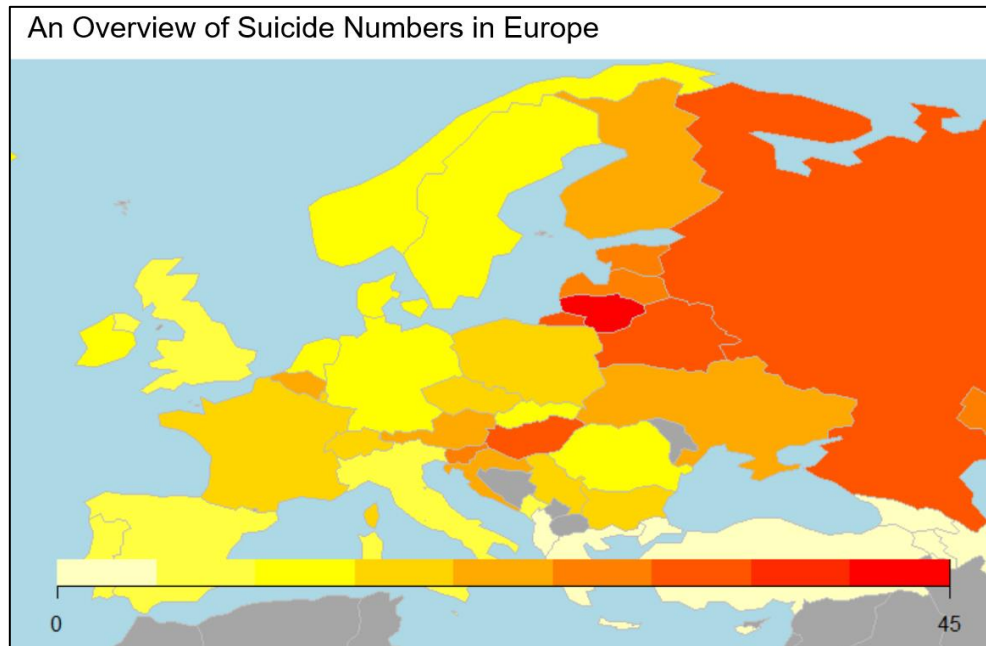


Figure 3.1.2 An Overview of Suicide Numbers in Europe

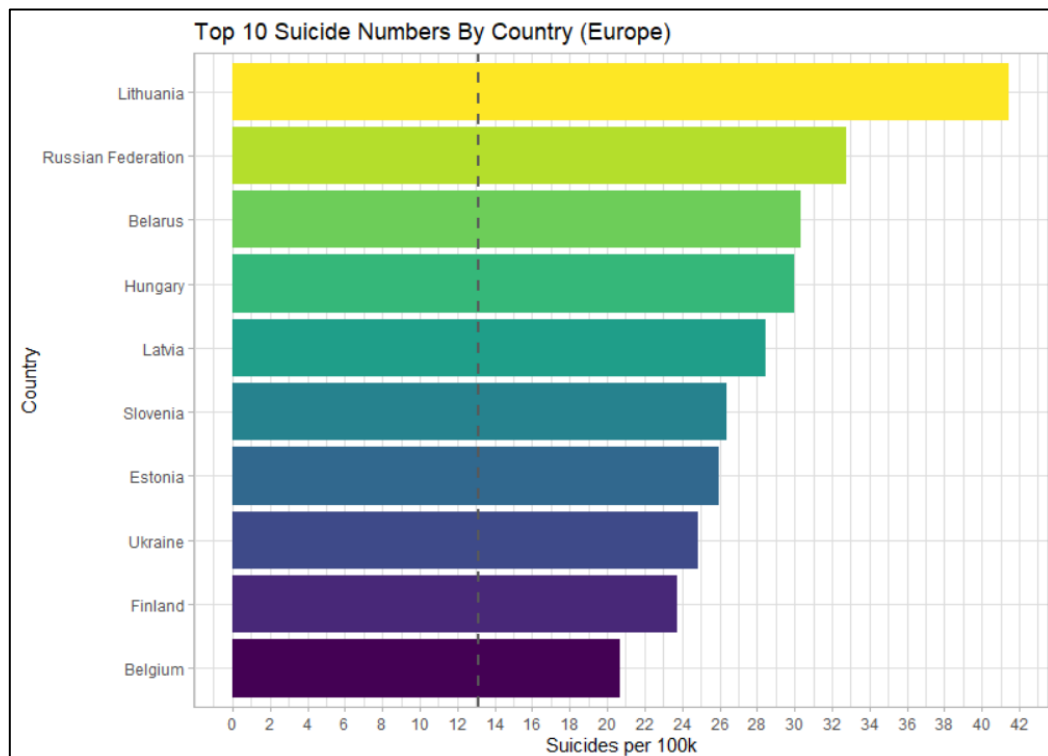


Figure 3.1.3 Top 10 Suicide Numbers by Country (Europe)



Figure 3.1.4 An Overview of Suicide Numbers in The Americas

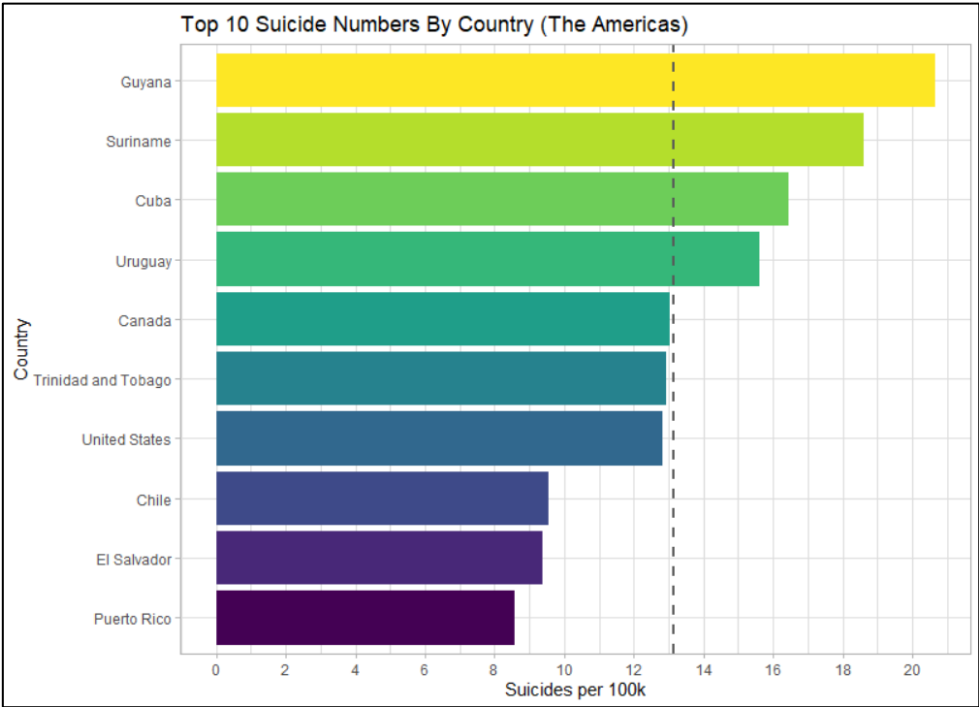


Figure 3.1.5 Top 10 Suicide Numbers by Country (The Americas)

Zooming in on the Americas and Europe, it is observed that Guyana and Lithuania had the highest suicide numbers of the two continents, respectively. Generally, European countries had higher suicide numbers compared to that of the Americas.

Several studies have seconded the suicide numbers of the Americas, and Europe visualized as well as explained the suicide trends for the mentioned countries. [Konstantinos et al.\(2018\)](#) suggested that the peak of suicide numbers in Europe was caused by the 2008 global economic crisis, which resulted in a rise in unemployment and, thus, suicide numbers. Supporting this thought, [The Lancet\(2011\)](#) reported an increase of 40% in Europe's suicide rates during this crisis. Similarly, another report by [The Lancet\(2012\)](#) related the increase in USA suicide rates with the same economic crisis that hit Europe. All three reports explicitly linked the continents' suicide numbers with the economic status at the time of data collection. Therefore, in the subsequent subsections, more emphasis will be placed on these two continents.

3.2 Visualizing Suicide Rates by Gender

Next, the dataset was analyzed to find possible correlations between suicide numbers and gender. The figure below illustrates the global suicide trends by gender.

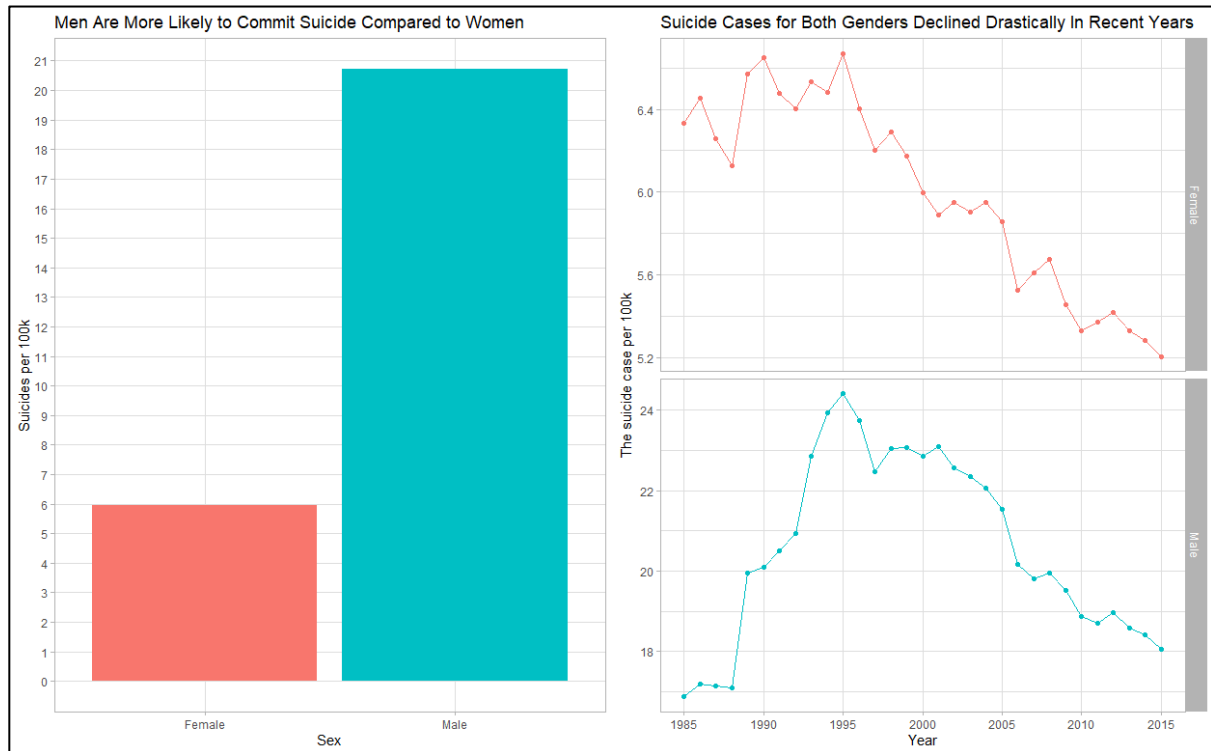


Figure 3.2.1 Global Suicide Numbers and Trends by Gender

The figure above evidenced that men were more likely to commit suicide compared to women. Globally, the rate of suicide for men was 3.5 times higher than women. The ratio of male to female suicide victims before the 1980s was 2.7:1. This ratio increased to 3.5:1 in the mid-1990s and has been consistent ever since. In order to confirm if all countries observed this global trend, the figure below illustrates the suicide numbers against gender grouped by continent.

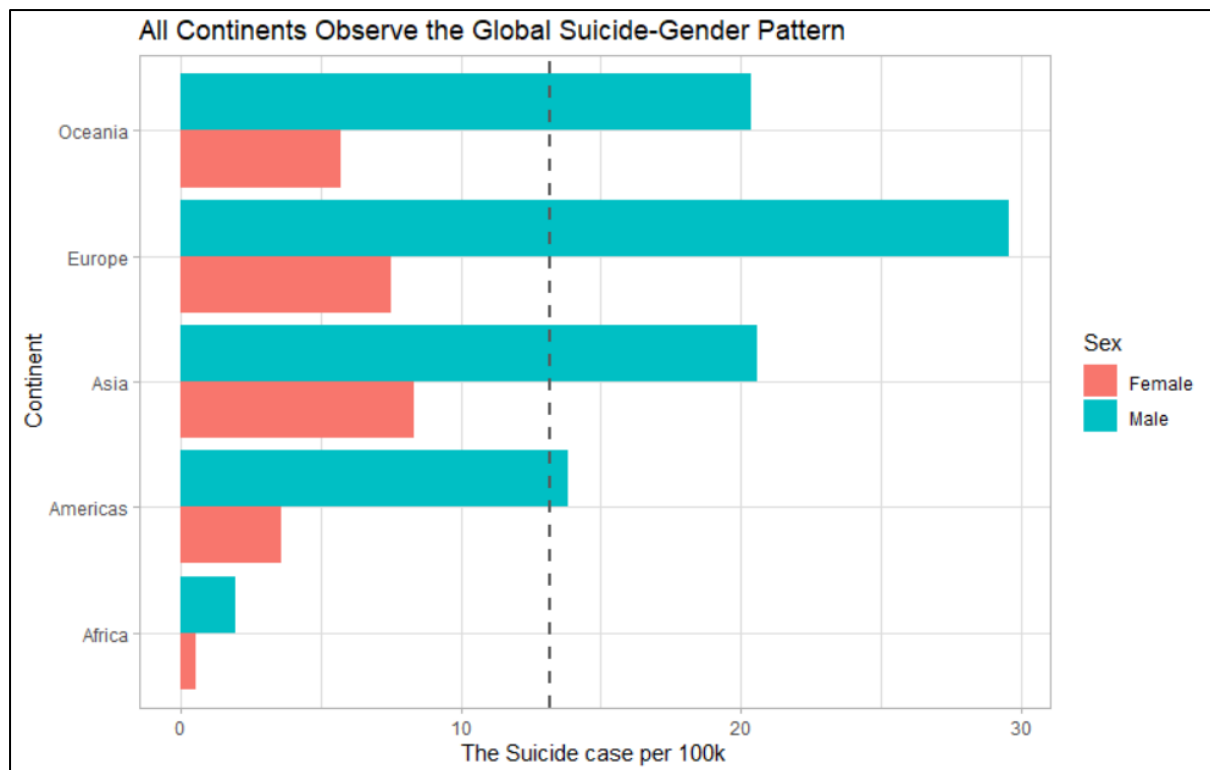


Figure 3.2.2 Global Suicide-Gender Pattern by Continent

The figure above shows that all the continents have more male suicide victims compared to females. Next, the top five and bottom five countries are ranked in terms of their suicide-gender proportion.

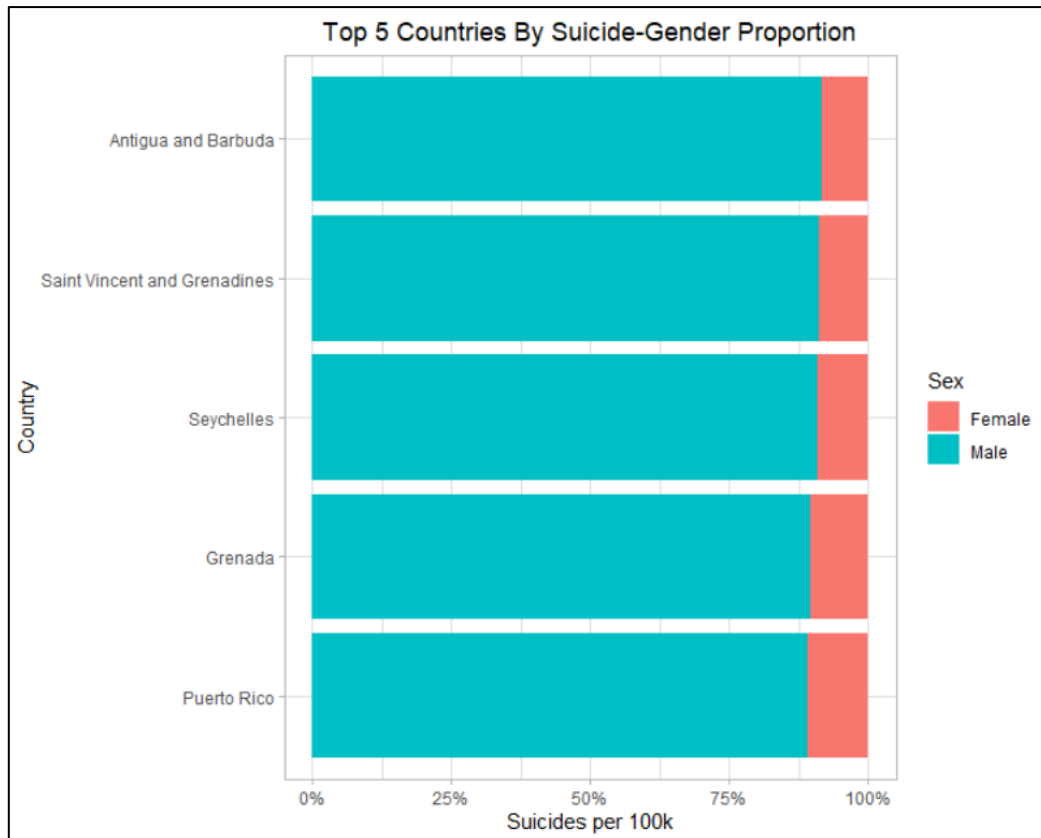


Figure 3.2.3 Top 5 Countries by Suicide-Gender Proportion

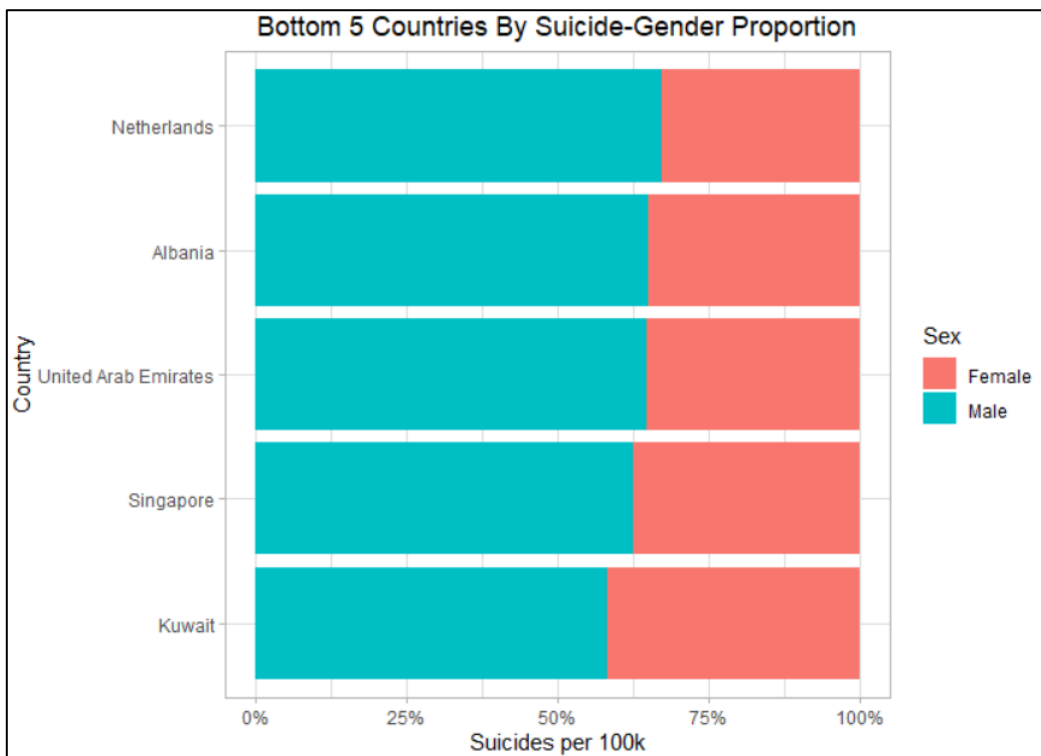


Figure 3.2.4 Bottom 5 Countries by Suicide-Gender Proportion

The figures above clearly show an overrepresentation of males in suicide deaths across all countries. As of 2020, [Statista](#) listed four of the bottom five countries (excluding Albania) as part of the world's most gender-equal countries. Gender equality translates to academic and working rights to both genders, which can explain the more balanced male-to-female ratio in suicide numbers. The opposite is true for the top five countries in figure 3.2.3.

The patterns in the examined data between suicide numbers and gender can be explained by previous studies. A study by [Canetto](#) suggested that the differences in cultural influences between genders resulted in the suicide trend that favored males. Canetto's study stated that cultural narratives of gender, such as how a particular gender should portray themselves in public was the main culprit behind the majority of the suicide cases. For example, females often became suicidal in response to relationship issues. On the other hand, males often became suicidal in response to academic and work-life issues. Moreover, the survey by Canetto evidenced that males were also less likely to seek help when faced with issues due to the gender stereotype that males should have more significant mental strength compared to females. Furthermore, an article by [Milne](#) said that even though more females were more likely to attempt suicide, males were more likely to die from a suicide attempt; hence the male-biased ratio illustrated in the figure above. This is known as the gender paradox on suicidal behavior. Hence, there is a need to emphasize more on males in suicide prevention events.

3.3 Visualizing Suicide Rates by Age

Next, the dataset was analyzed to discover patterns between suicide rates and age ranges. The original dataset provided two attributes related to age – age range and generation. As the generation corresponds to the age range, the visualizations in this section are only based on the age ranges. For reference, the corresponding generations for each age range are tabulated below:

Table 3.3.1 Generation Description

Generation	Age Range	Characteristics
Generation Z	6 – 24	Very well-versed with technology and social media
Millennials	25 – 40	Considered the most independent workers in society
Generation X	41-56	Committed to balancing work and family obligations, and favouring work-life balance in the workplace
Baby Boomers	57-75	Stereotyped as workaholics who like lengthy workweeks and overtime.
Silent Generation	75+	Emphasized values such as hard work, loyalty, and thriftiness

The figure below illustrates the global suicide numbers and suicide trends by age.

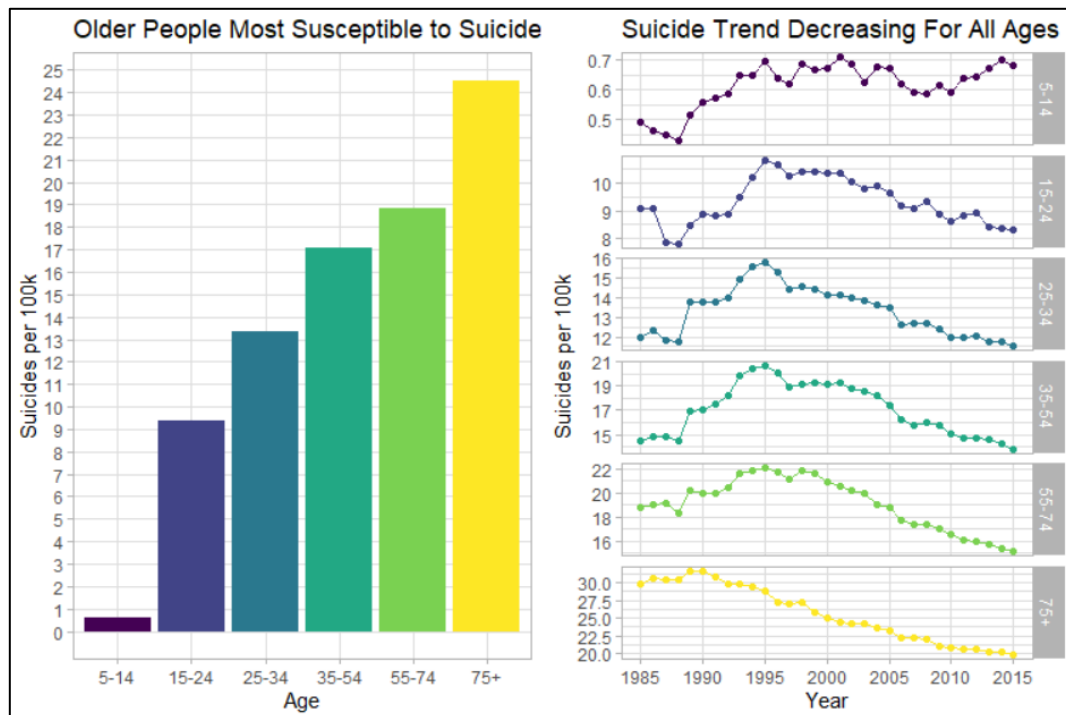


Figure 3.3.1 Global Suicide Numbers and Trends by Age

The figure above clearly shows that there is a positive correlation between age and suicide numbers. However, a decreasing suicide trend is observed for all age ranges. Older people aged 75+ had the highest suicide numbers but the steepest decline in the suicide trend. Next, the suicide numbers are categorized according to the continent to observe if all continents follow the global trend.

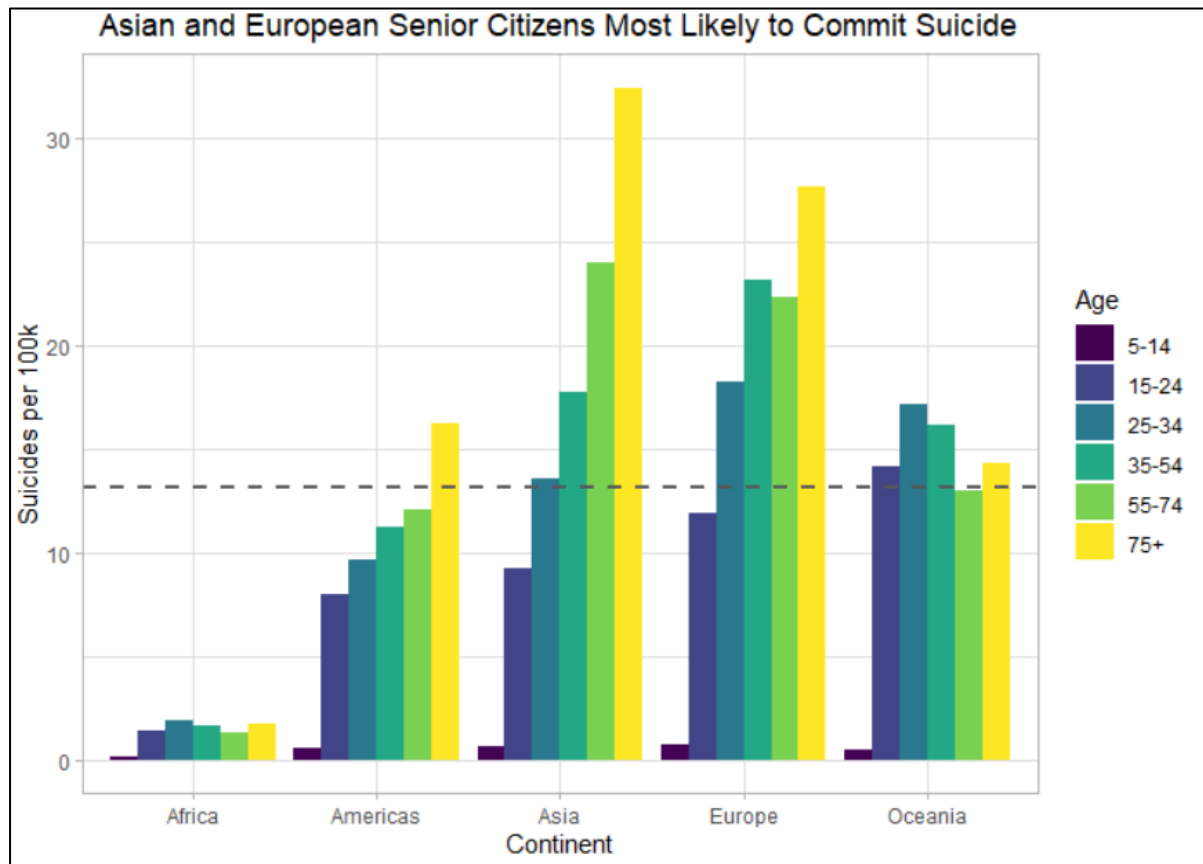


Figure 3.3.2 Global Suicide Numbers and Trends by Age and Continent

The figure above evidence that the majority of the continents followed the global suicide-age trend, with Asia and Europe having the highest number of suicide numbers for people aged 75+. However, in Oceania and Africa, the suicide rates were the highest for people aged 25-34.

An article by [AAMFT](#) seconded the suicide-age trend by suggesting reasons why the elderly may be more susceptible to suicide. These reasons include the loss of motivation to live, feelings of social disconnectedness, and the hopelessness that increases with age. Furthermore, a study by [Conejero et al.](#) evidenced that the elderly were more vulnerable to depression symptoms, which contributed to the suicide-age trend shown. Conejero also stressed the importance of tailored suicide prevention programs for older adults aged 75+.

3.4 Explaining the Suicide Numbers Spike In 1985

As observed in [Task 2](#), there was a spike in suicide numbers in 1985. Therefore, there is a need to look into the “high-risk” (>50.1/100k) suicide trends of 1985 and its three following decades (1986 to 2015).

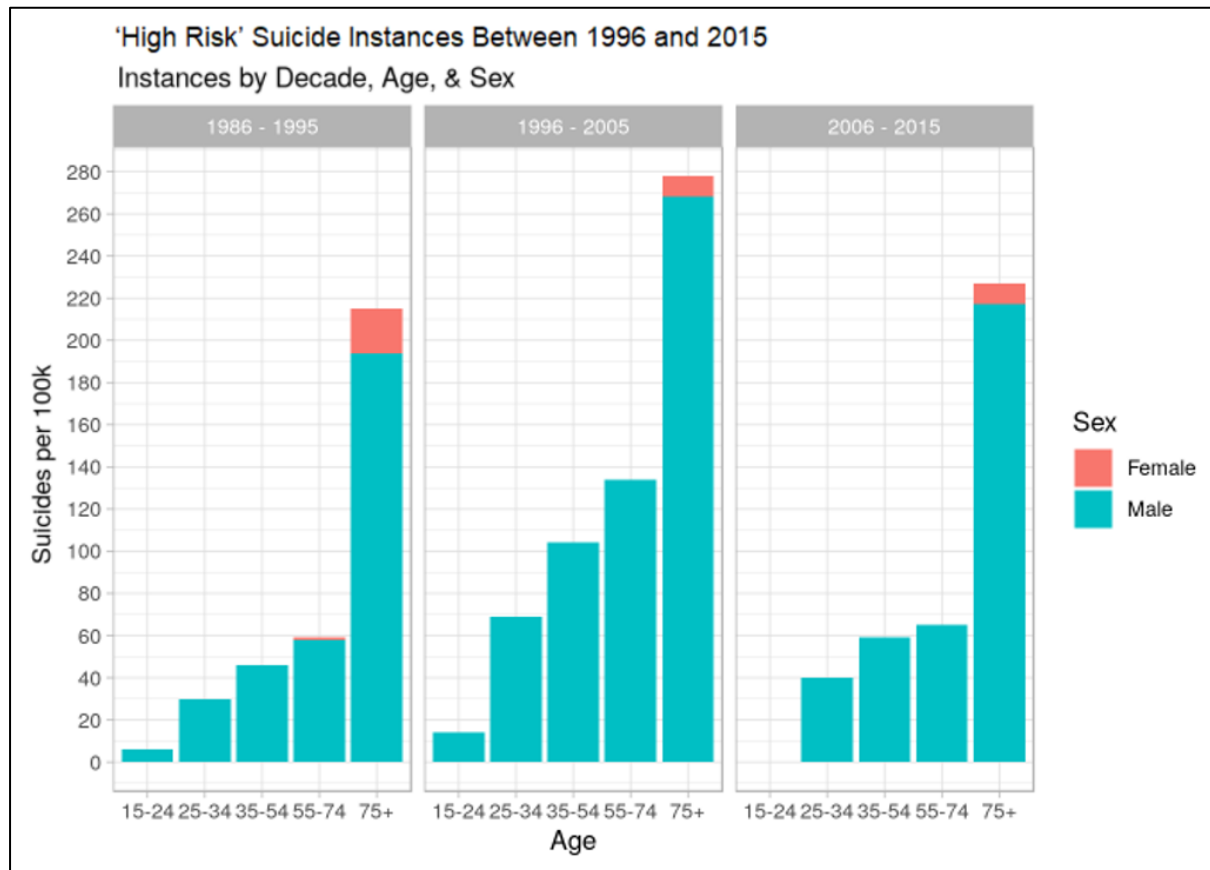


Figure 3.4.1 'High Risk' Suicide Instances Between 1996 and 2015 (Grouped By Decade, Age & Sex)

The figure above evidenced that 44.5% of the highest suicide instances in history happened in the 1996-to-2005-year range. Moreover, 53.5% of this percentage were present in the 75+ age category. Overall, 96.9% of the instances were of male demographics. It should also be noted that the highest suicide rate in history is 225 suicides/100k in one year. These statistics showed that men aged 75+ were most likely to commit suicide in history.

A study by [Canetto](#) explored the causes of suicide in white, older men from 1932 to 2005. Canetto explained that traditionally, men were expected to be dominant and compelling. When the majority of men reached the ages of 70+, they were unable to deal with the “indignities of aging”, which had led to the rise in suicide cases among old men. Canetto’s

studies also stated that factors such as wealth and health did not trouble older men, which placed the blame solely on mental thoughts.

3.5 Comparing Guyana, Lithuania, and the Republic of Korea

The table below tabulates the reasons for selection and descriptions of the three chosen countries:

Table 3.5.1 Chosen Countries' Descriptions

Country	Continent	Reason for Selection	Notes
Guyana	The Americas	Had the highest suicide numbers in the Americas (Evidence in section 3.1)	Records started from 1988 to 2013
Lithuania	Europe	Had the highest suicide numbers in Europe (Evidence in section 3.1)	Records started from 1995 to 2015
Republic of Korea (South Korea)	Asia	Discovered to have the steepest upward suicide trend in the whole of Asia. This country was chosen because Malaysia was absent in the dataset	Records started from 1985 to 2015 (No missing years)

First, a general comparison of the three countries' suicide trends across the years is visualized.

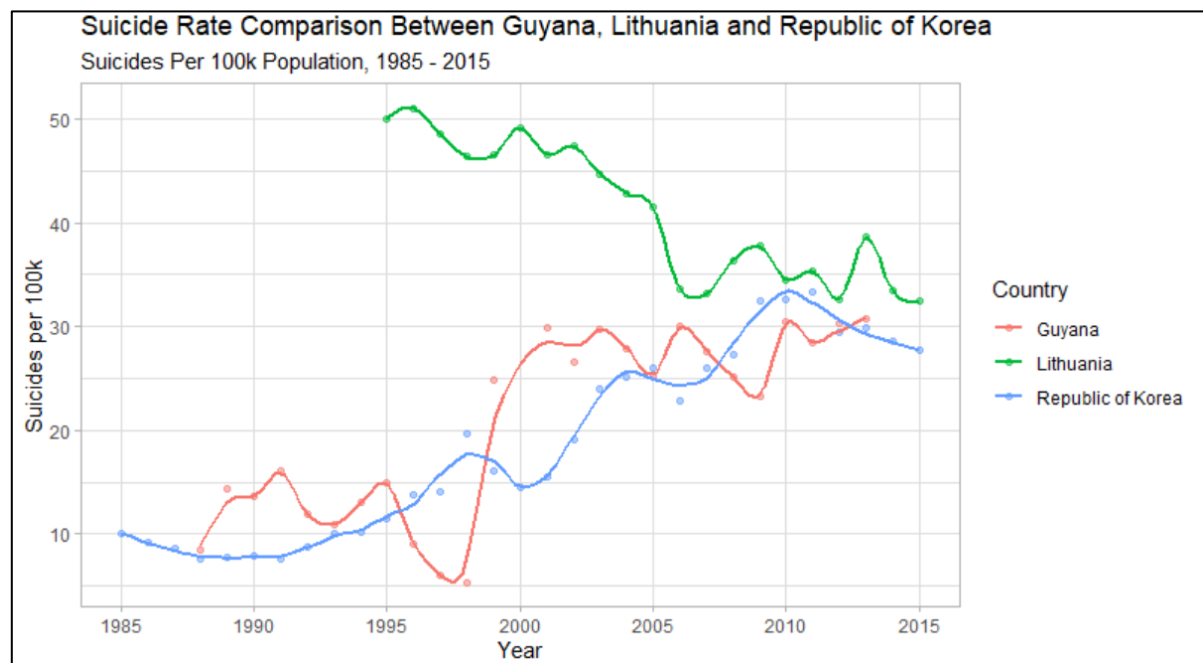


Figure 3.5.1 Suicide Rate Comparison Between Guyana, Lithuania, and Republic of Korea

As seen in the figure above, even though Lithuania had the highest number of suicide numbers globally, it observed a decreasing suicide trend from 1995 to 2015. On the other hand, the suicide trend of Guyana tallies with the global USA trend, which was a steep upward trend by the end of 2015. Similarly, South Korea also portrayed a concerning upward suicide trend, with only a slight decrease from 2010 to 2015.

Next, in order to analyze the most recent suicide trends, the three countries were compared in terms of their suicide numbers for 2010 to 2015, categorized by gender.

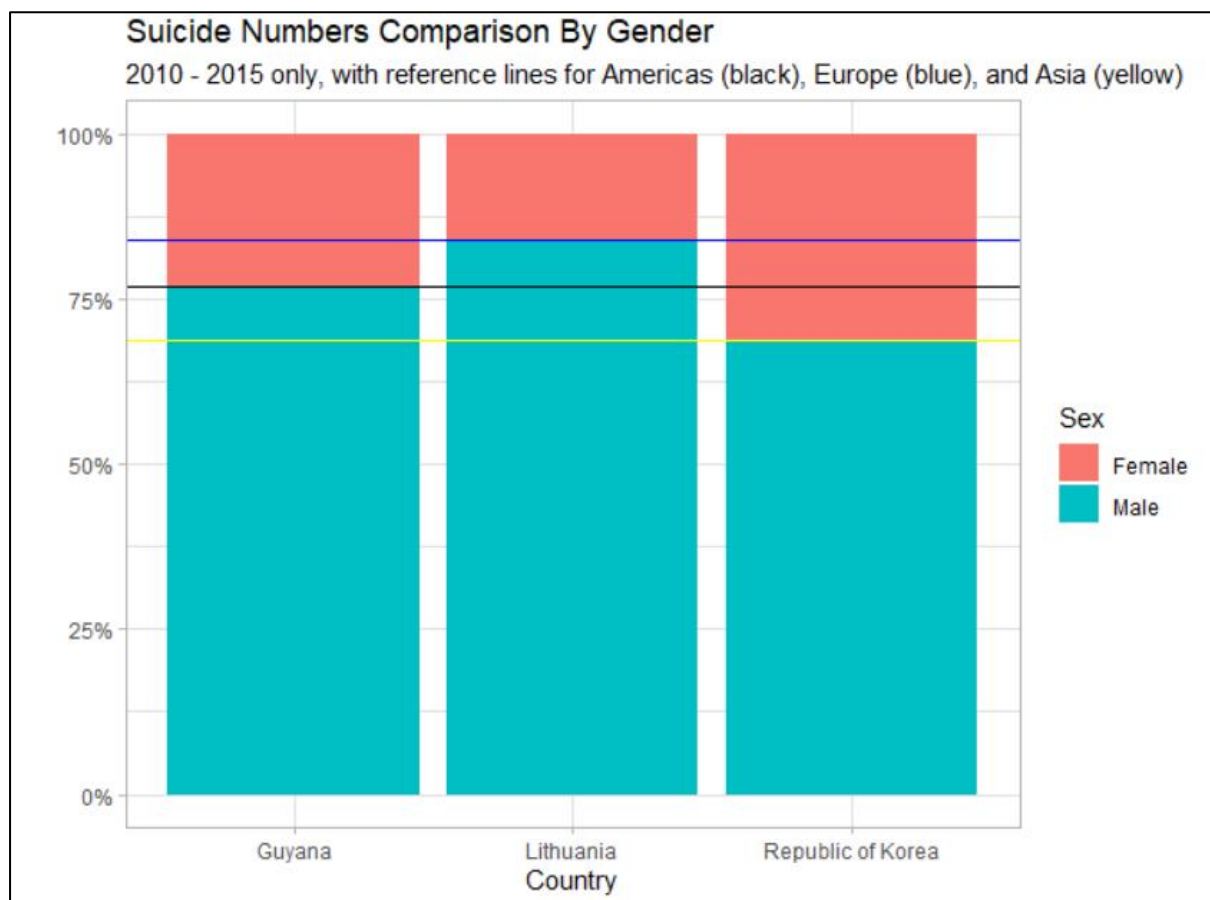


Figure 3.5.2 Suicide Numbers Comparison by Sex

From the figure above, it is noticed that men made up more than 70% of deaths by suicide in all three countries. By proportion comparison, Lithuania had the highest proportion, and South Korea had the lowest. This graph confirms the presence of the gender paradox in suicidal behaviors explained in [section 3.2](#).

Furthermore, the three countries are compared in terms of their suicide-age trends in the figure below:

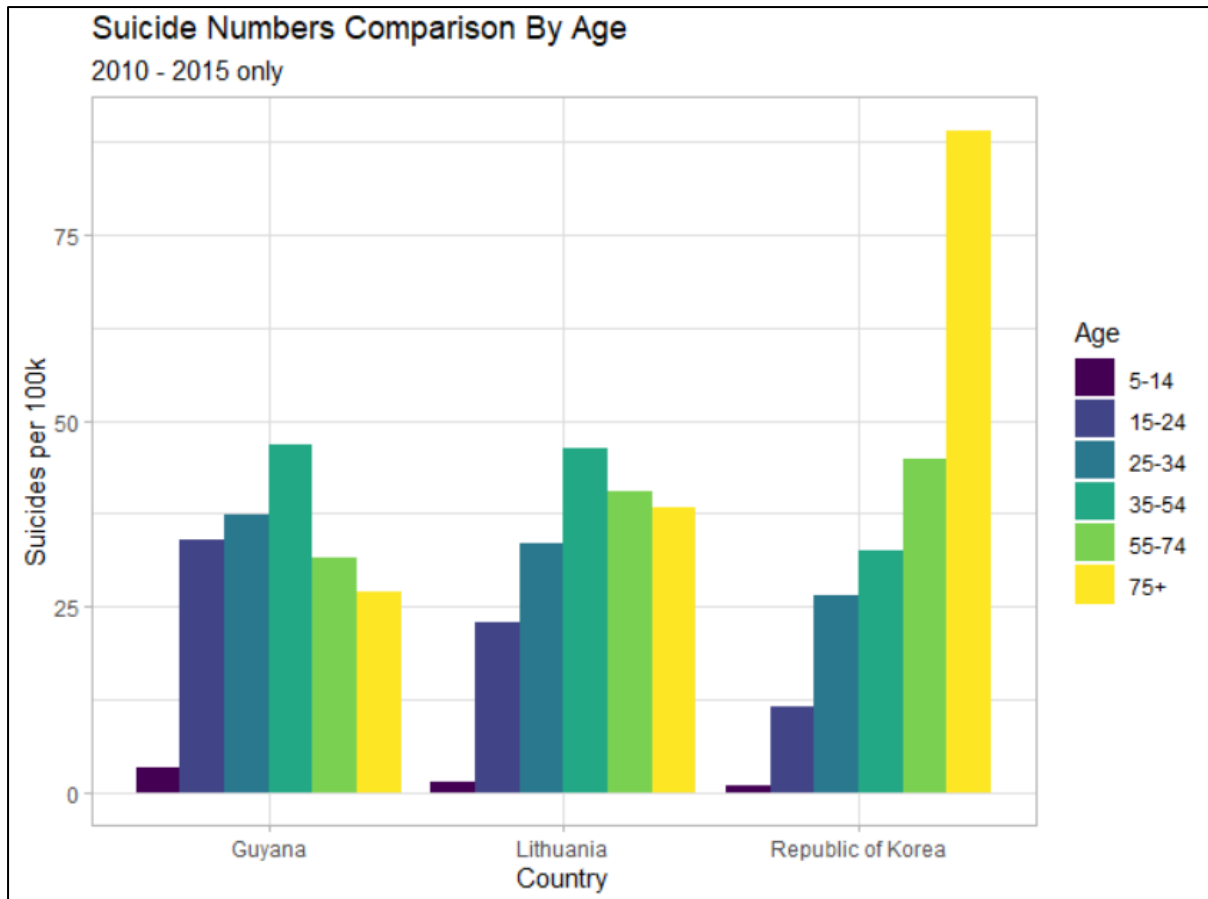


Figure 3.5.3 Suicide Numbers Comparison by Age

As observed in the image above, the majority of Guyana and Lithuania suicide victims were aged 25-34, which did not tally with the global suicide-age trend explained in [section 3.3](#). Furthermore, South Korea had an abnormally high suicide number of people aged 75+. For all three countries, there were very few suicide cases for the 5-14 age range. Therefore, the suicide-gender trends for males will be tabulated with the suicide-age trends omitting this age range.

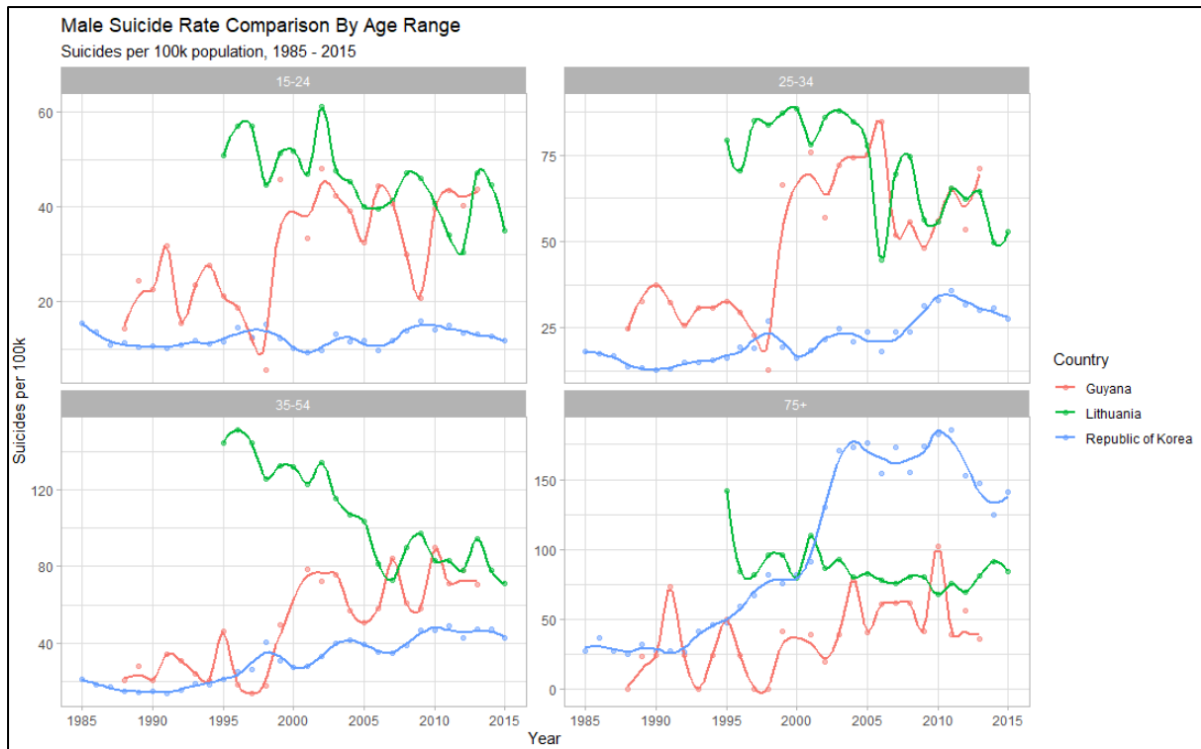


Figure 3.5.4 Male Suicide Rate Comparison by Age Range

The figure above showed that Lithuania had mild fluctuations for men of all ages, with an overall decreasing trend. Furthermore, Guyana had rather drastic fluctuations for men of all ages, with an overall increasing trend. The situations observed in Lithuania and Guyana were similar to that of the global trend for the respective demographics. The most surprising trend, however, was from South Korea. Men of 15 to 54 years old observed a relatively flat trend, but men aged 75+ had a steep increase from 1990 to 2010.

A study by [Park et al.](#) explains the trend observed by South Korea. According to Park, many impoverished older adults in South Korea commit suicide as not to burden their families due to the country's poorly funded welfare system. As a result, suicide rates were often higher in rural areas and areas where elderly discrimination is prominent. Putting these statistics into context, a study by [Kim and Park](#) stated that South Korea had successfully revamped its government efforts in 2014 to decrease suicide numbers by 4.1%.

3.6 Recommendations

1. Tailor Suicide Prevention Programmes to Older Men

As older men are more likely to commit suicide, special motivation programs should be tailored to their needs. Factors such as social connectedness, care for physical and mental health problems, and skills in adapting to change should be emphasized on explicitly.

2. Organize Secretive Support for Depressed Wealthy People

Rich celebrities may turn down emotional support because suicidal thoughts may tarnish their reputation. Therefore, suicide prevention organizations should provide secretive support, in which confidential documents would have to be signed. This ensures that well-known people feel safe when seeking mental support, thus, reducing suicide numbers.

3. Emphasis on Suicide Prevention Awareness in Developing Countries

The best way to depict suicide is to educate the public on suicide. Suicide prevention activities should be promoted in schools and public areas to ensure that people understand the symptoms of suicide and how to seek help when needed.

3.7 Conclusion

In conclusion, the data analysis performed was able to answer all the questions in [Task 1](#). The answers to each of the project's questions are summarized below:

1. Do richer countries have higher suicide rates?

Yes. The [initial analysis](#) performed yielded positive correlation between a country's GDP and suicide rates because wealthy people tend to keep suicidal thoughts to themselves.

2. Are there any correlations between gender and suicide rates?

Yes. Males are more likely to commit suicide compared to females due to the gender paradox in suicidal behavior.

3. Do suicide rates increase with age?

Yes. The global suicide-age trend shows a positive correlation between age and suicide rates because as people age, they tend to feel stressed and hopeless.

4. Is the current global suicide trend predicted to increase or decrease in the future?

The global trend has been decreasing since its peak in 1995 and is predicted to continue decreasing in the future.

For custom comparisons between other countries, an interactive dashboard is provided [here](#).

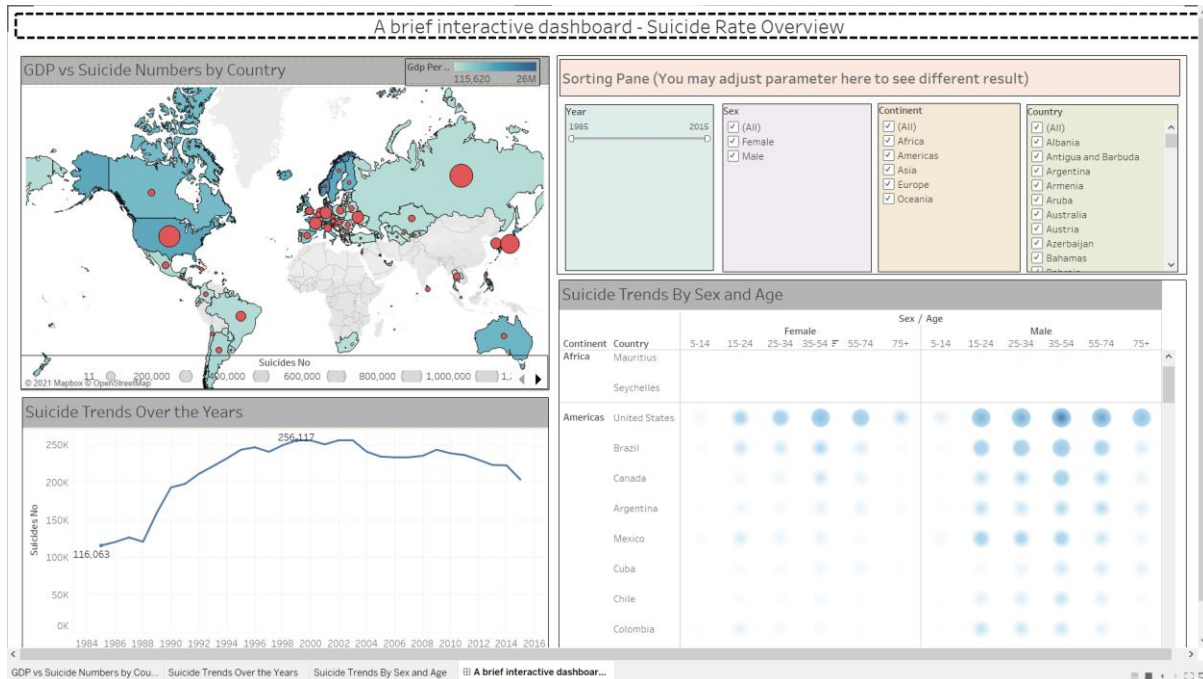


Figure 3.7.1 Interactive Tableau Dashboard

Part 3 Marking Rubric (25 marks)

Criteria	5 – 4 marks Excellent	3 marks Good	2 – 0 marks Unsatisfactory	Total
Length Requirements (5 marks)	The report is in-between 1,500 and 2,000 words and has at least six charts.	The report is too short or too long but only by a few hundred words and/or there are four or five charts in the report.	The report is significantly longer or shorter than it should be and/or it falls well short of the number of required charts.	
Writing (5 marks)	A well-written and well-structured report with proper use of grammar, punctuation and spelling.	A relatively well-written report with some minor flaws on grammar, punctuation and spelling errors that do not impede overall understanding.	A fair-written report with major flaws on grammar, punctuation and spelling errors that may disrupt reader's understanding.	
Ideas and Insight (5 marks)	Some clear, compelling points have been derived from the data analysis and an appropriate recommendation has been proposed.	Some clear, compelling points have been derived from the data analysis, but some key insights have been overlooked.	The insights and ideas are not clearly presented.	
Visualisations (5 marks)	The charts clearly illustrated key insights of your findings. The charts are appropriately sized to be easily read within the report	The chart illustrates some insights of your findings.	The charts do not illustrate key insights of your findings.	
Outside Sources (5 marks)	At least six outside sources have been well-summarised and referenced in the report. The sources are meaningful and greatly improve the readability and content of the report.	The outside sources are adequately summarised but some of the sources does not contain meaningful information.	Little meaningful reference to published literature and mainly are “nice-to-know” information.	
TOTAL				

This page is intentionally leave blank.