



SUICIDE AND ITS POTENTIAL FACTORS

MSIN1067 Data Visualisation

Group Coursework

Group 18

Word Count: 4000

TABLE OF CONTENTS

1. Introduction

2. Formulating Design Brief

- Curiosity
- Circumstances
- Purposes
- Ideas: Research and Inspiration

3. Working with data

- Data Consideration
- Data Preparation
- Data Limitation
- Data Exploration

4. Editorial Thinking

- THEME 1: Age
- THEME 2: Country
- THEME 3: Gender
- THEME 4: External Dataset Variables
- THEME 5: Other Discussible Variables

5. Developing Design Solution

6. Conclusion

Notebook & Dataset link:

<https://github.com/KellyKokJiaYing/DataVisualisationCourseWork>

Webpage link:

<https://glitch.com/edit/#!/nasal-nostalgic-belief?path=index.html%3A299%3A16>

<https://nasal-nostalgic-belief.glitch.me/>

INTRODUCTION

This report highlights our ideas and design process in devising a campaign to raise awareness of suicide rates and the relevant factors through two design concepts:

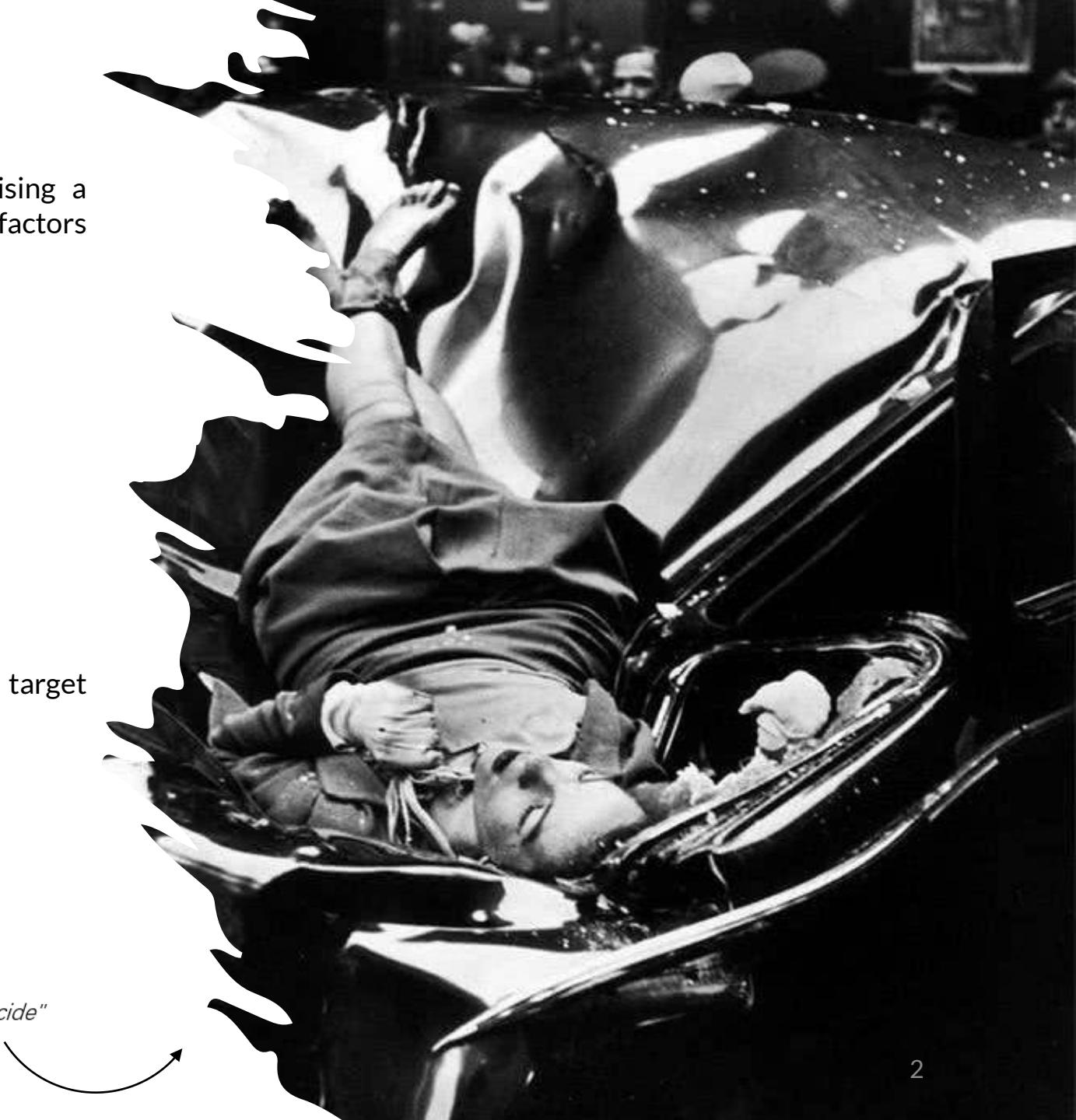
- 2-page illustration spread
- Interactive webpage for desktop viewing

We utilised various datasets to provide multiple angles.

The report includes:

- 1) Thought process of formulating our design brief
- 2) Exploration of data and their trends
- 3) Editorial decisions taking into consideration of target audience and key messages
- 4) Design solution

The photograph shown on the right has been called "the most beautiful suicide"





FORMULATING DESIGN BRIEF

1. Curiosity

- What is the current suicide situation?

In 2020, close to a million people committed suicide. Within the 40 seconds of you reading this report, one person in the world may have committed suicide (WHO, 2021). This number is alarming, yet it is uncertain what are the potential factors correlated to suicide.

- What are the potential factors causing suicide?

With various dataset, we aim to explore the potential factors correlated with between suicide. We intend to hypothesize numerous variables that might increase suicide risk and explore them.

2. Circumstances

PEOPLE

- An important stakeholder is the editorial team of the online platforms with decision power. These visualisations should be posted on credible platforms to ensure the legitimacy of the project.
- Other stakeholders include government agencies, the education sector and mental health research agencies. The visual publication of this topic will influence these stakeholders and encourage research in the relevant fields.

AUDIENCE

- The goal is to allow the general public and people in relevant academic fields to understand how suicide has evolved over the years. These people may have some prior knowledge on the topic have an interest in the field.
- We also target the younger population who are interested in the topic and follow related news. They tend to scour social media for relevant news stories, finding information paths in an intuitive and concise way.





CONSTRAINTS

Pressure: Our reporting assumes unlimited time and resources and no pressure from any other stakeholders.

Rule: Double-page spread size for print.

SETTINGS

In order to ensure a higher visual perception of the work, we need to attract the attention of the audience by adding some imagery that can capture their emotions. However, due to the gravity of the topic and considering the viewing experience of the audience, no bloody and violent pictures will be used.

FREQUENCY

One-off project, suitable for a special site posting.

DESIGN

The graphics should be adapted to fit the website size and other social media platforms such as Instagram, Weibo etc.

DELIVERABLES

Format: Print and Digital

3. Purpose

Although suicide is prevalent, most people are unaware of this issue. Every life is precious, and it is necessary to prevent suicide.

We have chosen this sensitive topic because we believe that it is not enough to describe the consequences of suicide qualitatively. There are simple numbers on this topic online, but not enough to illustrate the weight of the situation. We need to realise that there was a life behind each number. The death is a huge loss for his/her family, friends, and may leave a huge trauma to the society. We aim to bring attention to this serious matter while being respectful of the victims and their families.



IDEAS: RESEARCH AND INSPIRATION

SKY Castle

This popular Korean drama illustrated how suicide has become a popular way to escape from societal pressures arising from various sources such as socio-economic status and the education system. This has inspired us to explore how factors such as income, education and employment relate to suicide rate.

Throughout this series, monochromatic themes and ominous music were used to give the audience a sense of isolation and depression. These have inspired us to apply similar themes to our visualisations.



The map (Bau, 2021) on the right was used in a blog to illustrate the suicide rates of different parts of Korea.

We felt that the overlapping circles made it difficult for users to pinpoint the exact location with that suicide rate. Thus, we decided to use a colour scale instead.

Some places do not have circles, suggesting that no suicide occurred there. However, this is more likely due to missing data. Therefore, we aim to use external datasets to reduce the occurrence of missing data.

We appreciate the hover interactivity and would use it for the website, allowing viewer to see the exact suicide rates of a location.

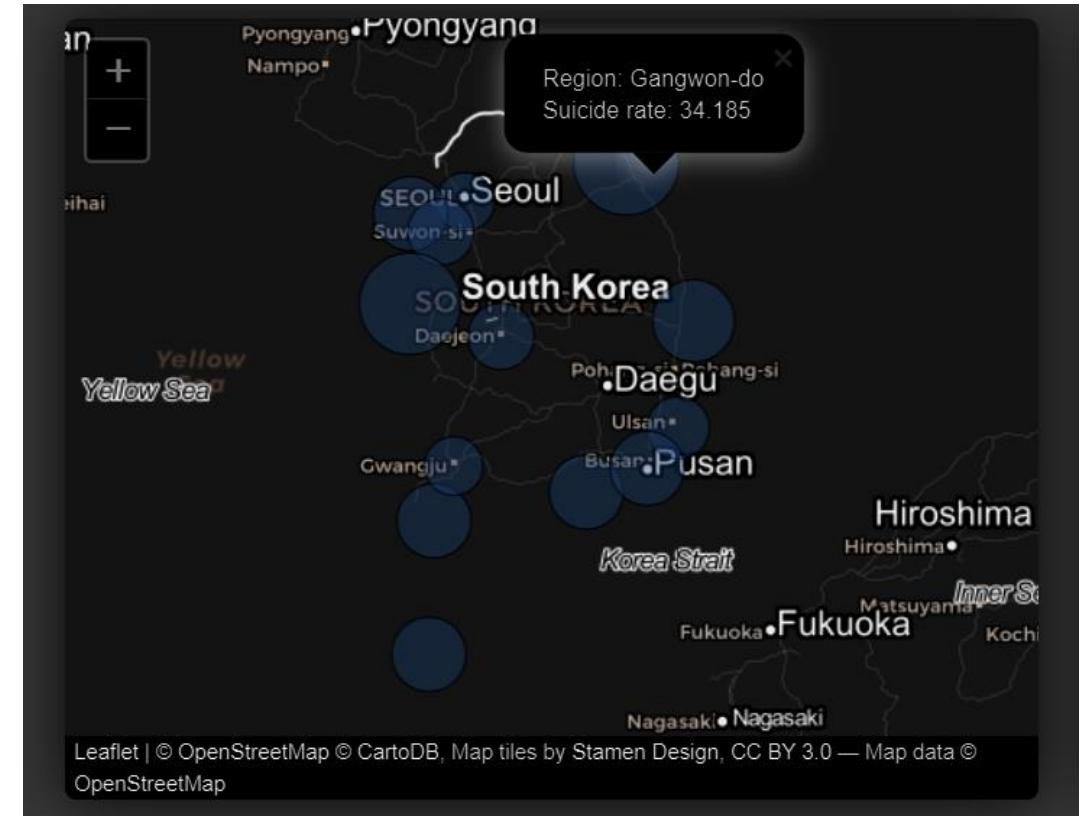
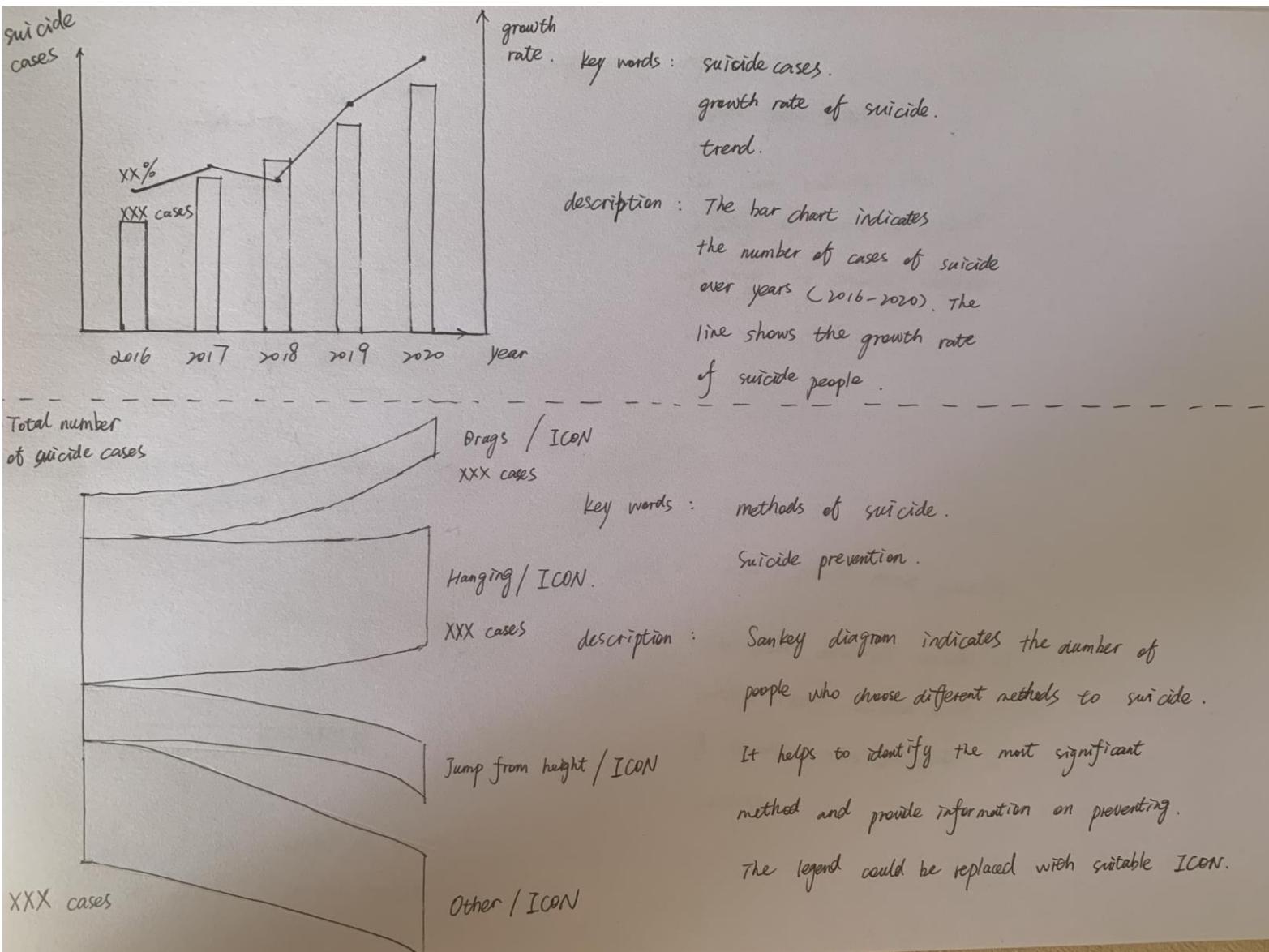
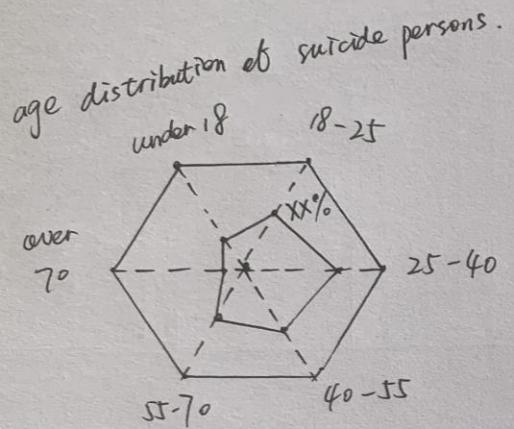


Figure 1

ROUGH SKETCHES & KEY WORDS





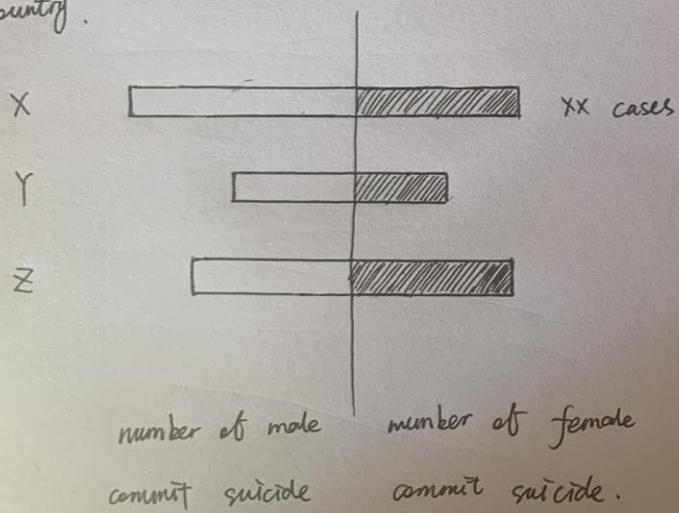
key words : age distribution .

younger people suicide

Description : The chart indicates the percentage of people in different age range who commit suicide .

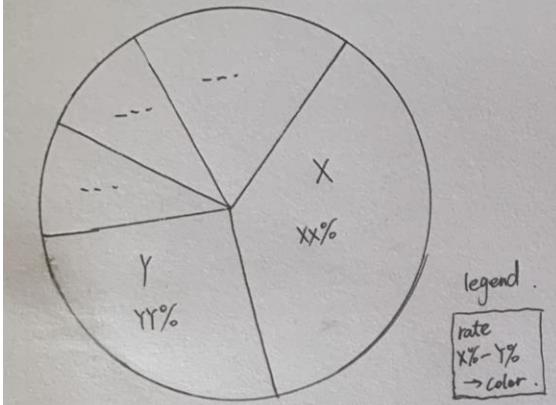
Gender difference of people who commit suicide in different country .

Country .



key words : male / female across countries

Description : The chart describes number of suicide cases between male & female across different countries .



suicide rates across different country.

(top 10) in 2020 & suicide rate
(identify with color)

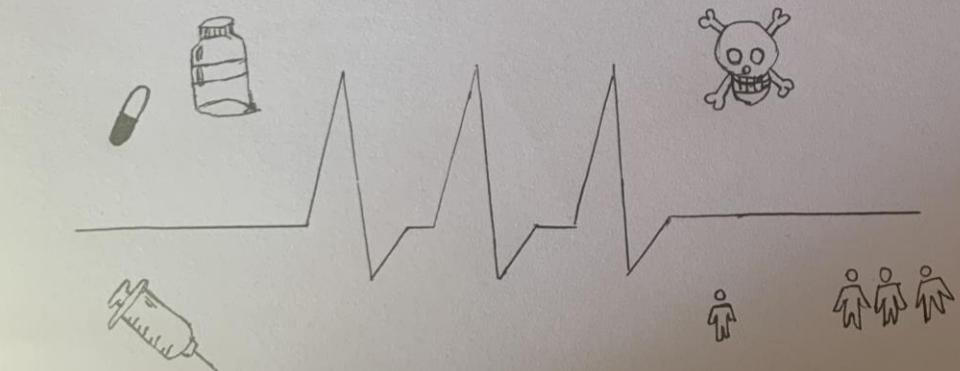
key words : total number of suicide persons
in different country ,

current situation . cultural difference

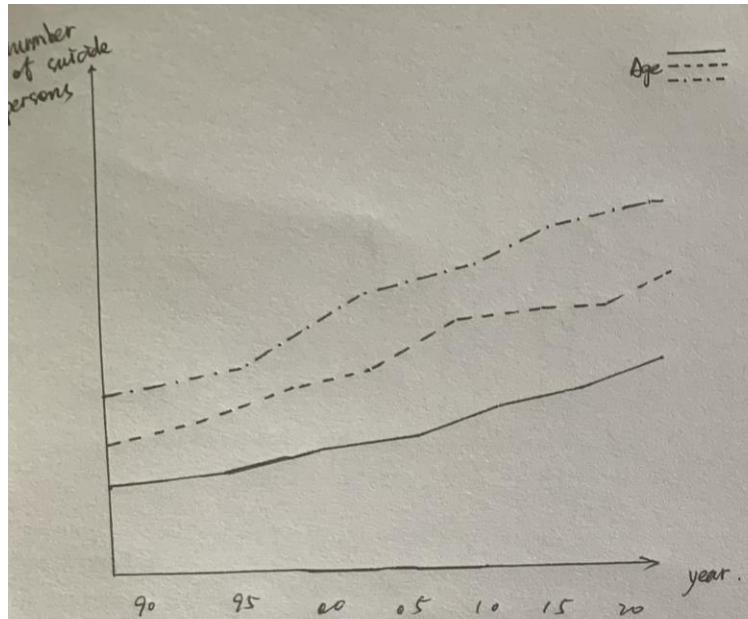
Description : Some countries have significantly higher
suicide cases . part of the reason
could be a larger population , but
could also be a higher proportion
of people intend to hurt themselves ,

The pie chart shows the proportion of
suicide cases in different country .

and uses different color to indicate associated
suicide rate .

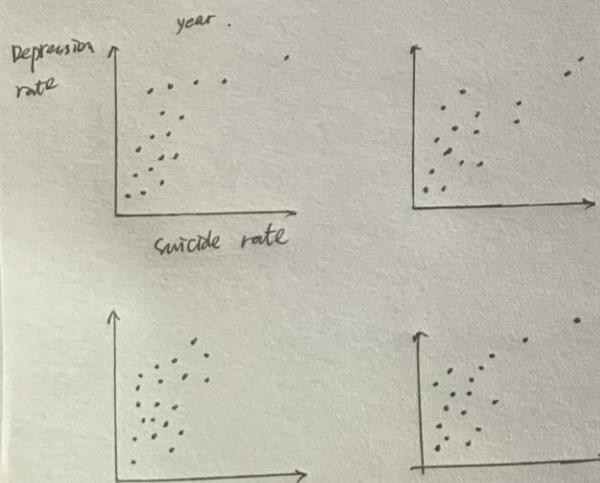


key words : electrocardiogram
drugs . needle .
death . Isolated man



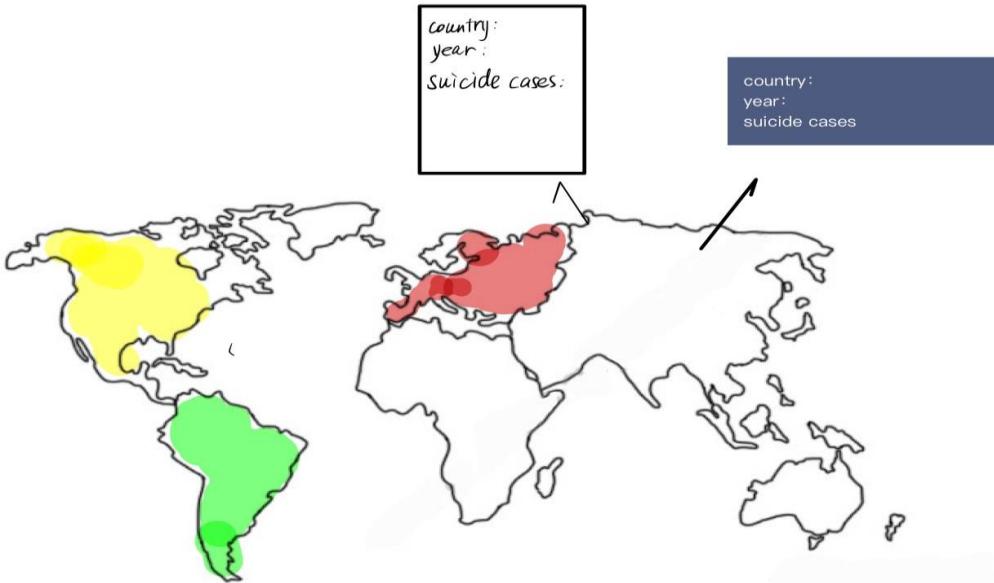
key words: number of suicide across past 20 years in different age groups.

description: the different type of line indicates different age group. The trend shows how each group of people's suicide cases change over time.



key words: depression rate, suicide rate, mental health, relationship between suicide rate and depression over years.

description: the scatter plot shows the depression rate and suicide rate in different years, which enable us observe the pattern of both parameter.



Key words : interactive map
suicide cases in different country

Description : interactive map shows the number
of suicide people in each year, the
color indicates the number in
a more vivid way.

WORKING WITH DATA

Data considerations

1. Data preparation

Our current dataset:

To achieve the aim of our project, a dataset from Kaggle was used. It contains information in 101 countries from 1985-2016.

Variable name	Description
country	country name
year	year (from 1985 to 2016)
sex	gender (male, female)
age	age
suicides_no	number of suicides
population	population in the country
suicides/100k pop	number of suicides per 100k pop
country-year	combination of country and year
HDI_for_year	Human Development Index for year
gdp_for_year	Gross Domestic Product for year
gdp_per_capita	Gross Domestic Product per capita
generation	the description of the decade that people are born in

Chart 1: variables in our original dataset

Limitations of original dataset:

1. Only 101 countries are covered. Plotting the data on a world map would result in blanks for more than half of the countries.
2. There are a lot of missing values, especially before 1990 and in 2016.
3. There is a lack of variables. Some possible relationships mentioned in the earlier sections could not be explored using the current dataset.

WORKING WITH DATA

Improvement on our current dataset:

1. To cover more countries, a dataset containing the suicide rates in 261 countries from 1990 to 2017 was used to complement the original dataset.
2. To verify explore the additional factors that might influence suicide rates, we used several external datasets.

Variable Name	Description
Gini Index	measures the distribution of income across a population
Unemployment Rate	the percentage of unemployed workers in the total labor force
Depression Rate	the percentage of the population that are depressed
Hours Worked	average hour that a worker worked during the year
Higher Education	Share of population with completed tertiary education
GII	measures inequality in achievements between women and men
Gender Ratio	male-female ratio of suicides

Chart 2. newly added variable and their descriptions

Limitations of final dataset:

1. Despite supplementing the original dataset with a handful of other datasets, we need to be aware of the missing data. Also, for different countries, the number of records might be different, simply taking the average for different countries will cause problem.
2. Under each possible aspects that we thought might influence suicides, we only took several variables. The result we get from these variables might not represent the relationships properly.

3. Data Exploration

Data Source

The main data source comes from a dataset on Kaggle named [*Suicide Rates Overview 1985 to 2016*](#). This compiled dataset pulled from four other datasets linked by time and location.

There are 4 external datasets used in our analysis as well, including variables on *Poverty*, *Jobs*, *Education*, and *Gender Inequality*. The datasets are sourced from [Databank of The World Bank](#) in World Development Indicators section, and [DECD Database](#).

In addition, the [country and continent list](#) and [other specific Japan information](#) are also obtained to provide more analysis.

Data Cleaning and Acquisition

Data usage

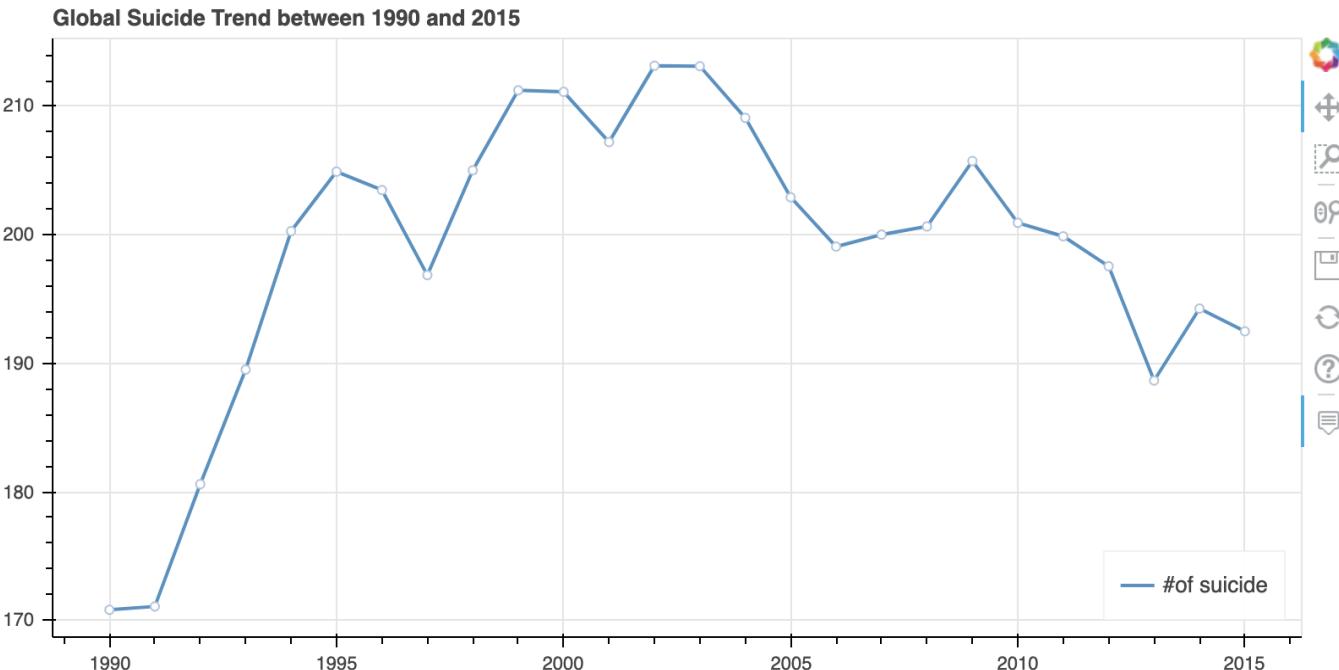
We aim to uncover trends and relationships of the different factors that might increase suicide risk. We layer the age, gender, nationality and other characteristics of each suicide in the report, extracting effective information for further analysis.

Data processing

The final dataset which contains 27855 rows and 19 columns. The results of the Exploratory Data Analysis (EDA) are shown in the following pages.

Overall Trends

1. Average suicide rate by year



Graph 3. snapshot in 2000

Key Messages:

Before 2000, the number of people who committed suicides increased rapidly. After 2000 the number of people who committed suicides generally declined.

2. Average suicide rate by country

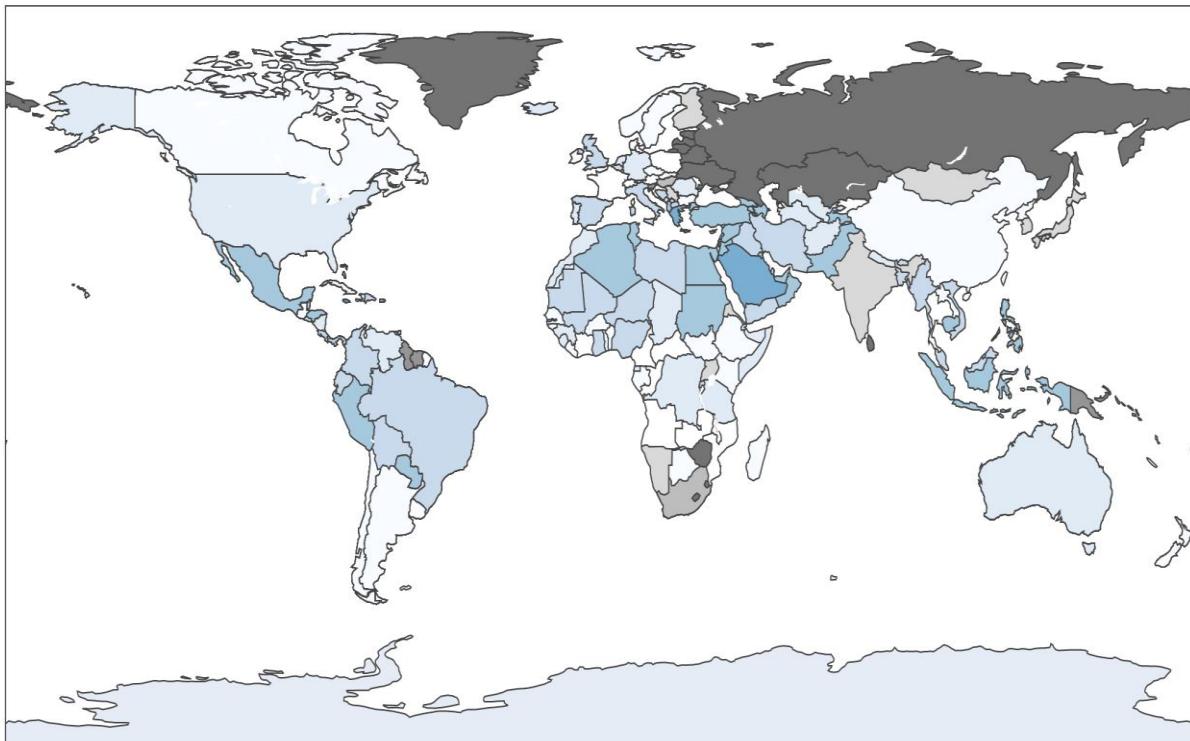


Figure 4



Key Messages:

1. Countries near equator tend to have suicide rates lower than countries further from equator.
2. The suicide rates in Russia and Greenland are significantly higher than other countries.

Suicide rates variation for different age groups from 1990-2015

EDITORIAL THINKING

THEME 1: Age

6 Different Age Groups

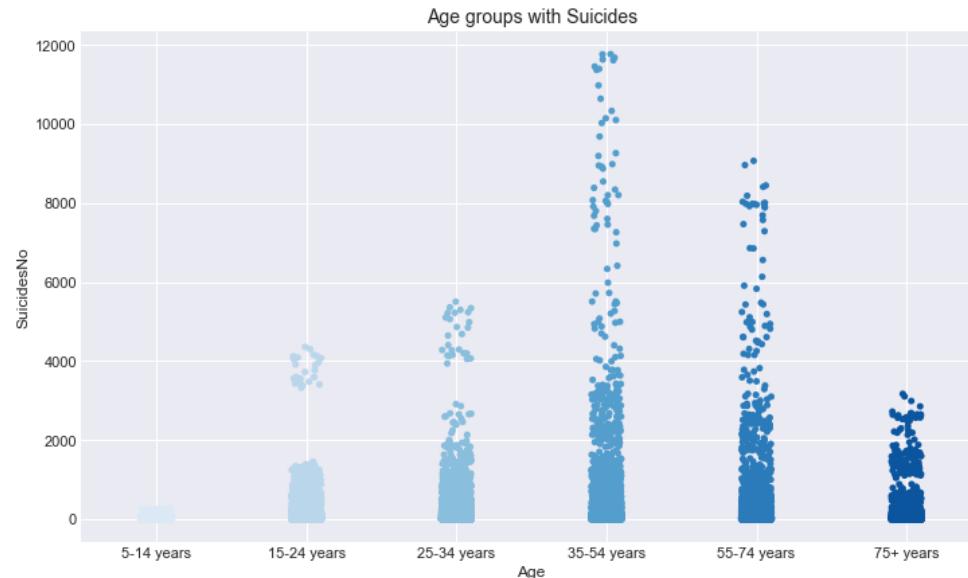


Figure 5

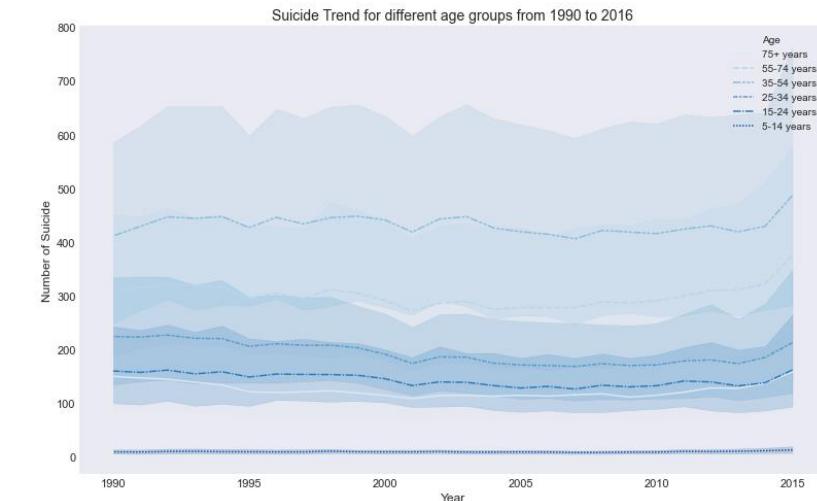


Figure 6

Suicide rates for different age groups in various countries in 2015

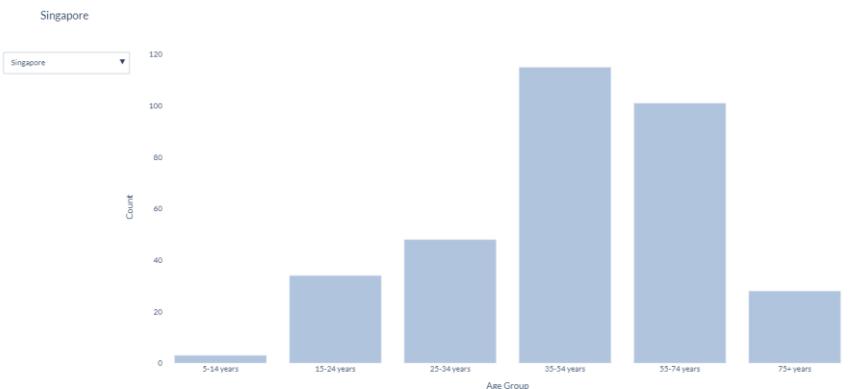


Figure 7

1. Angle

- Which age group has the highest suicide rate?
- What is the variation of suicide rates of different age groups?

2. Framing

- Rank the number of suicides among these age groups;
- Depict suicide rates variation tendency for different age groups from 1990 to 2015.

3. Focus

- We intend to emphasize the suicide rates tendency using a line graph to convey variation over selected years.

4. Interactivity

- Viewers can directly see the level of suicide rates among different age groups, with the changing trends across the 1990 - 2015 period.
- Viewers can select a specific country and compare the suicide count across the different age groups in 2015.

THEME 2: Country

Top 10 Countries in Suicides from 1990-2015

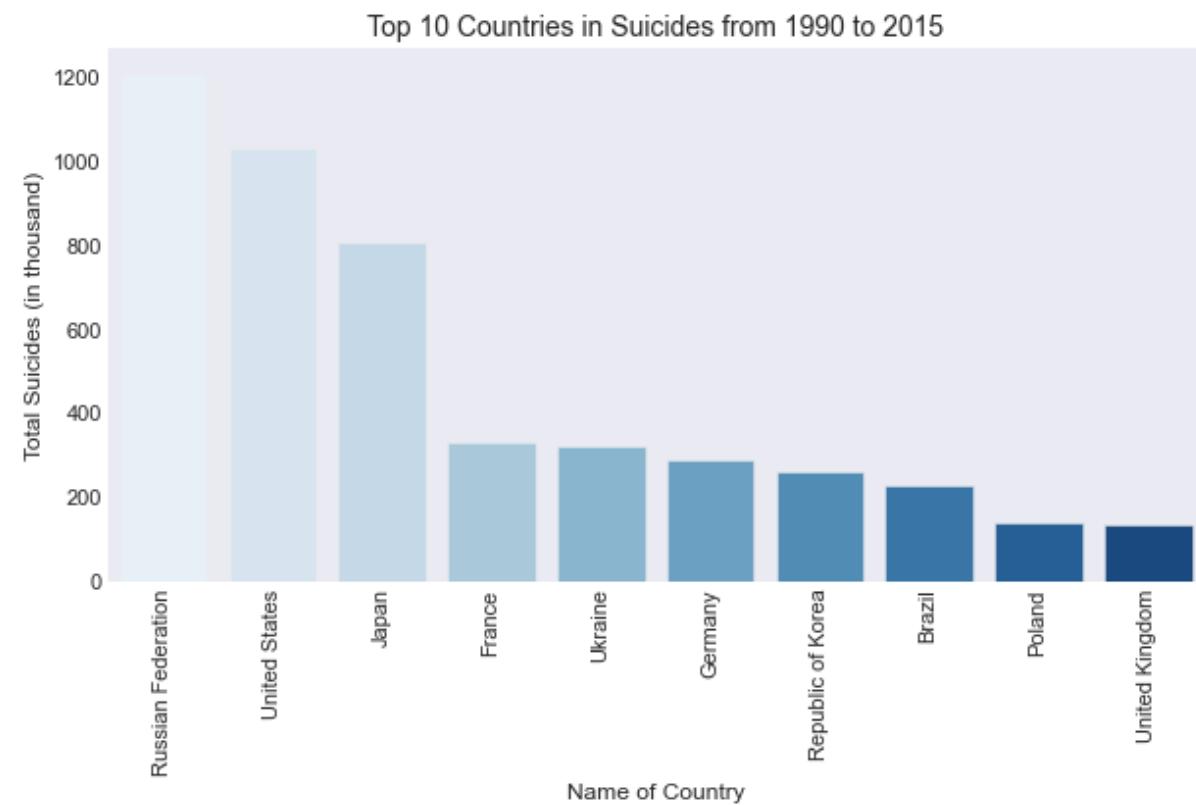


Figure 8

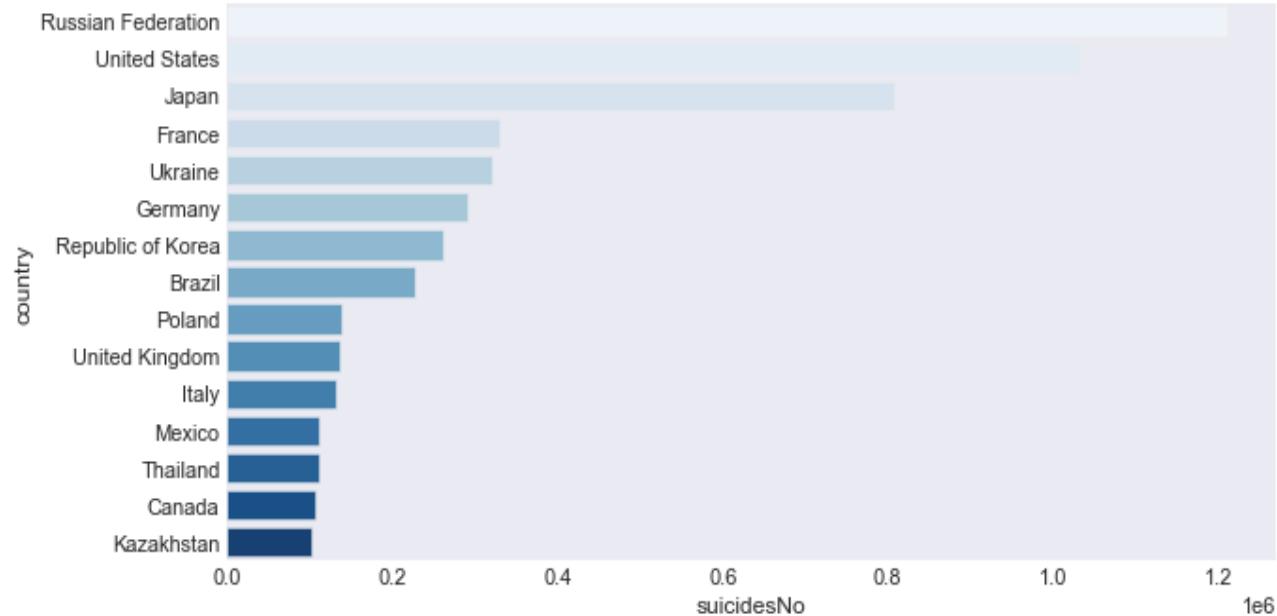


Figure 9

The figures show the Top 10 countries with highest suicide rates. The Russian Federation, the United States and Japan are the three countries with the highest number of suicides in the world. Apart from these three countries, there was no significant difference in the number of suicides.

Suicides in all countries in 1990 and 2015

Countries

Sum Population for Suicides in 1990

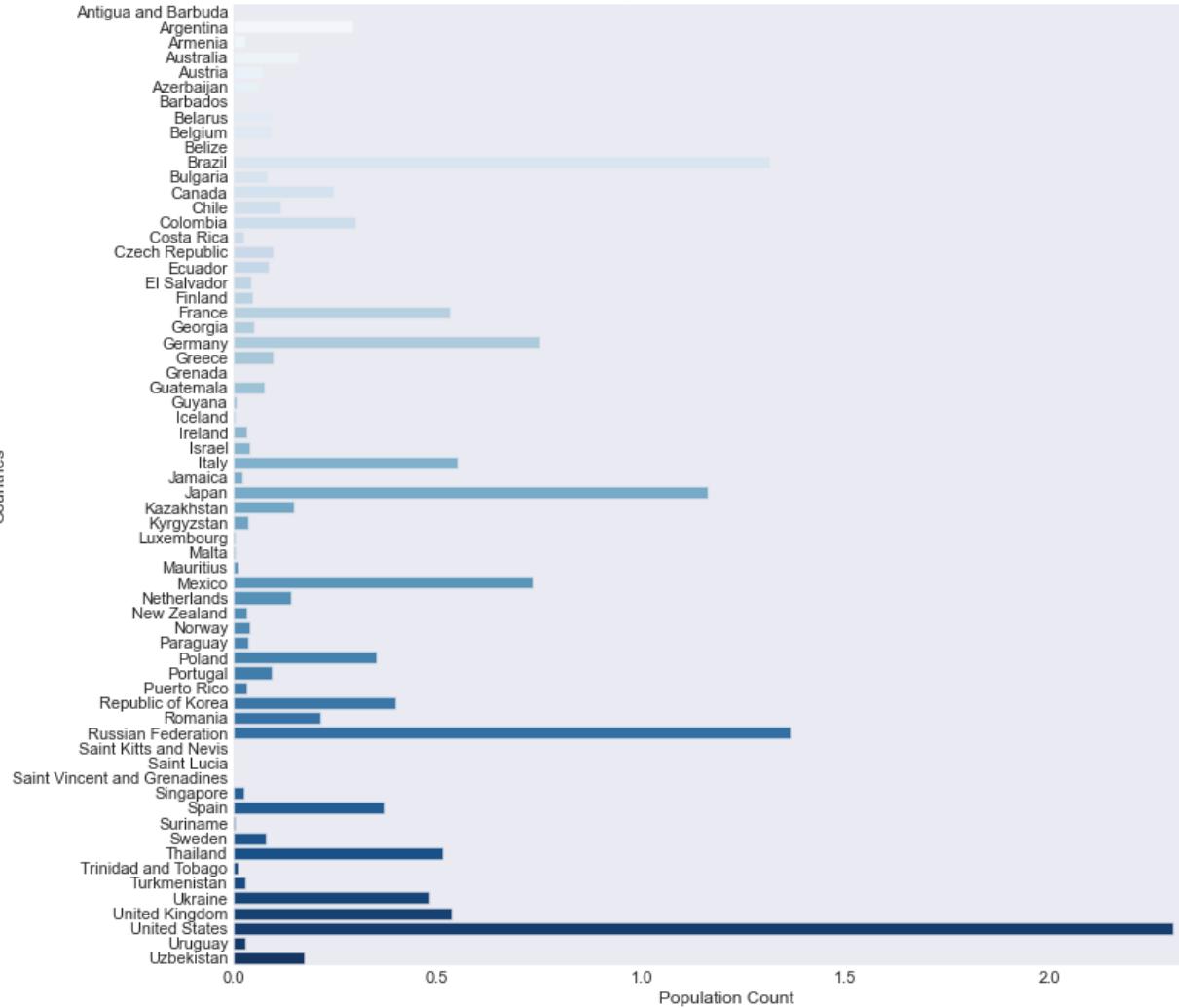


Figure 10

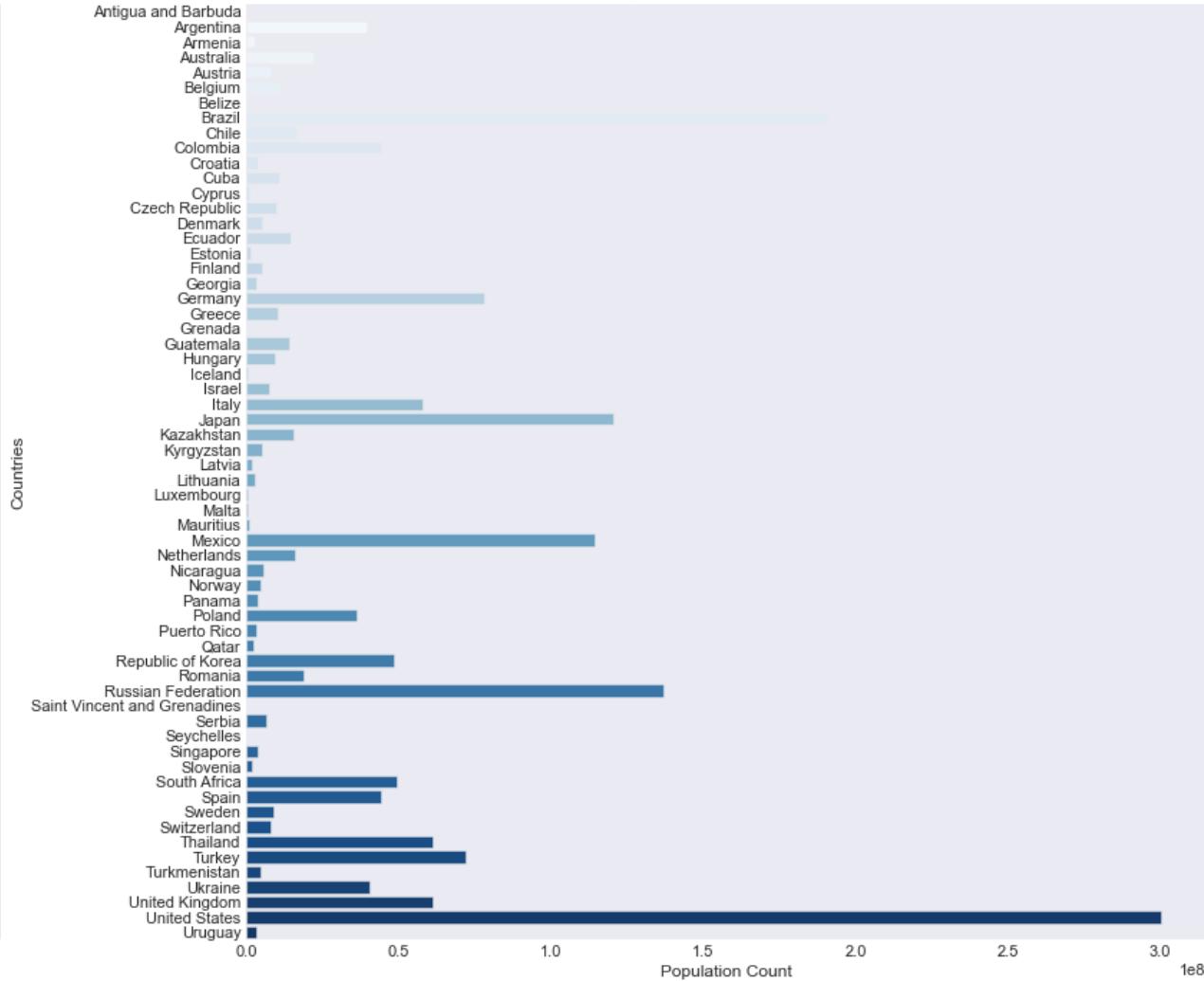


Figure 11

Suicides in specific countries from 1990-2015

From *Figure 8*, the Russian Federation, the United States and Japan are the three countries with the highest number of suicides in the world. Therefore, a separate chart depicting the change suicide rates across the years were created for these countries.

These subplots indicate that there is a gradual but steady upward trend in the United States. In contrast, the number of suicides within target years period had significant variations in both Russia and Japan. In Russia Federation, the number of suicides fluctuated from 1990-2001, but it has been on a downward trend since 2001. In Japan, there was a significant increase in number of suicides from 1997 to 1998 and no significant upward or downward trend since then.

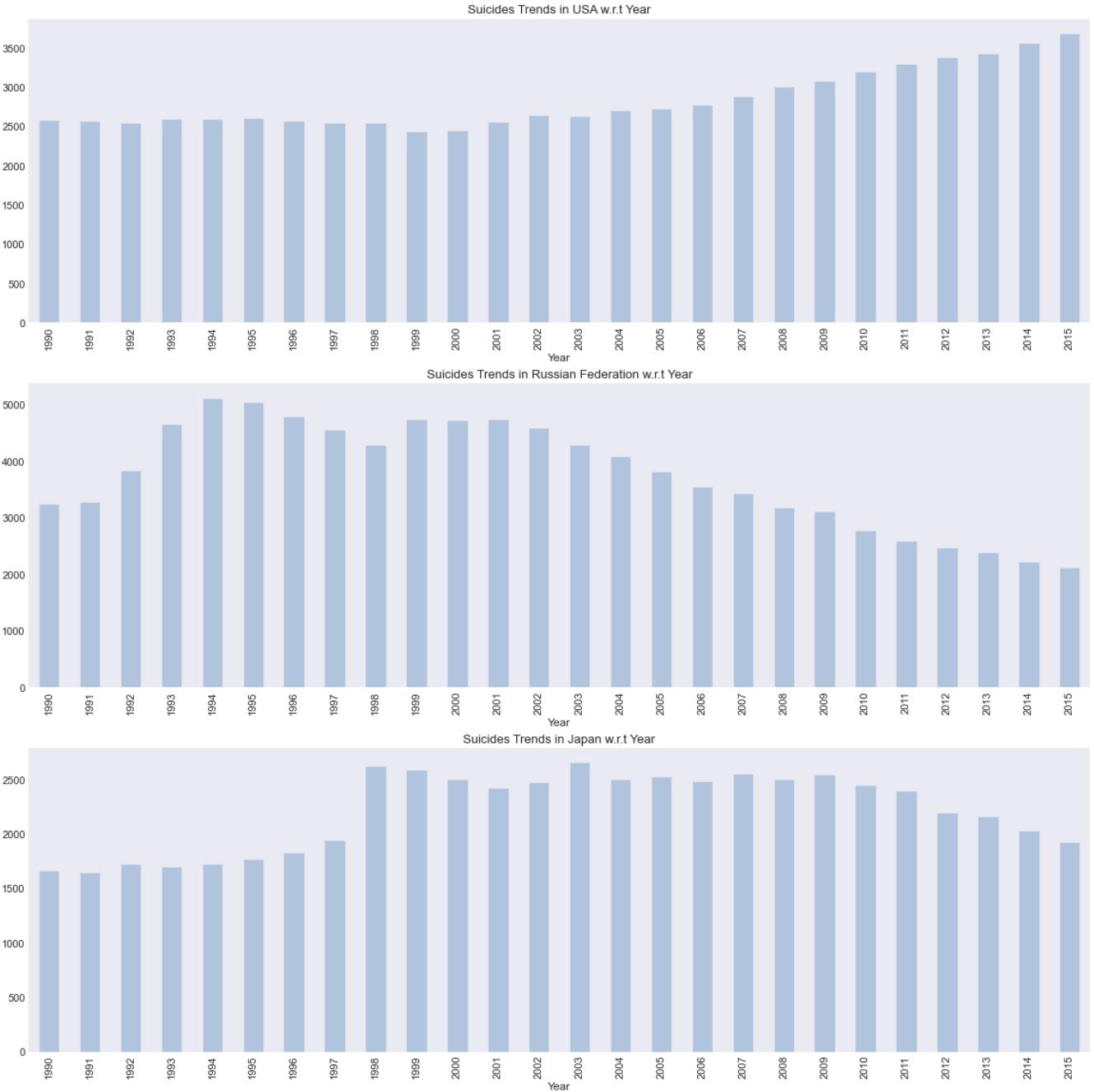


Figure 12

Suicides in Japan 2011-2020

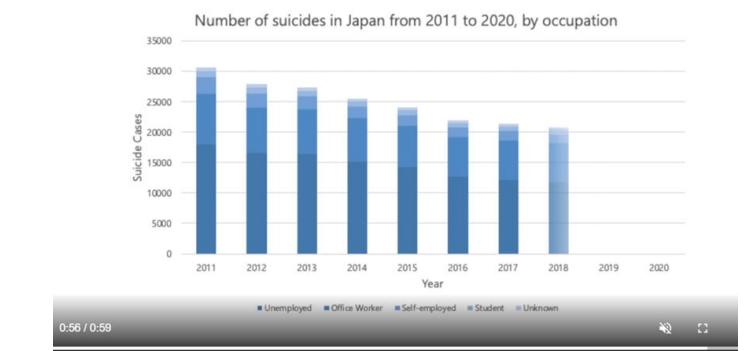
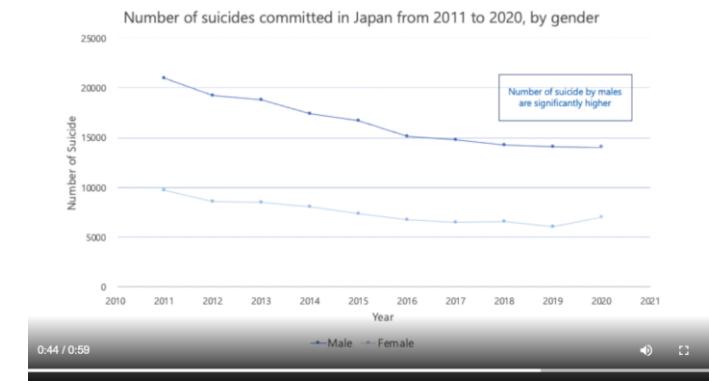
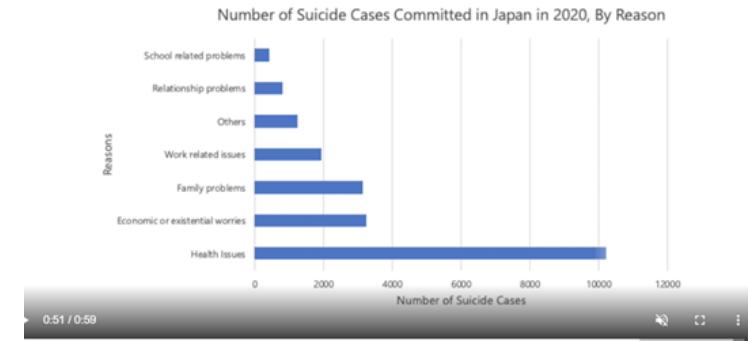
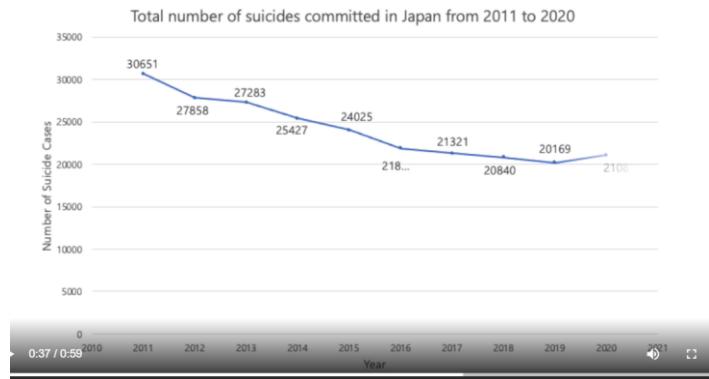
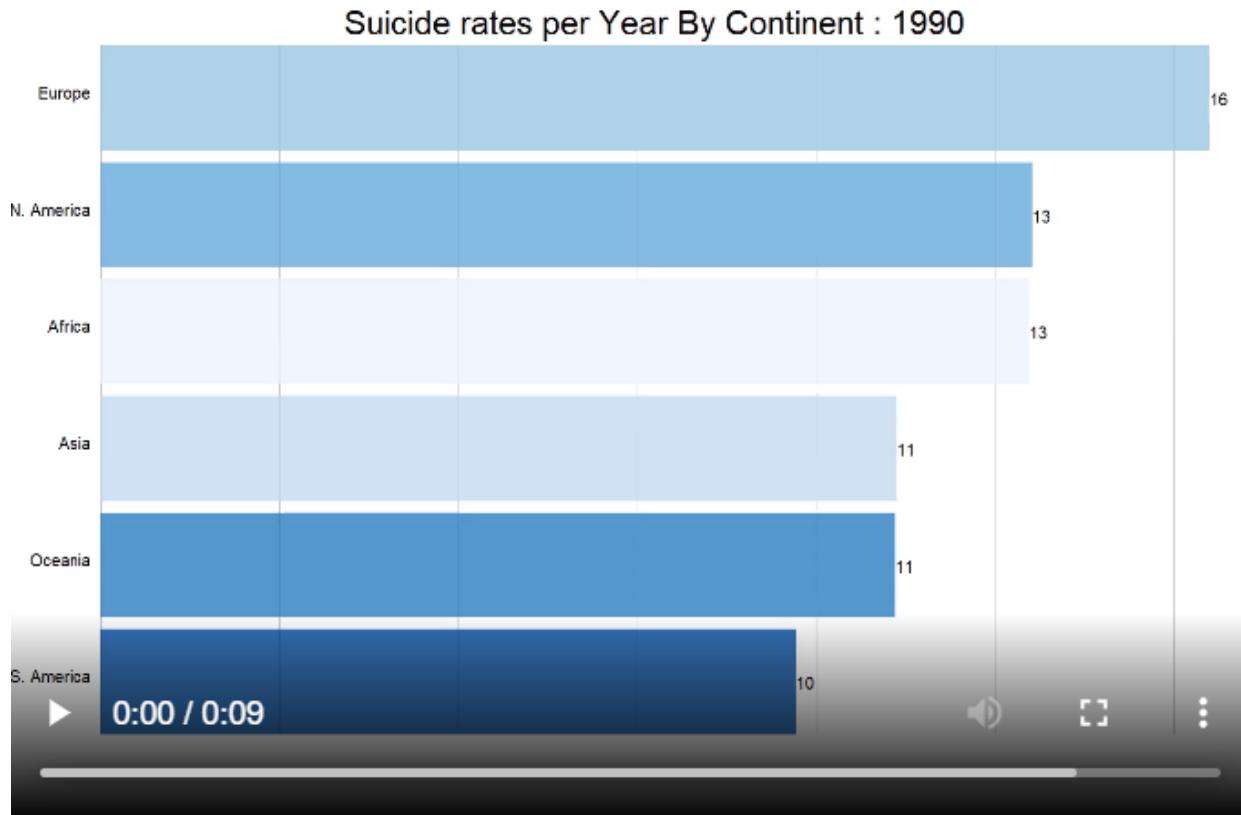


Figure 13

The video focuses on suicide rates in Japan with different dimensions such as age, reason and occupation.

In Japan, males have significantly higher number of suicide than females. The most common reasons for suicide are health, economic or existential worries and family problem. The highest number of suicide by occupation is when a person is unemployed.

Suicides in different continents from 1990 to 2017



The video shows the movements in suicide rates from 1990-2017 for the different continents and the ranking of each continent by the suicide rates.

Europe has the highest suicide rates throughout the years. Although there were some changes in ranking for the highest suicide rates for the rest of the continents, the ranking did not vary much.

Figure 14

1. Angle

- What are the Top 10 countries with the highest levels of suicides between 1990-2015?
- How did the data perform for each country each year?
- What is the specific statistical performance of some specific countries (such as those with very high suicide rates)?

2. Framing

- Include specific figures of the Top 10 countries with the highest levels of suicides;
- Narrow down to the Top 10 countries to allow the viewer to grasp the information easily;
- Emphasise the Top 3 countries with the highest suicide rates compared with other selected countries.

3. Focus

We look at the Top 10 countries based on the number of suicides per year. Russia and America are the strongest countries in terms of GDP, employment and growth, rated as one of the best places to live in the world, but ranked top in terms of suicides. The reasons may be unemployment, the high cost of living in, or personal reasons like drugs or relationship problems.

4. Interactivity

Viewers can directly see the levels of suicides among different countries, with focusing on the world performance in particular years, those of particular countries from 1990-2015 and continents from 1990-2017.

THEME 3: Gender

Gender with Suicides during all years

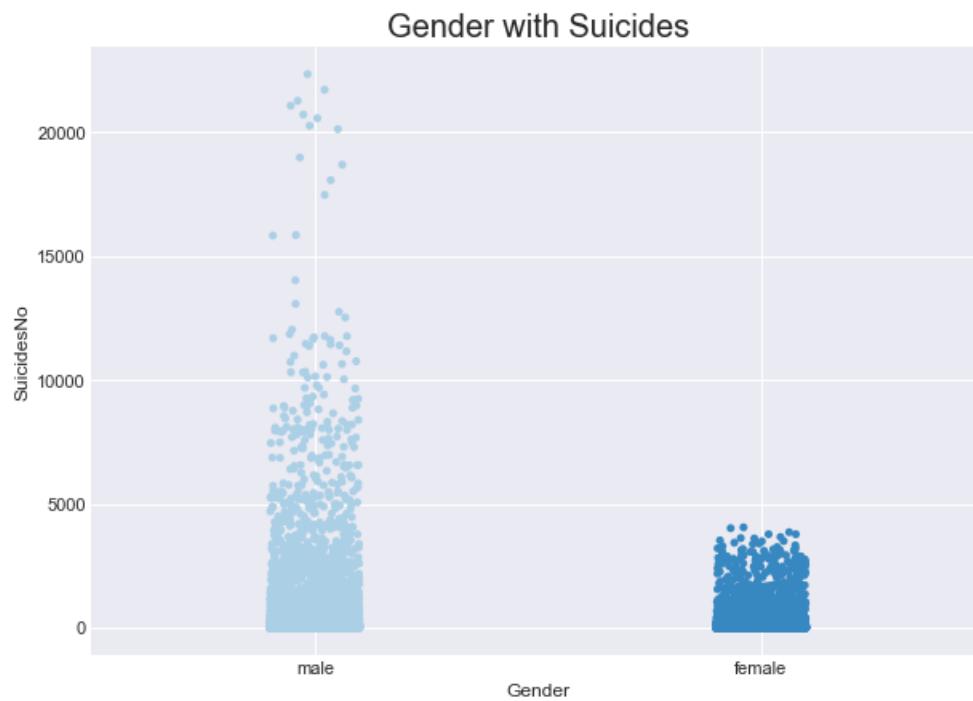


Figure 15

Suicide rate trends for different gender groups during all years

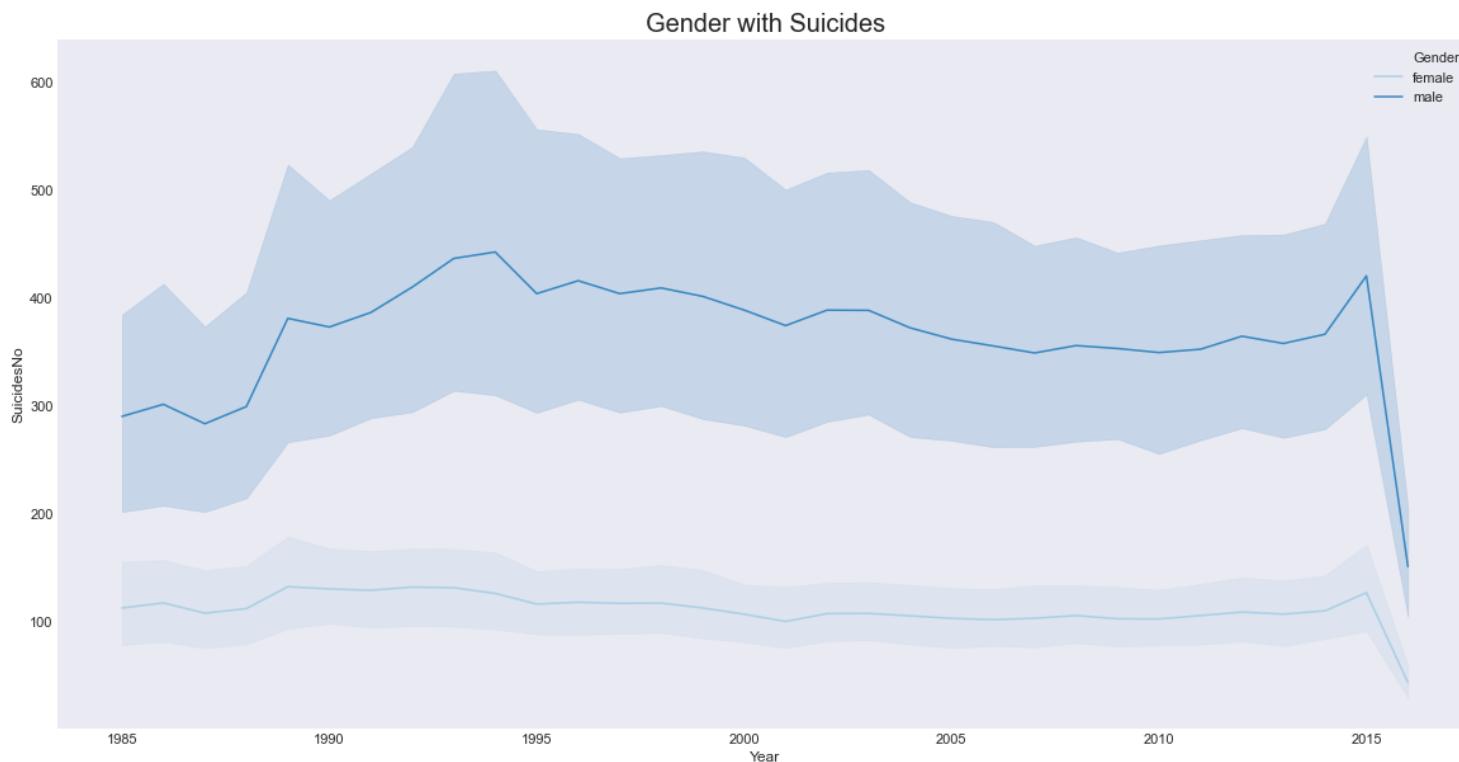


Figure 16

Global male-female suicide rates distribution

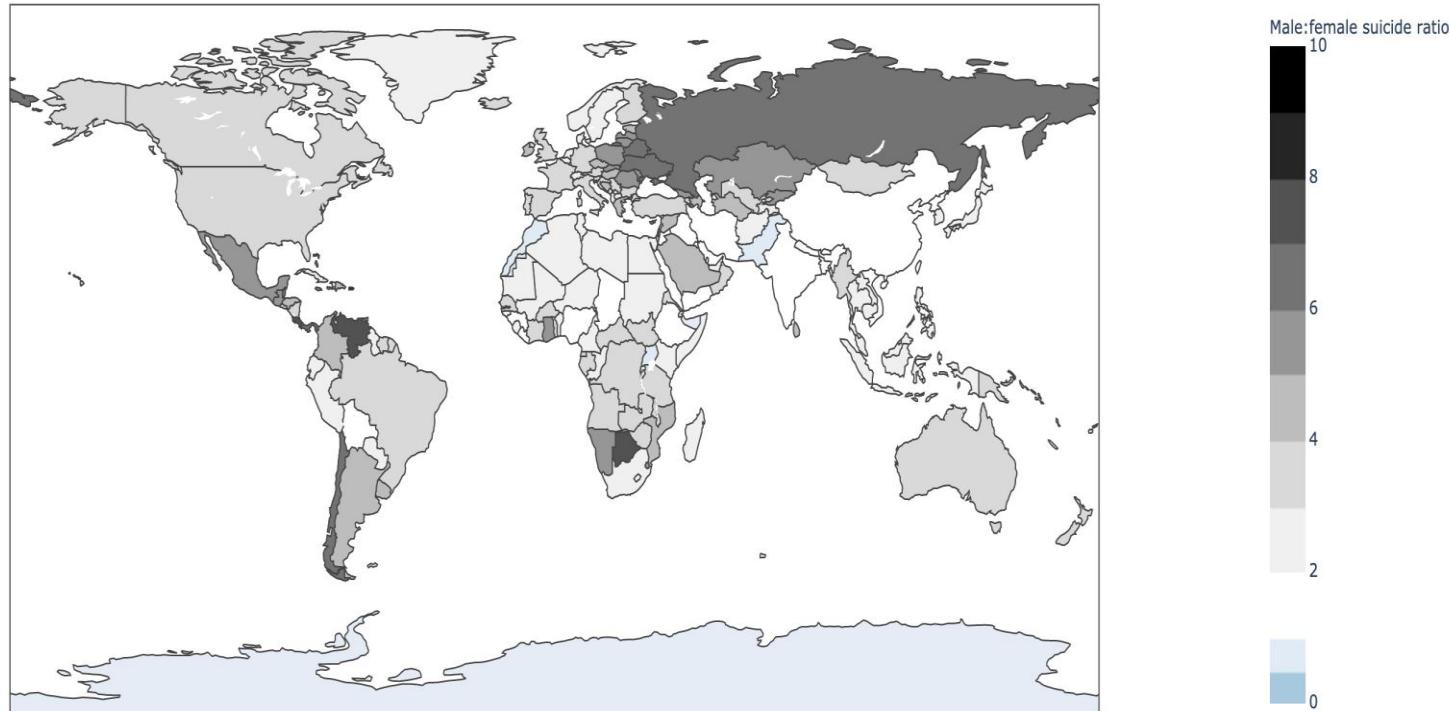


Figure 17

Key messages:

1. In most countries and years, more male committed suicides than female.
2. Most countries are changing towards a more balanced suicide ratio over time.

Global female-male suicide rates distribution and specific countries in 2015

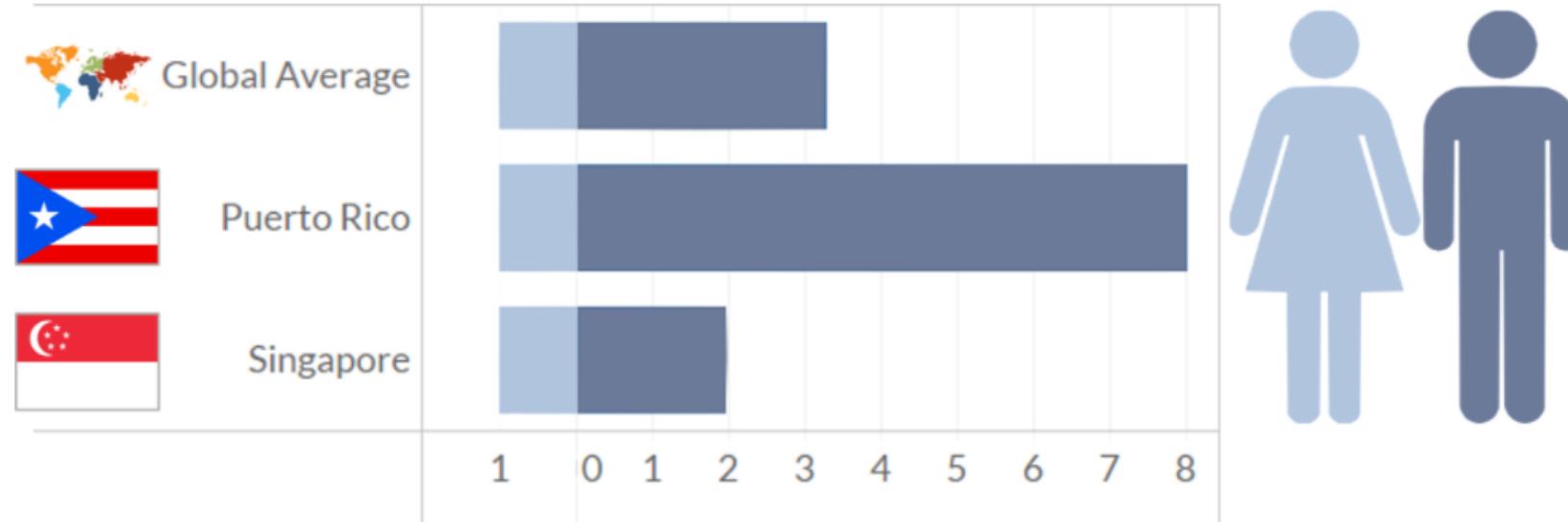


Figure 18

Key messages:

1. In 2015, the ratio of the number of females who committed suicide to number of males who committed suicide is 1:3.3
2. This ratio is the smallest for Singapore and largest for Puerto Rico

1. Angle

- Which gender has a higher number of suicides?
- What are the variation of suicides for different gender?
- What are the distinct characteristics of suicide trends among different gender group?
- What are the global male-female suicide rates distribution?

2. Framing

- Include the number of suicides across different gender;
- Give a comparison of suicides between different age groups;
- Depict suicide rates variation tendency for different gender from 1990-2015.

3. Focus

- The bar chart and line graph above show that the number of male suicides is much higher than that of female suicides during the whole time period;
- We intend to emphasise on the suicide rates among different genders using a line graph which conveys suicides variation information during all targeted years.

4. Interactivity

- Viewers can directly notice the level of suicide rates among different gender, with the changing trends across the 1990-2015 period.

THEME 4: External Dataset Variables

1. Poverty (GDP)

Relationship between GDP and suicide rates

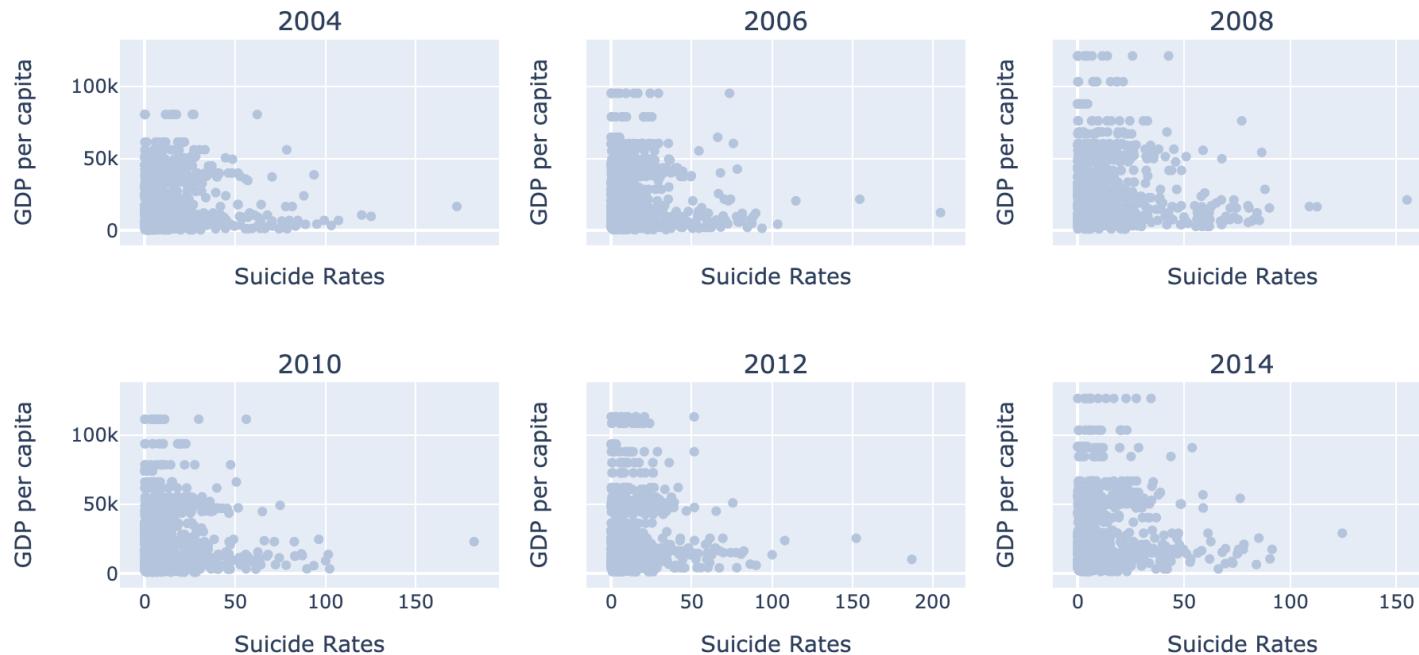


Figure 19

Key messages:

GDP per capita has a negative relationship with the highest possible suicide rates. Countries with a lower GDP per capita have a larger variation in suicide rates.

THEME 4: External Dataset Variables

1. Poverty (GINI Index)

Relationship between Gini index and Suicide Rates

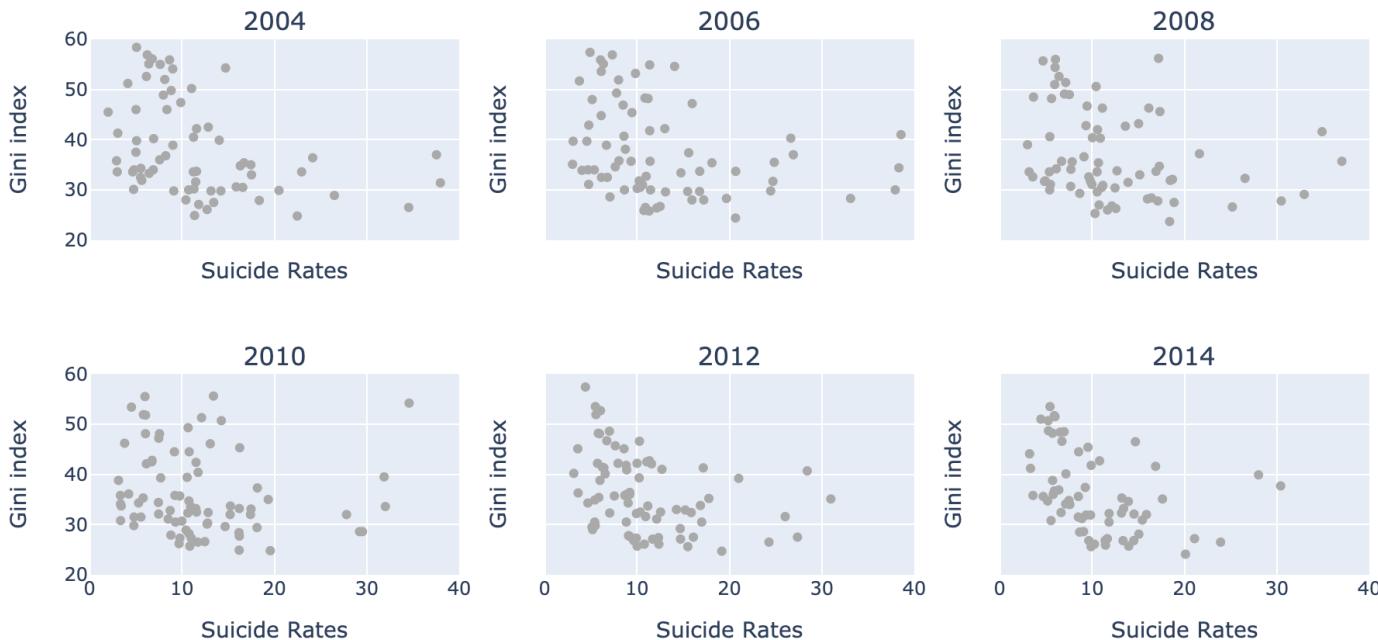


Figure 20

Key messages:

In contrary to our assumption that countries with higher GINI index would have a higher suicide rates, the relationship is the reverse

2. Mental health

Relationship between depression and Suicide Rates

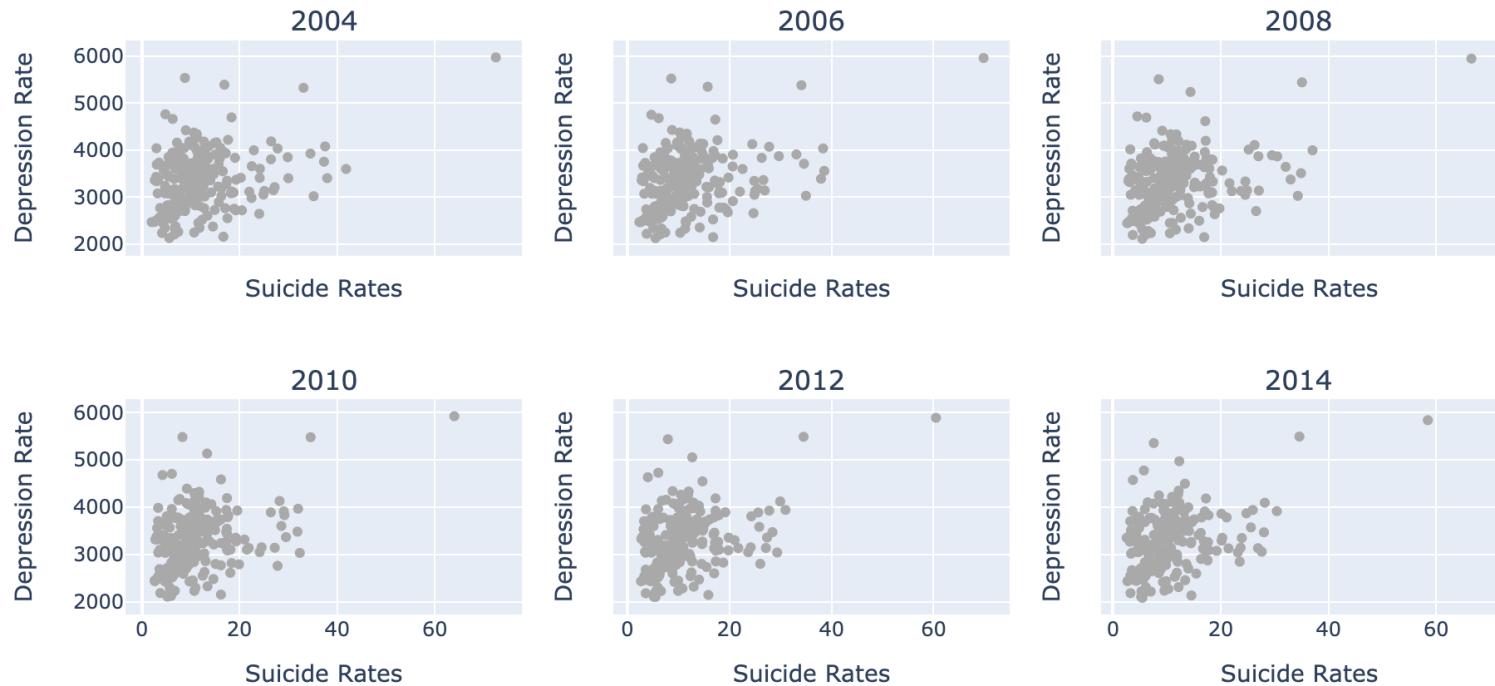


Figure 21

Key messages:

As expected, depression rate is positively correlated with suicide rate.

3. Jobs (unemployment rate)

Relationship between Unemployment and Suicide Rates

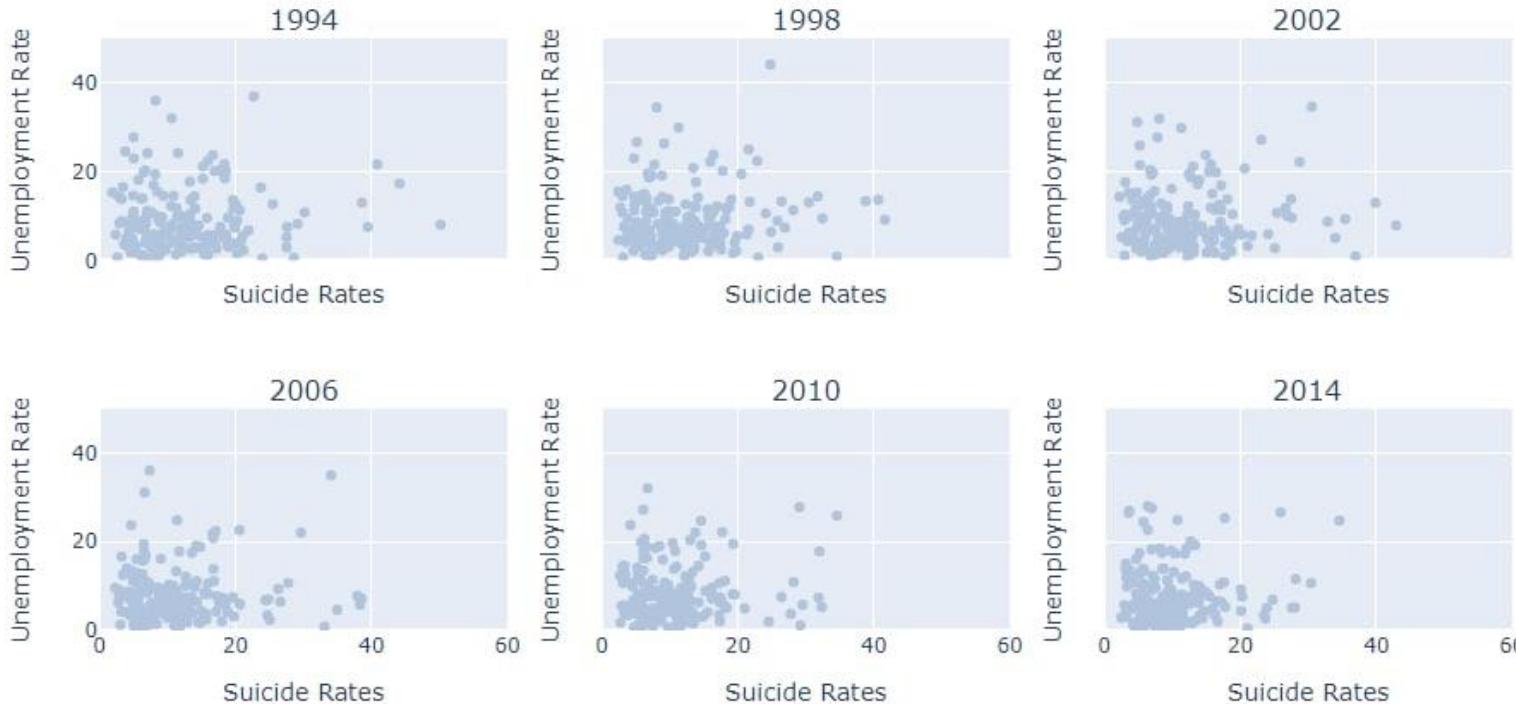


Figure 22

Key messages:

Unemployment rate does not have any significant relationship with suicide rates.

3. Jobs (working hours)

Relationship between Working Hours and Suicide Rates

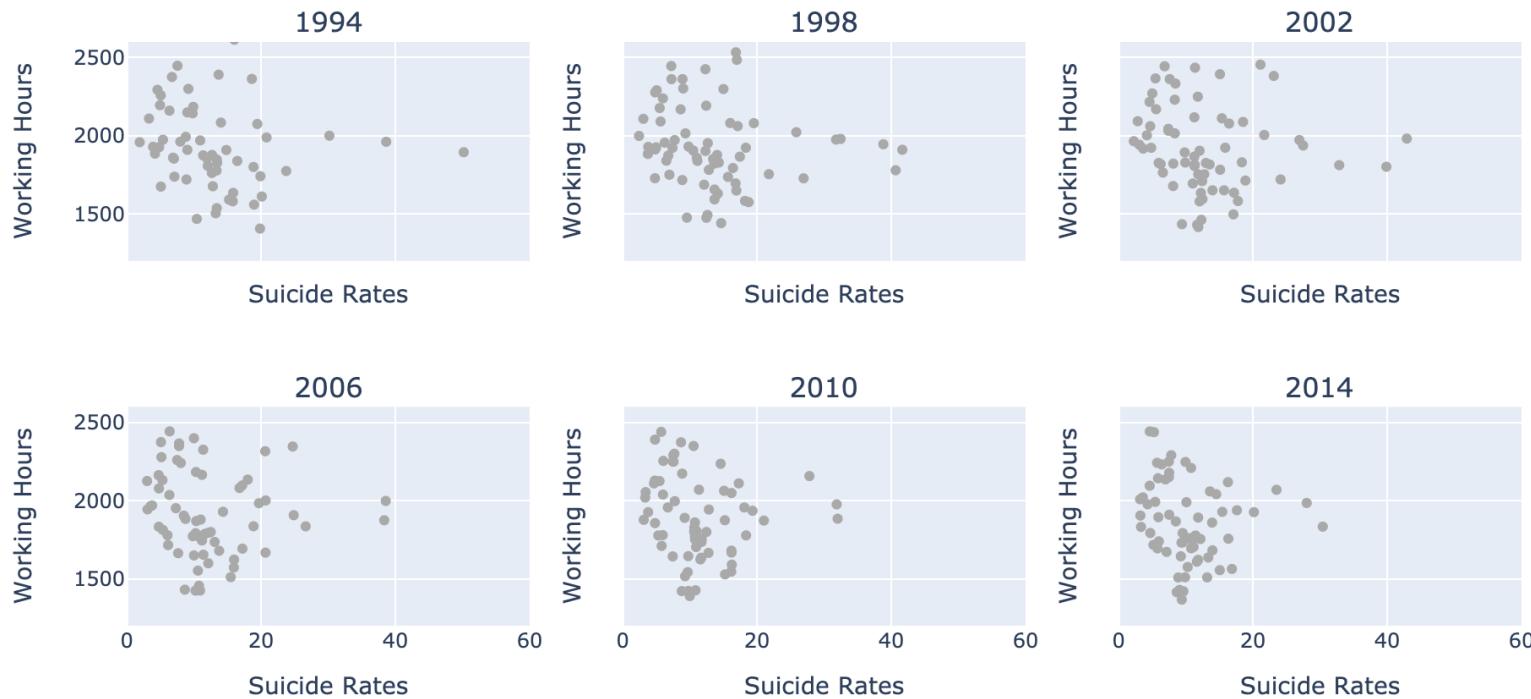


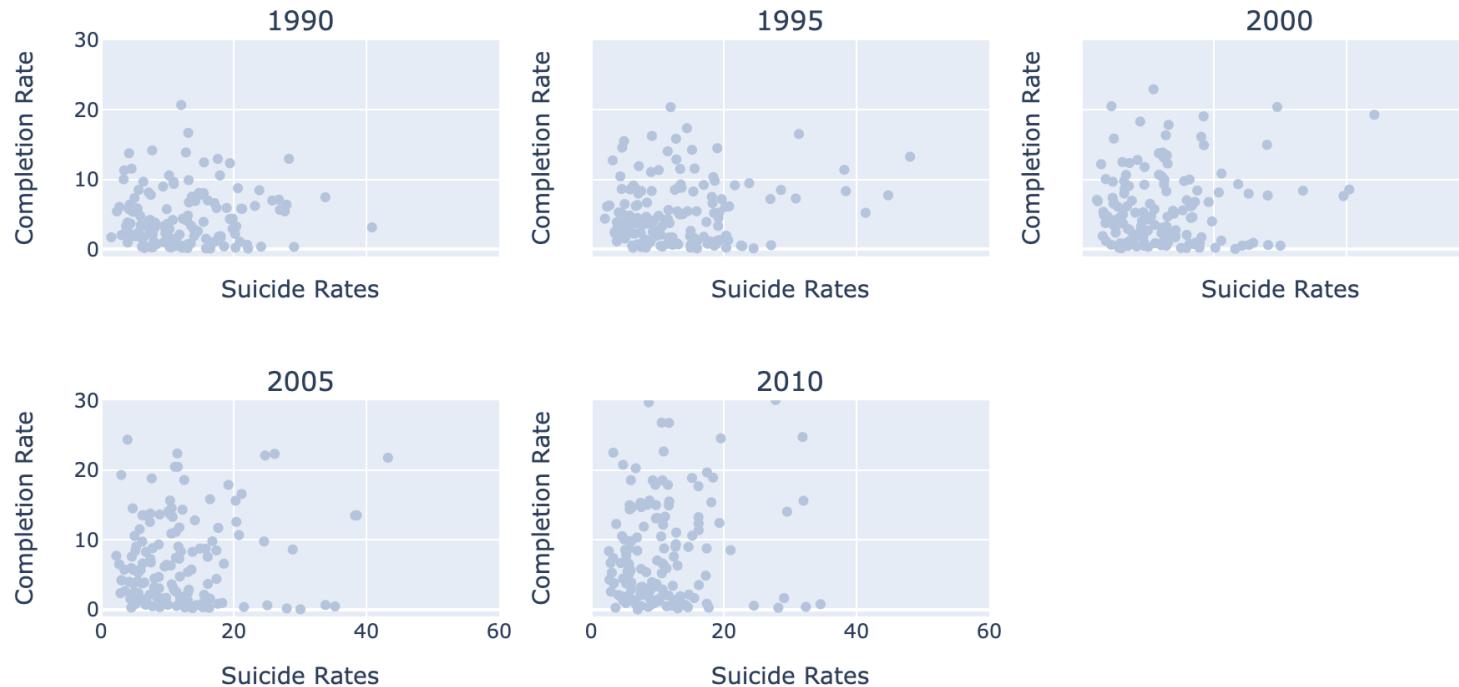
Figure 23

Key messages:

Countries with high suicide rates are mostly located in the medium part of the working hours range (~2000 hours per year).

4. Education

Relationship between Tertiary Education Completion Rate and Suicide Rates



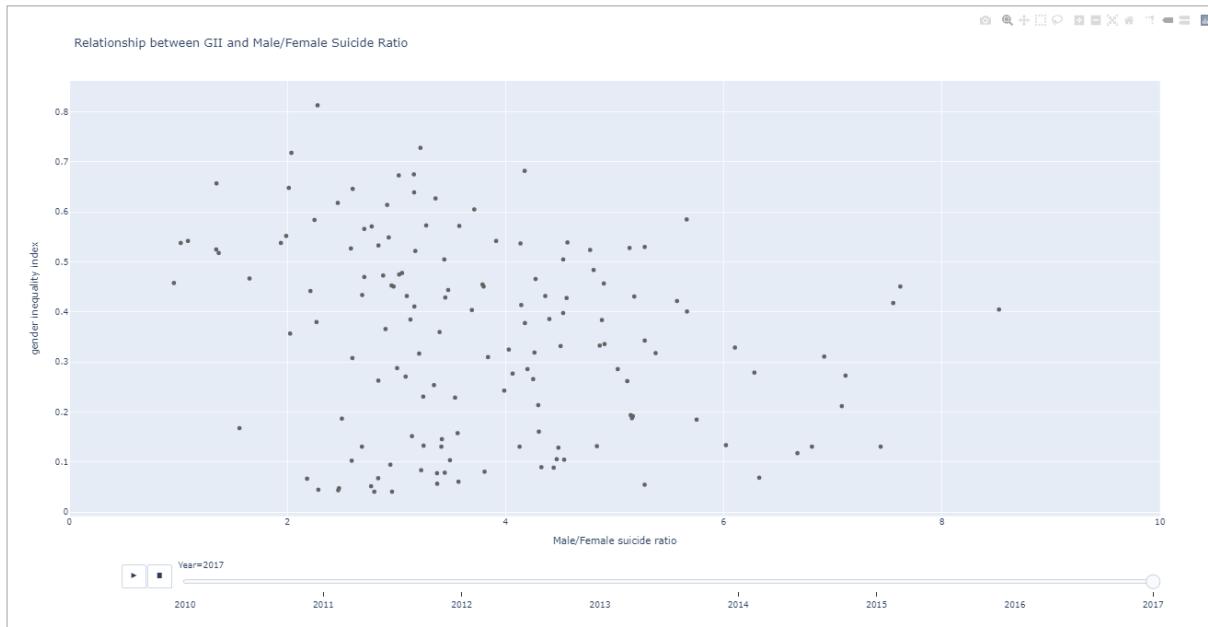
Key messages:

From the graph we can see that higher education does not have any significant relationship with suicide rate.

Figure 24

5. Gender Inequality Index

(Higher GII indicates more severe discrimination against women.)



Relationship between Gender Inequality Index and Suicide Ratio



Figure 25

Key messages:

People might assume that gender inequality of a country is correlated with the gender suicide ratio. However, no obvious correlation exists.

1. Angle

- What are the possible factors that would influence suicide?
- How are these factors influencing suicide?
- Has the relationship between them changed over the last 2-3 decades?

2. Framing

- Including all the countries that we have available data.
- Plot all the data points in 5-6 selected years.
- Identify patterns in these scatter plot to understand the relationship between suicide rates and these factors.

3. Focus

- Focusing only on the world level and do not divide into any specific country.
- Focusing only on the relationship between the external factors and suicide rates instead of the exact number of each country.
- Select 5-6 years to see the change in the relationship.

4. Interactivity

- The viewers have access to the exact number of the possible factor and suicide rates when they hover over the datapoints.
- For Relationship between GII and male/female ratio, the audience can click on any specific years from 2010-2017.

THEME 5: Other Discussible Variables

1. Generations

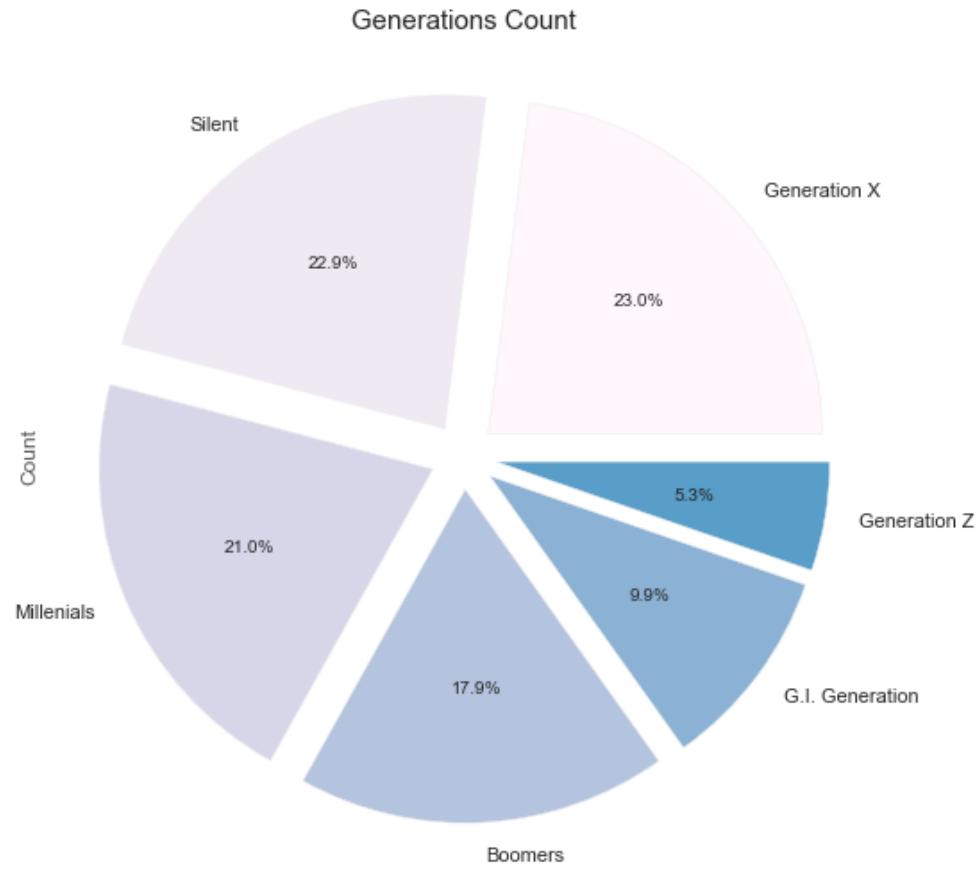


Figure 26

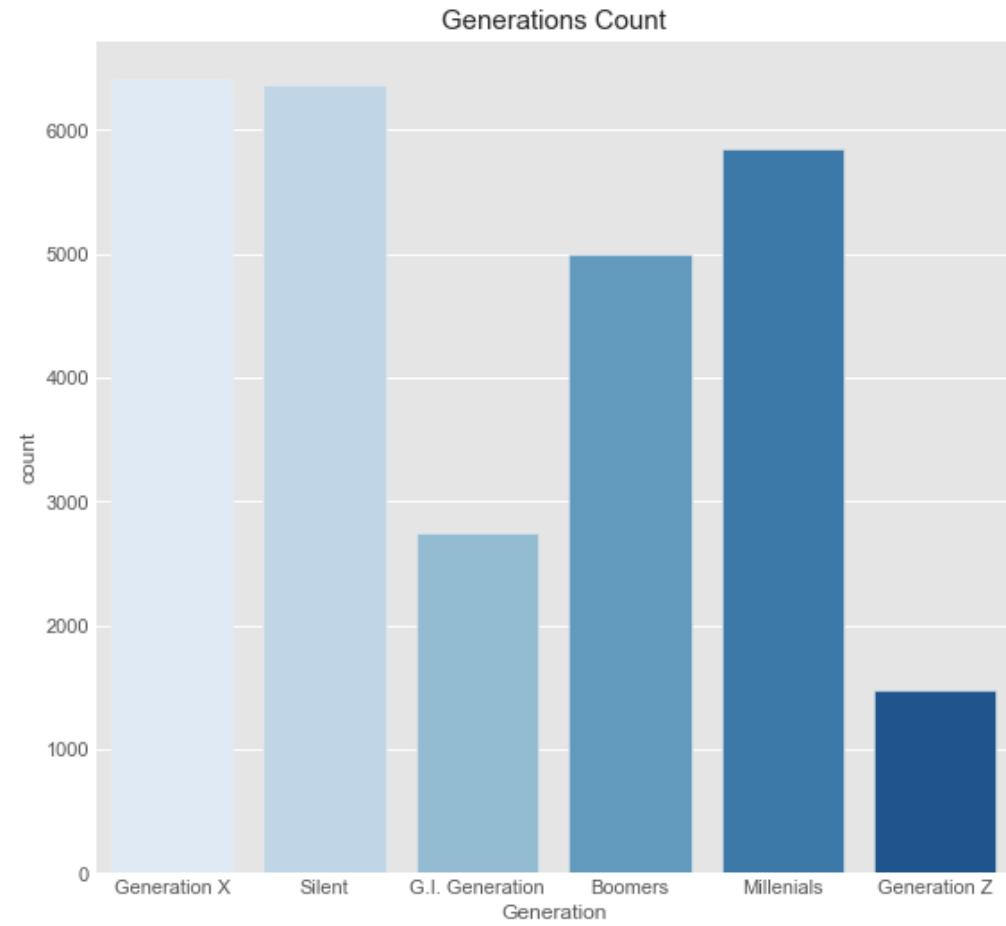
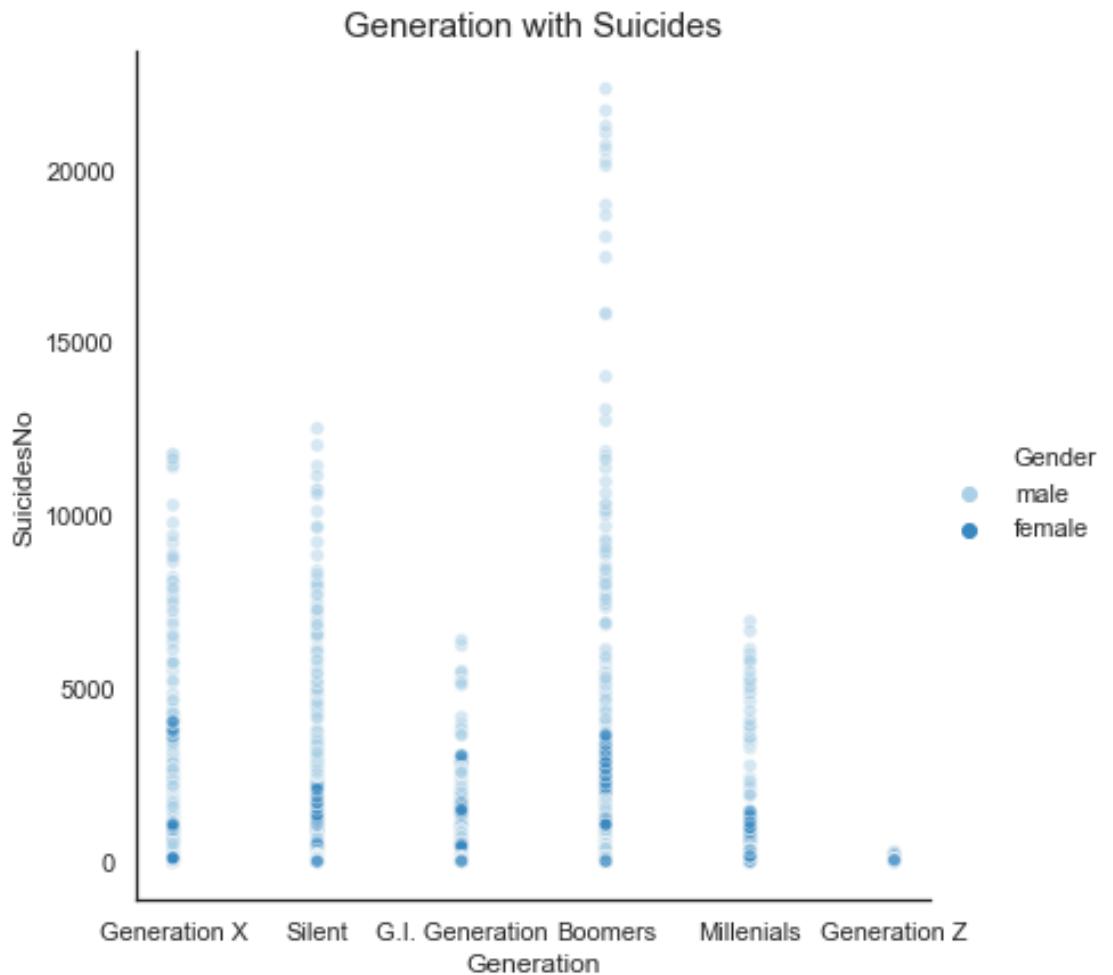


Figure 27



Key messages

- The pie chart shows the proportion of suicides in each generation;
- The bar chart better presents the number of suicides by generation, simultaneously ranking them;
- The scatter plot illustrates that suicides in males are much higher than females regardless of generation, consistent with our previous analysis.

Figure 28

2. Suicides100kPop

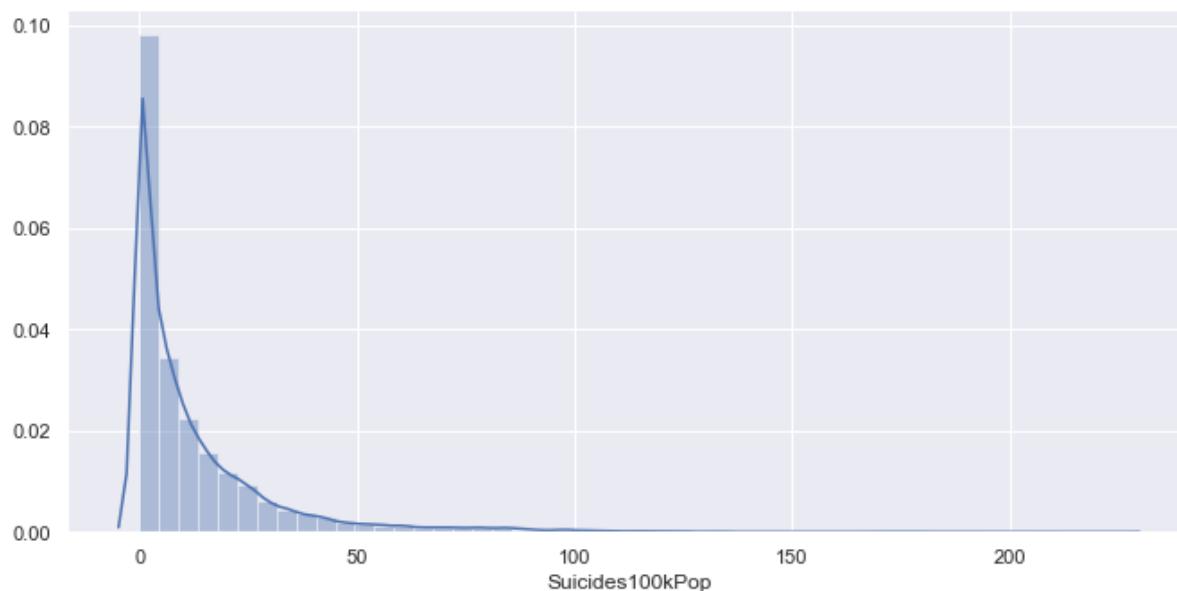


Figure 29

The combo charts do not give additional insights, although they do reduce the amount of space required and disrupts the rhythm of the flow.

A jointplot of Suicides100kPop with all targeted years.

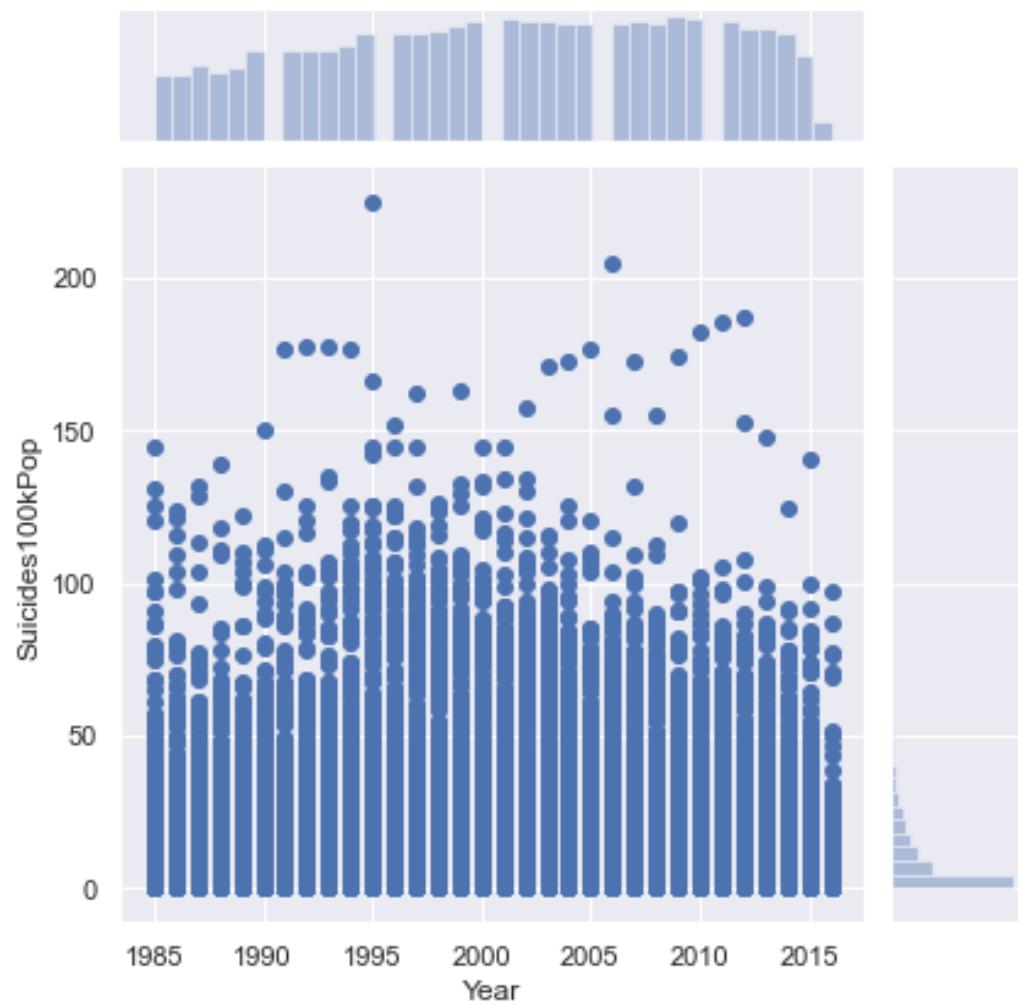


Figure 30

EDITORIAL CONCLUSION: OUR FOCUS

We aim to raise awareness of the suicide situation and maybe even educate how to identify and help someone in need. Just by being aware, the viewer can play a part in spreading love, help and kindness in the world.

In the next section, we will explain how our design brings about impact and meaning in a reliable and trustworthy manner.



DEVELOPING THE DESIGN SOLUTION (WEBSITE)

DATA REPRESENTATION, INTERACTIVITY & ANNOTATION

THEME 1: Age

We noticed that the distribution in the number of cases of suicides differs greatly for each age group. Thus, we decided to use dots to represent the disparity in distributions.

An interactive graph was also used to allow users to see the distribution of suicide cases for different age groups of a specific country of their choosing. We believe that this interaction would illustrate the weight of the topic as it contextualises the situation to their environment.

THEME 2: Country

To demonstrate the evolving nature of suicide rates, we used a clip to show how the suicide rates of different continents have changed in ranking across the years.

We also highlighted that the countries with the highest number of suicides, followed by focusing on one country – Japan. This was done through a video to further engage the viewers who prefer something more dynamic.

We intentionally left out the graphs that demonstrated the suicide trends of the top 3 countries with the highest number of suicide across the years to ensure relevance and to avoid information overload.

THEME 3: Gender

We left out the area line chart as the interpretation might not be accessible to everyone. Instead of using a foreign way to communicate a message and having to explain how to interpret it, we decided to use a simple bar chart to compare the female and male suicide cases. This easily highlighted the disparity, as well as the countries/territories with the smallest and largest disparities. The gender symbols and country flags also break the rhythm of the texts and visualisations established before.

THEME 4: External Dataset Variables

There are many reasons why people choose to attempt suicide, and many of these reasons are interlinked. In reality, many of these factors are confounders, and it is not easy to pinpoint a single factor as the cause. Therefore, a lot of thought was put into selecting the most relevant factors to be put into the webpage.



Figure 31: Initial site layout plan

DEVELOPING THE DESIGN SOLUTION

COLOUR

As suicide is a serious and somber topic, the colour theme chosen should be sensitive. Thus, we decided to use muted instead of vivid colours to bring across a sense of gentleness and empathy to the topic. The colours were muted by first reducing the saturation, followed by adjusting bring about balance.

colorbrewer2.org and colors.co were used to generate palettes. There were a few colour sets that were candidates for our colour theme.

Red

Red was one of the candidates as it the colour of blood, symbolising life and danger. However, in some cultures, red represents luck and prosperity. Since we did not want people to mistake our site for implying that suicide is something positive, this palette was not chosen.



Black

An alternative would be earthy colours like brown, sage or black. At face value, this seems like a good palette given the solemnity of the topic. However, after applying the palette to the site, we felt that it accentuates feelings of despair, making it more grim than it had to be.



Blue

Ultimately, we settled on a blue-grey palette. Although blue might be associated with sadness, the muted blue-grey palette gives a sense of hope and calm optimism. We wanted the site to not only paint a picture of the suicide situation, but also present a glimmer of hope by enlightening the audience through data visualisations and education.



COMPOSITION

The design elements are put together to create a balanced, visually appealing webpage. Through good composition, we can guide the site visitors to the right elements on the page, bringing the message across.

Typography

The important messages were emphasised through size or bolding them. It was important to choose a consistent font to bring out a minimalistic feel, not distracting the viewers from the message.

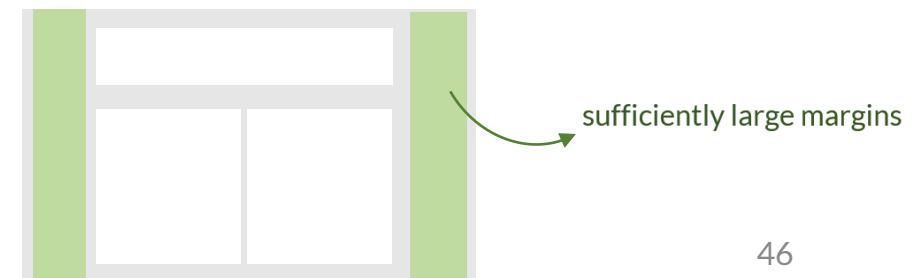
The Lato font was chosen for its clean and elegant aesthetic. It gives a feeling of warmth, aligning with our direction of giving the viewers a sense of hope and optimism despite the solemn topic. In addition, Lato is in the Google Fonts library, thus ensuring that most viewers would be able to read the font (since Google Chrome has the [largest browser market share](#)).

Ease

It was also important that the site was readable. By using sufficiently large margins on the page, each line of the paragraphs would not seem too long, making it easily readable. The margins have a secondary purpose – to allow viewers to place their cursor at the sides and scroll down the page. This is important for our site as some visualisations use the scroll as a form of interactivity. (Best viewed on a desktop)

Navigation

Navigation was also crucial for our site. We felt that the number of visualisations we wanted to feed the audience might be overwhelming. Since we wanted to educate the viewers as much as possible without drowning them with graphs, we added a navigation bar at the top and back to the top buttons in the body.





The Suicide Situation

Trend By Location

Trend By Wealth

Trend By Age

Trend By Gender

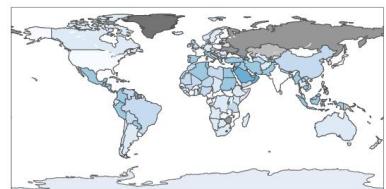
Conclusion

THE SUICIDE SITUATION

[BACK TO TOP](#)

Suicide is problem that affects anyone regardless of age, geographical location, status or gender. Interact with the map below to see how suicide rates have changed across the years. More information about the suicide rates can be obtained by hovering the mouse over each country.

Suicide Rate(/100k) change between 1990 and 2017



Year=2017

1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

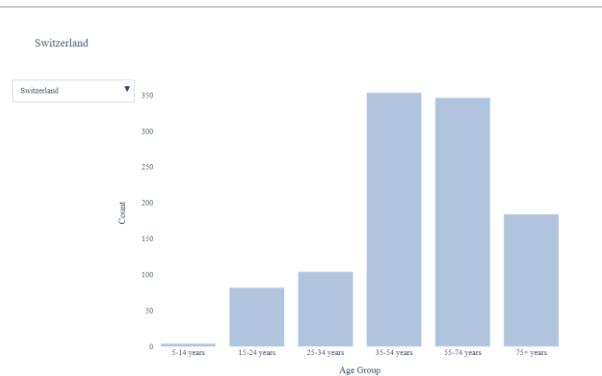
Global Average

Puerto Rico

Singapore



Why not take a look for yourself? Select own country or any country you're interested in. You can explore the 2015 suicide count by age group of any country.



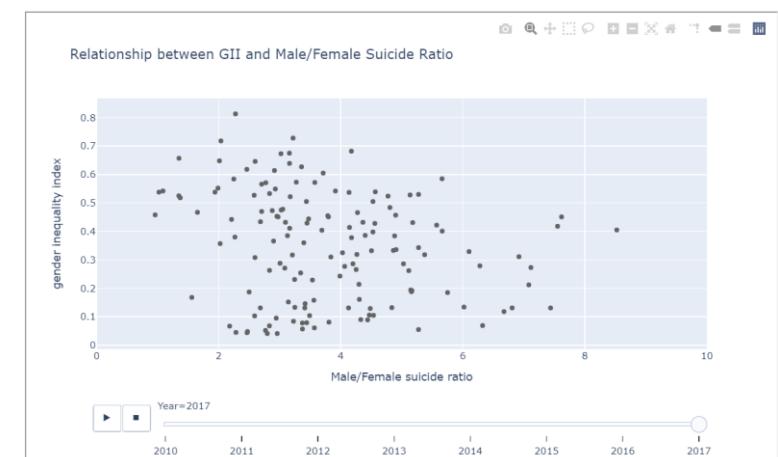
CONCLUSION

[BACK TO TOP](#)

As illustrated in the graphs and charts throughout the journey, suicide is not associated with a single factor but a combination of multivariate factors.

Being attentive and providing support to someone who has suicidal thoughts may help in preventing suicide cases and the warning signs below provide indication that a person may be in acute danger and may urgently need help.

- Talking about wanting to die or to kill oneself;
- Looking for a way to kill oneself;
- Talking about feeling hopeless or having no purpose;
- Talking about feeling trapped or being in unbearable pain;
- Talking about being a burden to others;
- Increasing the use of alcohol or drugs;
- Acting anxious, agitated, or reckless;
- Sleeping too little or too much;
- Withdrawing or feeling isolated;
- Displaying extreme mood swings;



SUICIDE IS NOT A SOLUTION

Help is out there. Learn how you can reach out with the suicide hotlines below.

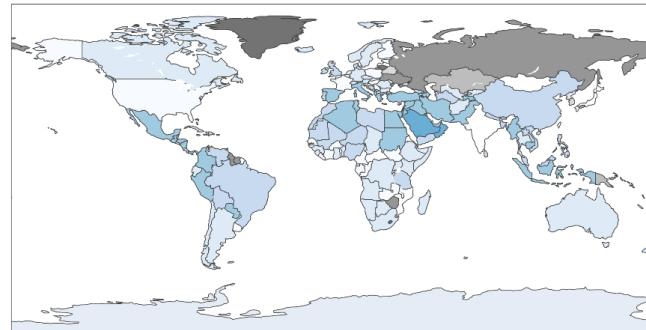
- Russia: 0078202577577
- United States: (800) 273-8255
- Japan: 810352869090
- France: 0145394000
- Ukraine: 7333
- Germany: 08001810771
- Republic of Korea: (02) 7158600
- Brazil: 2123391911
- Poland: 5270000
- United Kingdom: 08457909090

DEVELOPING THE DESIGN SOLUTION - NEWSPAPER

Suicide: Escapades of the Vast Eternity

Global Suicide Rates (/100k) in 2017:

Which countries are suffering from high suicide rates?



Overall, the suicide rates in most country are lower than 10%. Generally, countries near equator have lower suicide rates than others. Global suicide rate is mainly driven up by countries near Russia, Greenland and some small countries in Africa and South America.

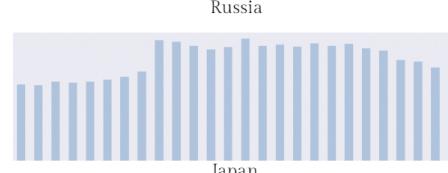
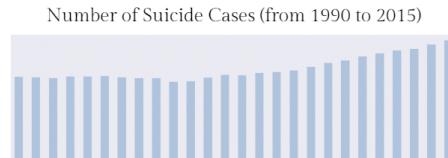
Suicide Trend in Specific Countries:

Will different countries share the same trend?

Even though the suicide rates may be similar for some countries, the suicide trend are different due to economic or social differences.

For USA, the suicide numbers remained similar for more than 1 decade and started to increase in recent years.

As opposed to USA's recent increase in suicide numbers, Russia and Japan have have decreasing number of suicide cases during the past few years. However, these two countries do not share the exact same trend: in Japan, the suicide cases suddenly climbed up in around 1999, while in Russia the peak appears in early 1990s.



Possible Factors That Will Influence Suicide:

Assumption or Reality?

1. Poverty

Assumption: Poorer countries are more likely to have higher suicide numbers.

Reality: True, countries with a lower GDP per capita have a larger variation in suicide rates.

2. Mental Health

Assumption: Depression is highly correlated with suicide. Countries with higher depression rates will also have higher suicide rates.

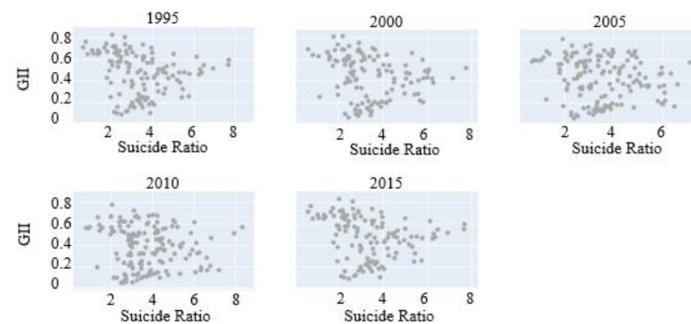
Reality: True. As expected, depression rate is positively correlated with suicide rate.

5. Gender

Higher Gender Inequality Index (GII) indicates more severe discrimination against women.

Assumption: Higher GII will more likely to have higher suicide in women than men.

Reality: False. As shown below, GII does not have any significant relationship with suicide rates.



Based on similar themes and principles as the webpage, we created a solution for the newspaper with nuance differences.

The font is changed to Times New Roman because it is narrower and designed for newspaper.

Due to the constraint of double-page, we summarized most of the charts into words under the "Assumption VS Reality" Section.

CONCLUSION

Through applying the design principles of trustworthiness, accessibility and elegance, we trust that we have accurately demonstrated the prevalence and gravitas of suicide. We have supplemented the main dataset with a handful of datasets to provide a fuller picture of the complex situation. This report is packed with the explorations done and our rationale behind the decisions we made in creating the webpage and newspaper spread.

We have tapped on data to illustrate the issue at hand, thereby not only increasing the awareness of suicides, but also informing the viewers of the warning signs and suggesting how they can help.

Life may not always be easy, but suicide is not a solution.



References

Bau, J., 2021. *South Korea Suicide Analysis*. [online] Johnbau.shinyapps.io. Available at: <https://johnbau.shinyapps.io/main/_w_85b9bed8/_w_0e8236de/_w_1442f75d/> [Accessed 15 April 2021].

WHO, 2021. *Suicide: one person dies every 40 seconds*. [online] Who.int. Available at: <<https://www.who.int/news/item/09-09-2019-suicide-one-person-dies-every-40-seconds>> [Accessed 1 May 2021].