

ETC5543 - Business analytics creative activity - S1 2023

Internship Report

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Abstract

For decades, computer based reporting has been an integral part of journalism, that uses public records, databases, private and public data sources to investigate patterns, trends or even anomalies in the data collected. The integration of data analysis in the reporting industry brings challenges with it, i.e., data manipulation, wrangling, access to platforms supporting visualization reorganization, etc.(Halevy & McGregor, 2012). The aim of the project is to support the journalism team of authors and editors with compelling visualization to support their claims and research, or creation of an analysis via a visual related to the topic selected. The first package, **‘Decriminalizing Suicide’** focuses on *India’s Mental Health Act 2017* and opposite results are observed due to different data sources, an increase and decrease after 2017, which is discussed in the report. The second package, **‘Policing the Police’** takes an angle of _____. The project uses methods of data wrangling, exploration, pdf scraping, spatial analysis and basics of functions of tidyverse, in R language and uses ‘themes360info’ package for the theme. The report is divided into two sections, i.e., the topics of published articles. The workflow for both starts with initial analysis for the topic, the shortlisted/selected visualizations with 360info theme added, reasons for selection or rejection of a particular visualization and the challenges faced during the process. The overall analysis shows that _____

Contents

About	2
Decrimanlizing Suicide	3
Background	3
Motivation, Significance & Objectives	4
Methodology	4
Policing the Police	15
Background	15
Motivation and Significance	15
Objectives	15
References	16

About

360info is a not-for-profit open access agency that provides global information regarding world's issues and provides solutions for the same. This content is forwarded to re-publishers without charge, under Creative Commons.

The content published is based on research, and each week a special report is published, focusing on a global problem, which consists of 5-10 articles covering different aspects in the problem. These articles are contributions from academics across various fields of study, depending on the article.

Each report is supported by visuals, can be images, graphics or interactives. Any story telling can be made better with a data-driven analysis along with it and hence, this internship has given me a chance to work in the data and digital story telling team, produce data visualizations, collaborating with the authors and editors.

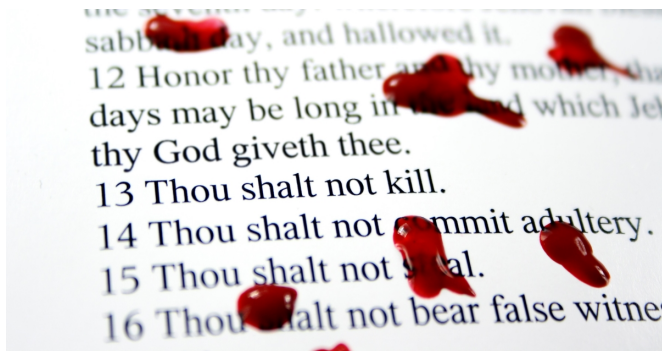
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Decriminalizing Suicide

Background

Suicide is a worldwide public health problem. There have been over 700,000 deaths from suicide worldwide in 2019. Overtime, there have been a no. of theories if decriminalizing suicide is a boon or a bane? Will it increase the suicide rate or decrease it? It may decrease the overall rates because then people will start talking about it openly, which will improve mental health and therefore, less suicides, or it may increase the attempt to suicide rate. According to WHO, there are still 20 countries that have criminalized suicide (World Health Organization: WHO, 2021).



The British common law stated that one has no right to take his/her life as it belong to the state and this affected many former British colonies like Kenya, who still criminalize suicide, even after the colonization ended.

With the advancement of science in the 19th and 20th century, it was discovered that suicidal tendencies are caused by biological factors as well and hence, continents like Europe and North America revoked the laws reagrding crimanlizing suicide.

Firther, as the years went by, and awareness increased, alot of policies came into action, like Convention on the Rights of Persons with Disabilities and World Health Organization Mental Health Action Plan 2020–2030 prompted various countries to decriminalize suicide

Suicide is a worldwide public health problem and there have been over 700,000 deaths from suicide worldwide in 2019. Overtime, there have been a no. of theories if decriminalizing suicide is a boon or a bane? There are still about 20 countries that decriminalize suicide and the laws regarding it date up-to 160 years ago (World Health Organization: WHO, 2021).

Theories like ‘criminalizing suicide prevents people from reaching out for help which results in an increase in suicide rate’ or ‘criminalizing suicide would decrease the attempts made to suicide and hence, lower the suicide rate’, are up for debates.

Motivation, Significance & Objectives



Suicides are result of no. of causes, ranging from abuse victims, loss, loneliness, use of intoxicants to financial issues. All these issues result in mental breakdown and it is safe to say that all potential suicide victims go through a mental health issue, it might not be true vice versa. These mental health issues come with stress, anxiety or depression and often times are linked to suicidal feelings or behaviour and might not be the only cause of suicide. The relationship between mental health and suicides is complex.

Suicide prevention strategies are being discussed and somewhat implemented at certain regions around the world, like means restriction, mental health literacy, suicide prevention financial support, free psychological help and responsible media coverage. Therapy and counselling are becoming openly talked about and acknowledgment of one's mental health is the first step towards a better human health globally.

For every one completed suicide, 20 more attempts are made. Identification of potential suicide victims via these attempts can result in help-seeking and prevention of suicide but criminalizing it, hinders the help-seeking and also results in inaccurate tracking of suicides. Also, there are data gaps in data round the world for a particular year, years or season which could be a result of no. of factors like, a change in the government, a sudden technology advancement, a low economy country, major events, etc.

These gaps need to be tackled for better tracking and hence, specific preventive measures. The causes for suicides are varied, and its tracking gaps can be because of personal or national reasons. The increase or decline in the data cannot be fully trusted, as it could be false or hampered.

Another issue is the different trusted data sources having completely different numbers for the same country and the same year. The goal fo this report is:

- hello
- hello 2

Methodology

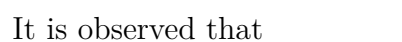
In the special report, 8 perspectives were decided to be discussed, out of which intial visualizations were created, global/generic and related to a particular article and then the '360themes' package was added to the selected ones.

Comparison of top 30 countries with highest average suicide rate with Human development Index

The data set consists of values collected in 2019 and has been extracted from *Human Development Reports*.

HDI_Value_2019	Development_Index
0.8-1	Very High HDI
0.7-0.8	High HDI
0.55-0.7	Medium HDI
0-0.55	Low HDI

Top 30 countries by average suicide rate (2008–2019)



Limitation:

Discussion: For further visualizations, a more legit data source was recommended, and hence a global suicide rates data was extracted from World Health Organization which contains global data of suicide rates from 2000 to 2019..

Comparison of data from OWID and WHO by selecting a random country, say Australia.

Table 2: Comparison of Data Sources- Australia's Suicide rate

Year	suicide_rate_OWID	suicide_rate_WHO
2019	10.39	11.25
2018	10.44	11.26
2017	10.50	11.79
2016	10.90	10.92
2015	11.35	11.81
2014	11.11	11.31
2013	10.78	10.24
2012	10.74	10.48
2011	10.81	10.06
2010	10.90	10.41

It is observed that the WHO data values are higher than OWID values for the years 2014 and after, and lower for the years 2010-2014.

Observation of data gaps and reduncies in the dataset.

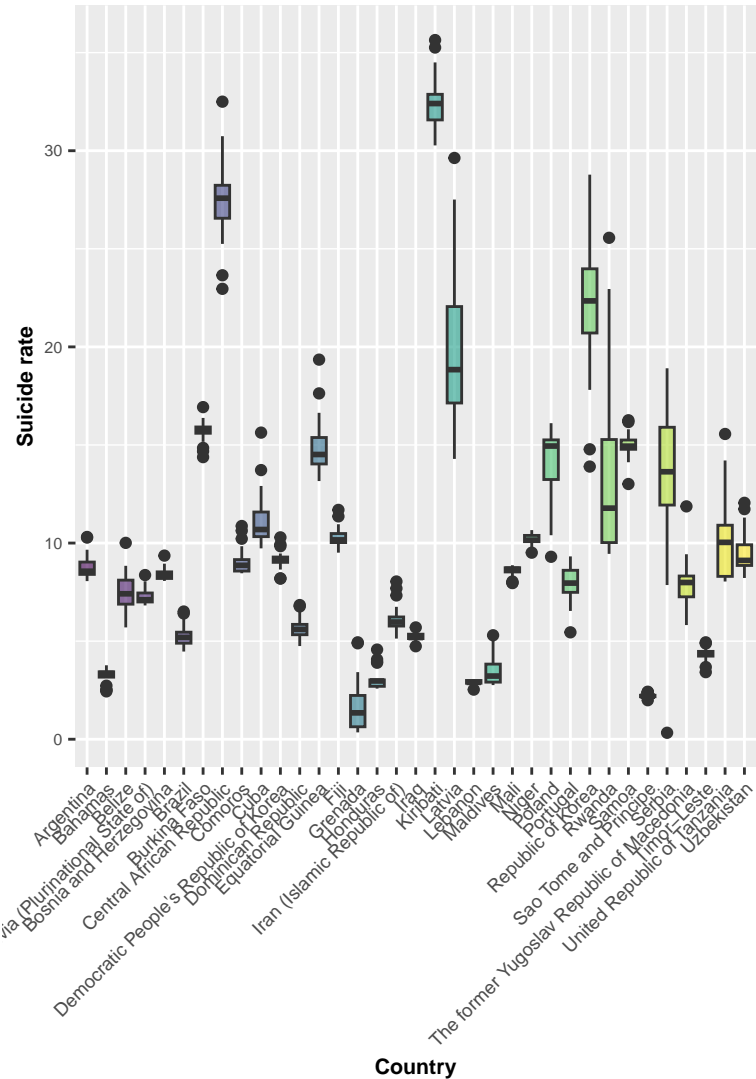
Here, the objective of the visualization is to confirm significant errors in any data and why any data source cannot be fully trusted. This is done by observing outliers in the data set. *Stephen Hawkins described Outliers as a point that deviates so much from the other observations that it arises a suspicion about a different mechanism being used for its generation*(G, 1987).

These data points vary differently and could be due to no. of reasons, for example, variability in measurement, hampering of data, misreporting, underreporting, duplication, sampling errors, unusual events, human errors of recording incorrect data or miskeyed upon data entry, etc.

Outliers are highly underestimated! A small proportion of outliers can affect a simple analysis, giving rise to inflated error rates and distortions in statistical estimates and removal of these can help improve the accuracy significantly(Osborne & Overbay, 2004).

Here, initially the complete data set was observed for observing outliers, but due to it being a large dataset, text overlapping and squeezed observations made the visualization hard to read, hence, countries with significant outliers were selected for visualization.

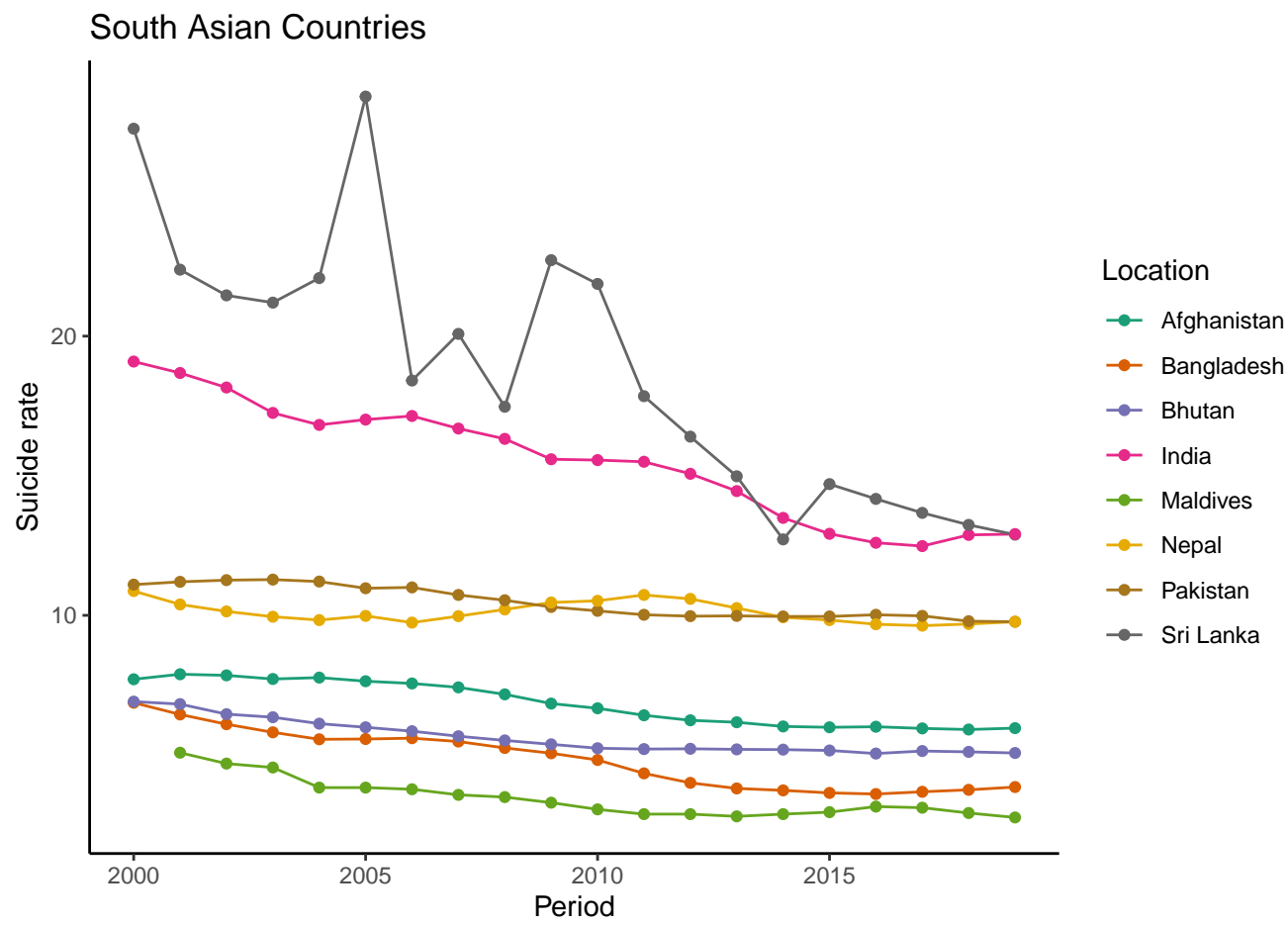
Irregularity in Data Collection



It is observed that _____

Limitation:

Trend of suicide rates in South Asian Countries



It is observed that _____

Limitation:

Shortlisted Visualizations

State/Union territory-wise suicide rate distribution in India

REGION-WISE: SUICIDE IN INDIA 2019

No. of suicides were maximum in Andhra Pradesh and Arunachal Pradesh

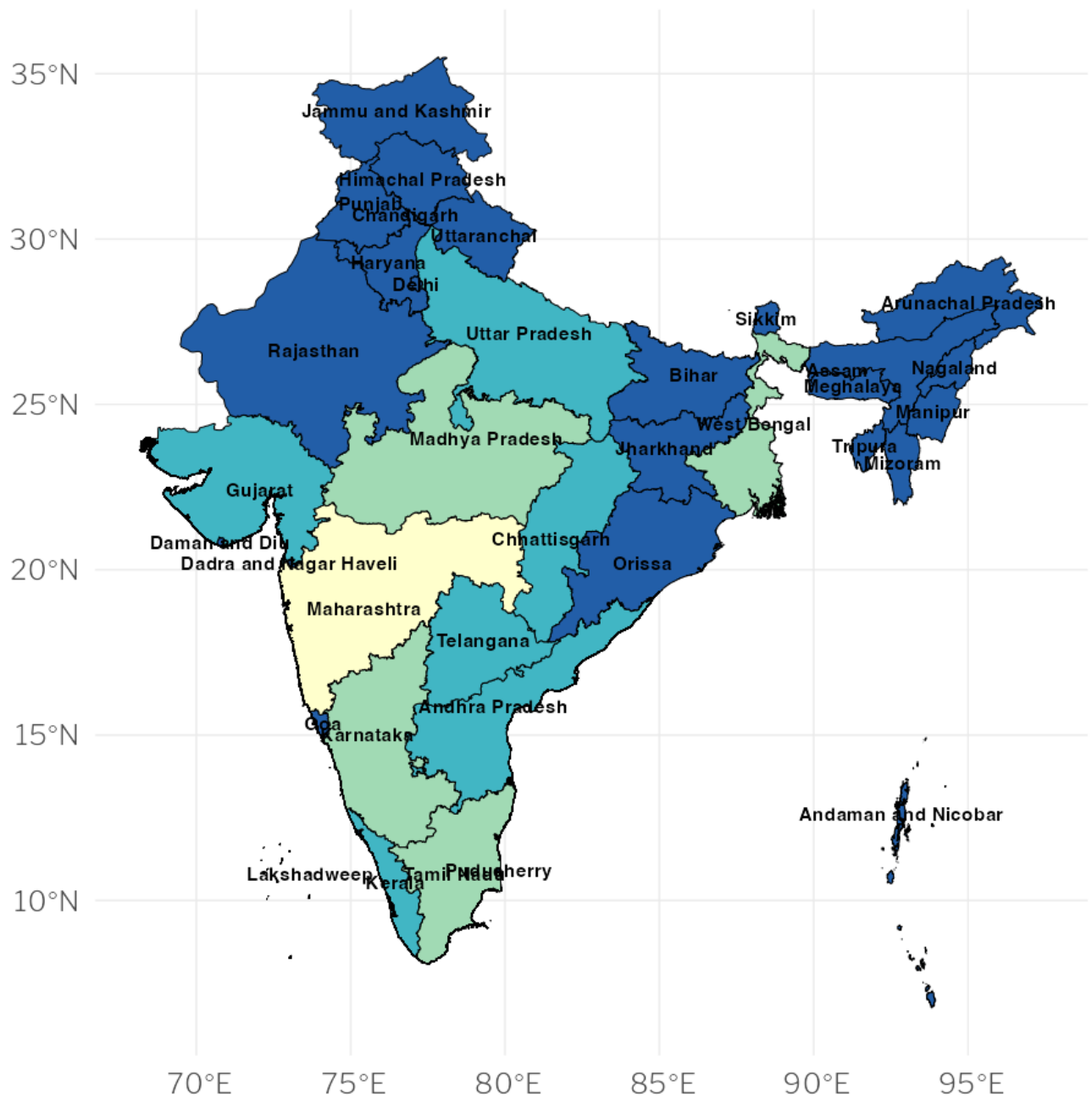


CHART: Nishtha Arora & James Goldie, 360info

DATA: Our World in Data



Here, we observe that _____

Limitation:

Observation of suicide rates in India before and after 2017 (India's Mental Health Act 2017).

SUICIDE IN INDIA

Suicide rates in India have declined from 2010 to 2017 and then a sudden hike is

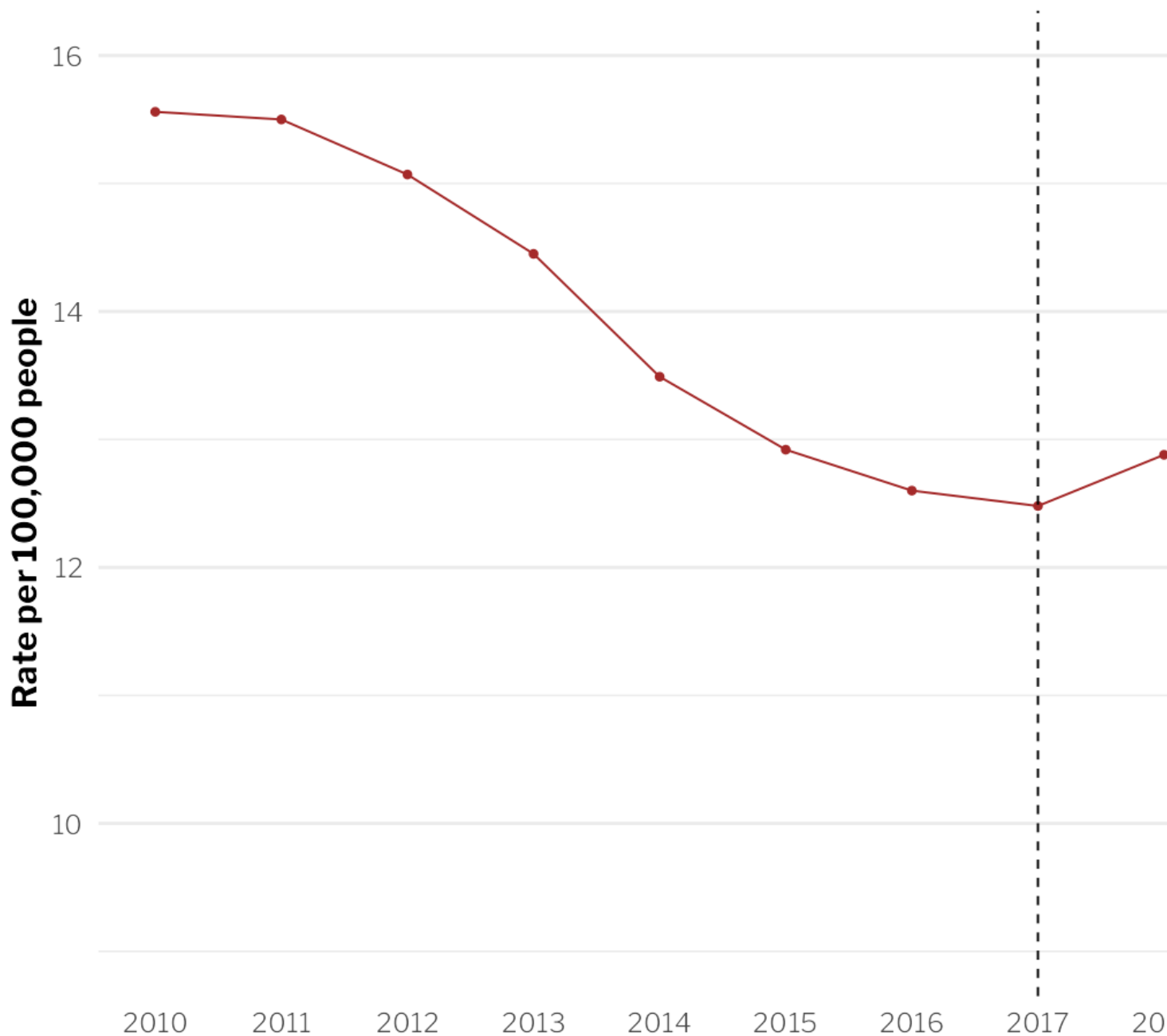


CHART: Nishtha Arora & James Goldie, 360info

DATA: Our World in Data

It is observed that_____

Limitation: The plot observed was completely opposite from the author's data reference source, i.e. NCRB data.

This following comparison was made after the package was published.

Comparison with NCRB data

```
## mapping: x = ~x, y = ~y
## geom_rich_text: na.rm = FALSE, label.r = 0, label.padding = 0.25
## stat_identity: na.rm = FALSE
## position_identity
```

SUICIDE IN INDIA (data.gov)

Suicide rates in India have rapidly fallen till 2016.

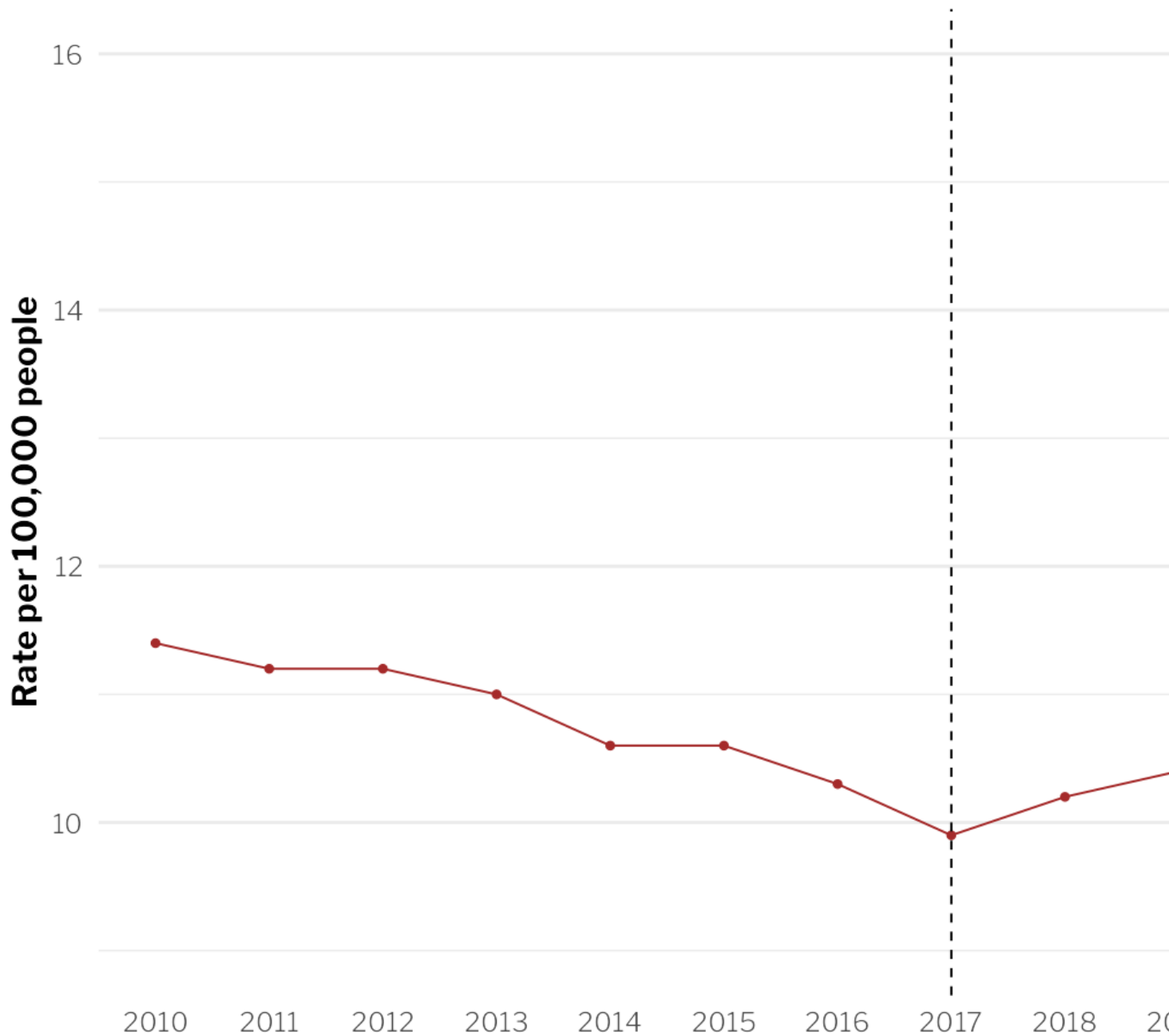


CHART: Nishtha Arora & James Goldie, 360info

DATA: NCRB

Results

Discussion

Policing the Police

Background

Motivation and Significance

Objectives

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