

110-1 國立臺灣大學 時空資料視覺化 學期報告計畫書
2021-Fall NTU Spatiotemporal Data Visualization Term Project Proposal
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1. Title :

Spatial Patterns of suicide rate change after the outbreak of COVID-19 in Japan

2. Literature Review :

It has been reported that COVID-19 influenced human's mental condition via a variety of aspect including fear of being infected, loneliness during self-quarantine and so on. In Japan, it has been reported that there were excessive suicide rate than the stable condition before the virus outbreak ([Tanaka, T., Okamoto, S., 2021](#)). However, the spatial pattern of COVID-19 induced suicide rate change wasn't been discussed. Accordingly, I am going to discuss the spatial pattern of suicide rate change in the 5 waves of COVID-19 outbreak in Japan.

3. Research Questions :

1. Do suicide rates change after COVID-19 in Japan occur in clusters ?
2. Where do the suicide rates cluster ?

4. Data:

4-1. Suicide Data :

- Source :Ministry of Health, Labour, and Welfare, Japan. Website :
<https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000140901.html>
- Space resolution : Prefectures(47) / Municipals(1,724)
- Time resolution : Month
- COVID-19 Period : 2020/Feb-2021/Oct. (5 waves of COVID-19 outbreak)

4-2. COVID-19 infected Data (Optional):

- Prefecture – level data: NHK. Website :
<https://www3.nhk.or.jp/news/special/coronavirus/data/>
- Municipals – level data : Scatter in each Prefectures' Websites.

5. Expected Results :

Expected result is an online interactive dashboard that users can choose different waves of outbreak of COVID-19 can investigate the spatial pattern of suicide rate change. The suicide rate change is calculated with the concept that the suicide rates after COVID-19 minus ones before COVID-19. Hopefully, If everything go well, I would like to generate the animation of spatial pattern with monthly change.

6. Reference:

Tanaka, T., Okamoto, S. Increase in suicide following an initial decline during the COVID-19 pandemic in Japan. *Nat Hum Behav* 5, 229–238 (2021).

<https://doi.org/10.1038/s41562-020-01042-z>