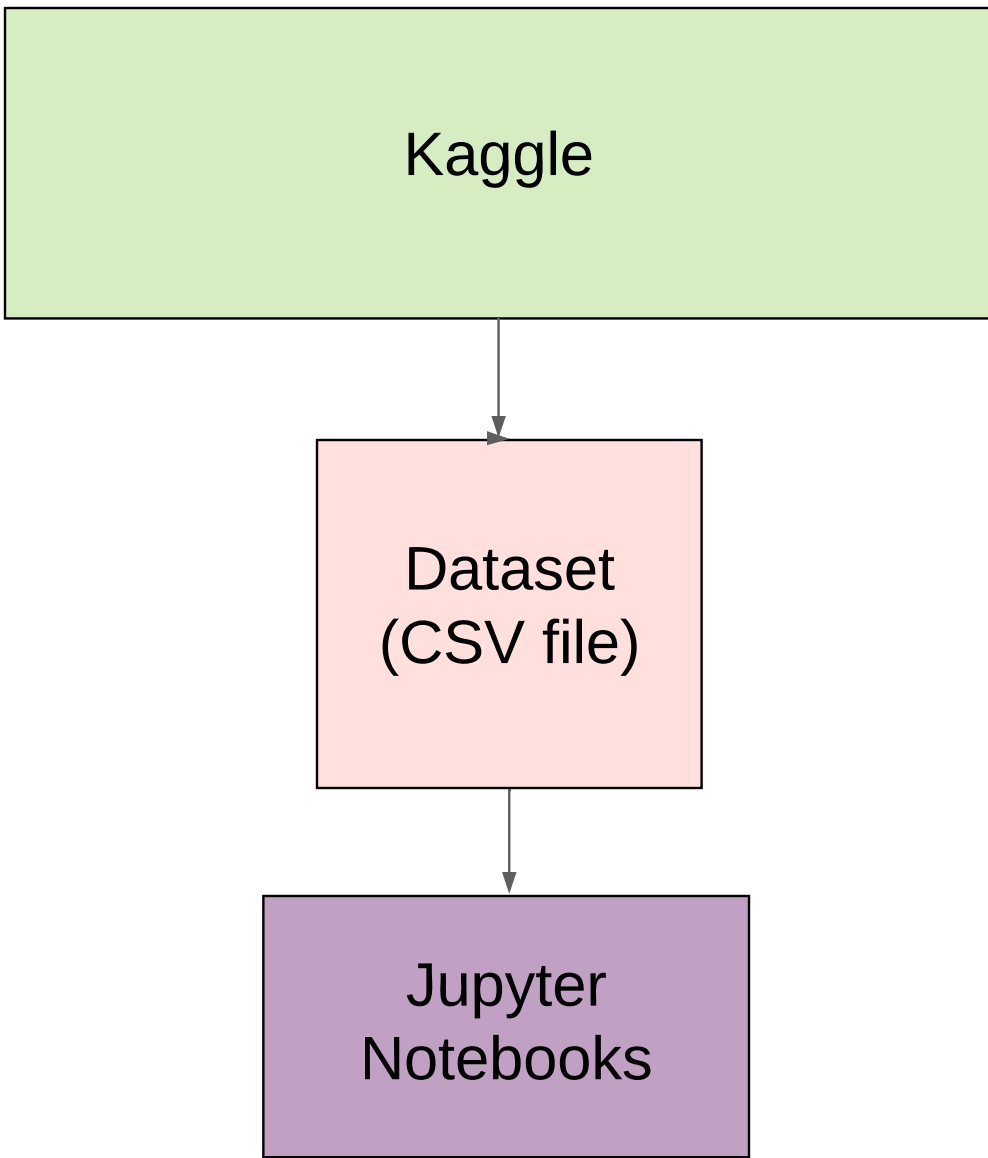


# Happiness Before And After COVID-19 : Storyboard

## Descriptions:

The dataset being used is called "World Happiness Report". It is a landmark survey that reviews the state of global happiness and show how personal and national vairations contribute to one's happiness. This dataset was acquired through the Gallup World Poll. The columns demonstrate happiness scores through six factors: economic production, social support, life expectancy, freedom, absence of corruption, and generosity.

The reasoning behind using this dataset is to measure the impacts of COVID-19 in terms of happiness levels throughout the world.



## Methods & Tools:

Used Kaggle as the tool to obtain the dataset. To do data analysis, I have decided to use Jupyter Notebook as my means of creating graphs. This is because It can be run locally and it includes the packages I am going to use such as "pandas", "matplotlib", and "numpy".

Pandas will be used to import the dataset (CSV file) and for data analysis. Matplotlib has the potential of being used for graphing the necessary data charts. Numpy is for the data manipulation.

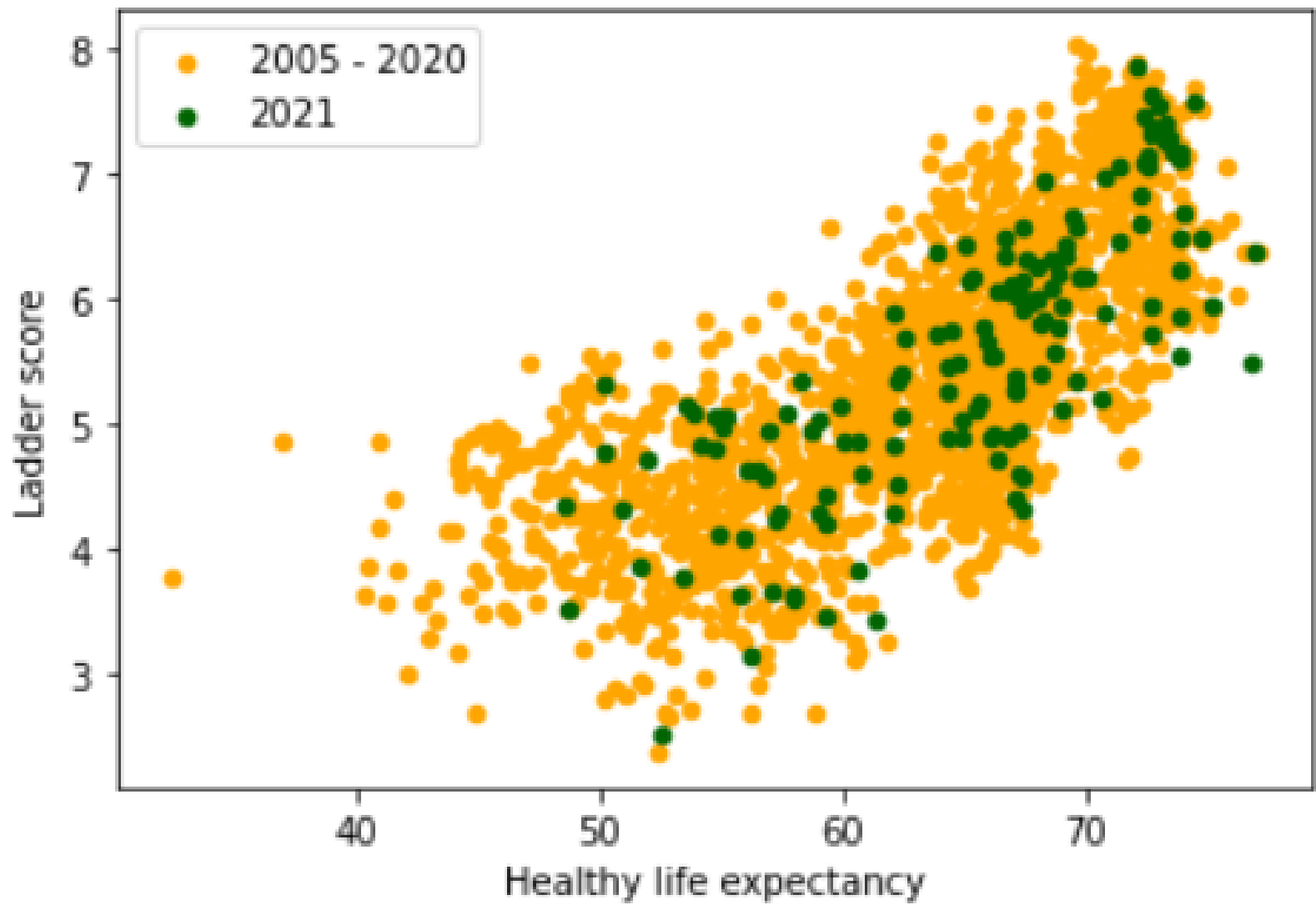
## Research Question:

How is the happiness after the spread of COVID-19 compared to the previous years?

## Sub-Questions:

- 1) What does happiness per year look like?
- 2) What are the happiness levels per region in comparison to before and after COVID-19?
- 3) What are the differing factors between a happy and a less happy region?
- 4) Which World Happiness Report defines the situation of COVID-19?

## Correlation between Life Satisfaction and Life Expectancy

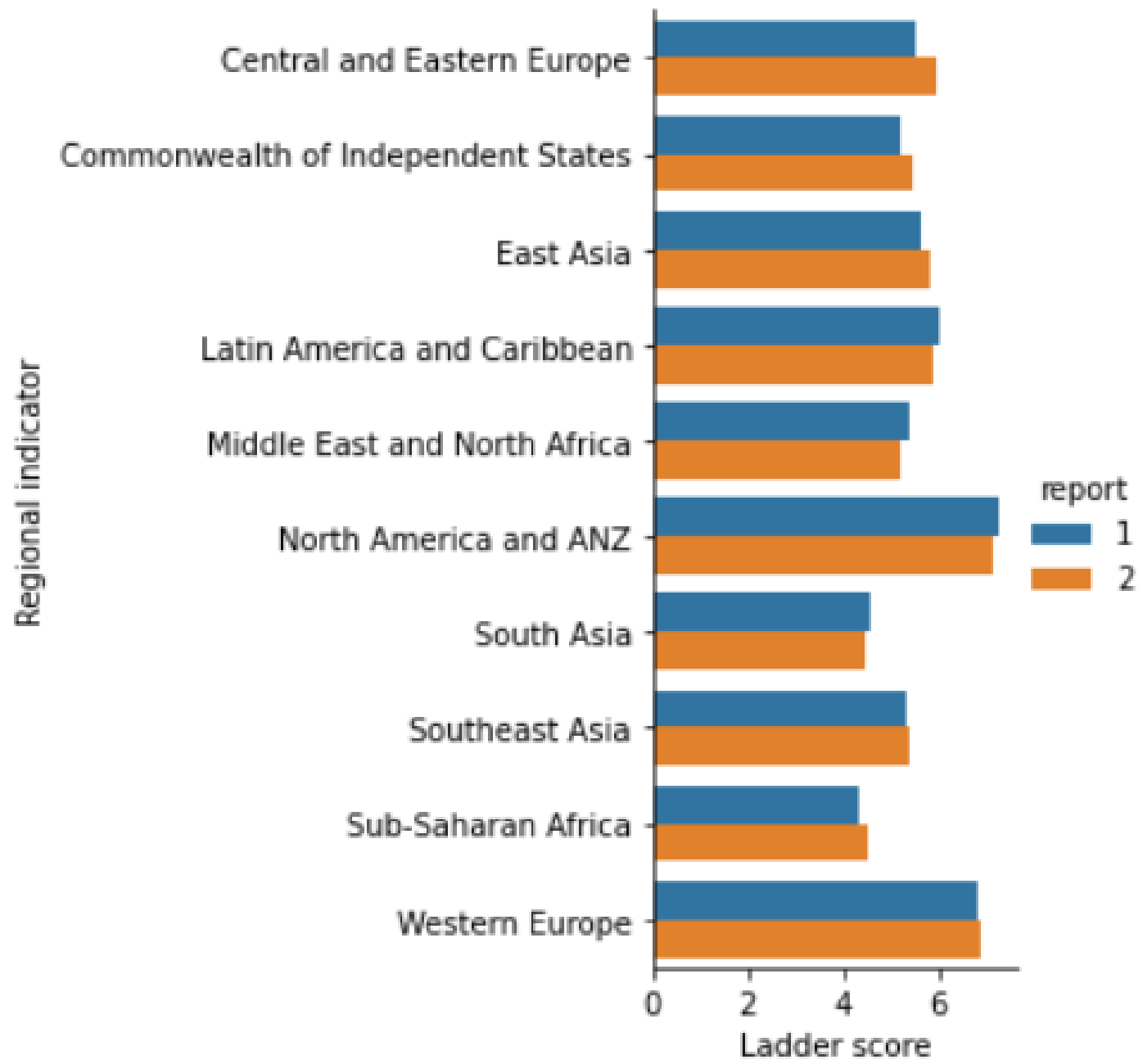


It shows what happiness per year in accordance to healthy life expectancy. The blue dots represent their life satisfaction rating all the countries throughout the years from 2005 to 2020. While, the green dots are data from 2021 to see a contrast between years. In this plot, there is also a strong positive correlation with a healthy life and life satisfaction. It seems that people tend to be happier when they are healthy and feel as though they have a longer lifespan. Thus, a possible factor that affects happiness is life expectancy.

## Potential Results:

The hypothetical outcome is that the happiness levels should have decreased world-wide due to the pandemic. The comparison of the tables in other years to the one relevant to the pandemic should display lower happiness levels and other categories that correlate with unhappiness.

## Life Satisfaction sorted by region between years 2005 - 2021



Report 1 represents the ladder scores of years 2005 to 2020. Report 2 represents the ladder scores of year 2021. The blue bar or report 1 represents the life satisfaction before COVID-19 happened. While, the orange bar or report 2 represents the life satisfaction after the pandemic.

The visualizations demonstrates that there was no significant change between the mean ladder score of the years 2005-2020 compared to 2021. If anything, some regions demonstrate that their ladder score in the year of 2021 increased. And, the correlation graph shows higher scores in 2021.

## Interpreting the results:

From the visualizations, happiness before and after has not changed in a drastic manner whether positive or negative. In some regions, they have become happier while others have lowered slightly. However, overall there is no significant change on the happiness after the spread of COVID-19.

## Conclusions

Worldwide issues such as pandemics are directly correlated to the happiness levels of the world. With understanding how the factors affect the happiness levels of each country, legislations could determine what could be improved through these factors[some other conclusion that can be arrived at with data analysis]

## Next Steps / Future Work

Simulation of improving certain categories in the World Happiness Report categories and how they would improve. Which could help others explain the causing factors of happiness.

## Work Cited / References

Dataset:  
<https://www.kaggle.com/ajaypalsinghlo/world-happiness-report-2021>)  
Helpful Links:  
<https://github.com/AshQTan/DH100>  
<https://worldhappiness.report/ed/2021/>  
[https://pandas.pydata.org/pandas-docs/stable/user\\_guide/index.html](https://pandas.pydata.org/pandas-docs/stable/user_guide/index.html)

## Code:

[https://github.com/azhouzhu/DH100\\_Summer2021](https://github.com/azhouzhu/DH100_Summer2021)