@ NYC Data Science Academy

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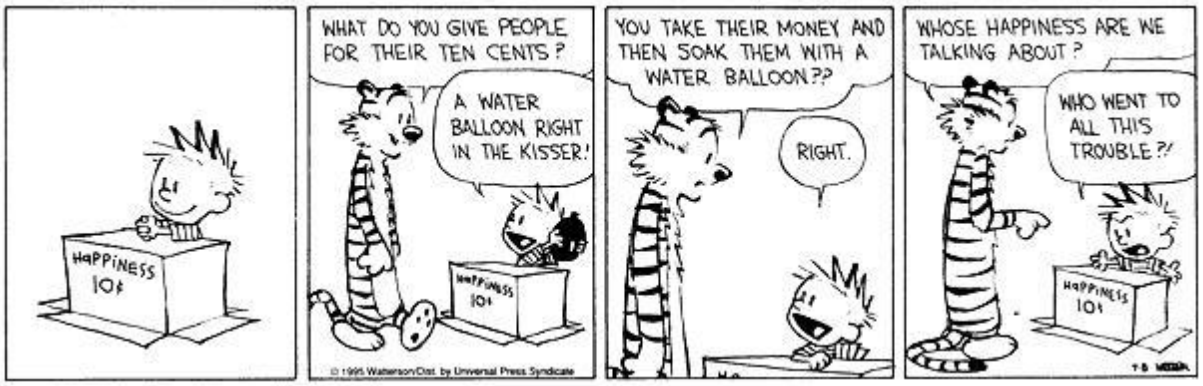
# Pursuit of Happiness


**by**

**Shivakumar Ranganathan (*Kumar*)**

https://srangan3.shinyapps.io/Happiness_Project/

1 Overview & Prior Research

2 App Layout

3 Data Visualization & Statistics

4 Conclusions & Future Work

# 1 Overview & Prior Research

- Happiness is a state of well-being and contentment (Merriam-Webster)
- Philosophers and researchers have made several attempts in the past to quantify happiness[1,2,3]
- One such significant study was compiled in the World Happiness Report[4] and the data was made available on Kaggle for the years 2015, 2016 and 2017.
- As per this study, six key variables play a role in determining the overall happiness score of a nation—

[1]Kalmijn, Wim, and Ruut Veenhoven. "Measuring inequality of happiness in nations: In search for proper statistics." *Journal of Happiness Studies* 6.4 (2005): 357-396.
[2]Frijters, Paul. "Measuring happiness, The Economics of Well-Being." *Journal of Economic Psychology* 53 (2016): 180-183.
[3]http://research.un.org/en/happiness
[4] http://worldhappiness.report/ed/2017/

# 1 Overview & Prior Research

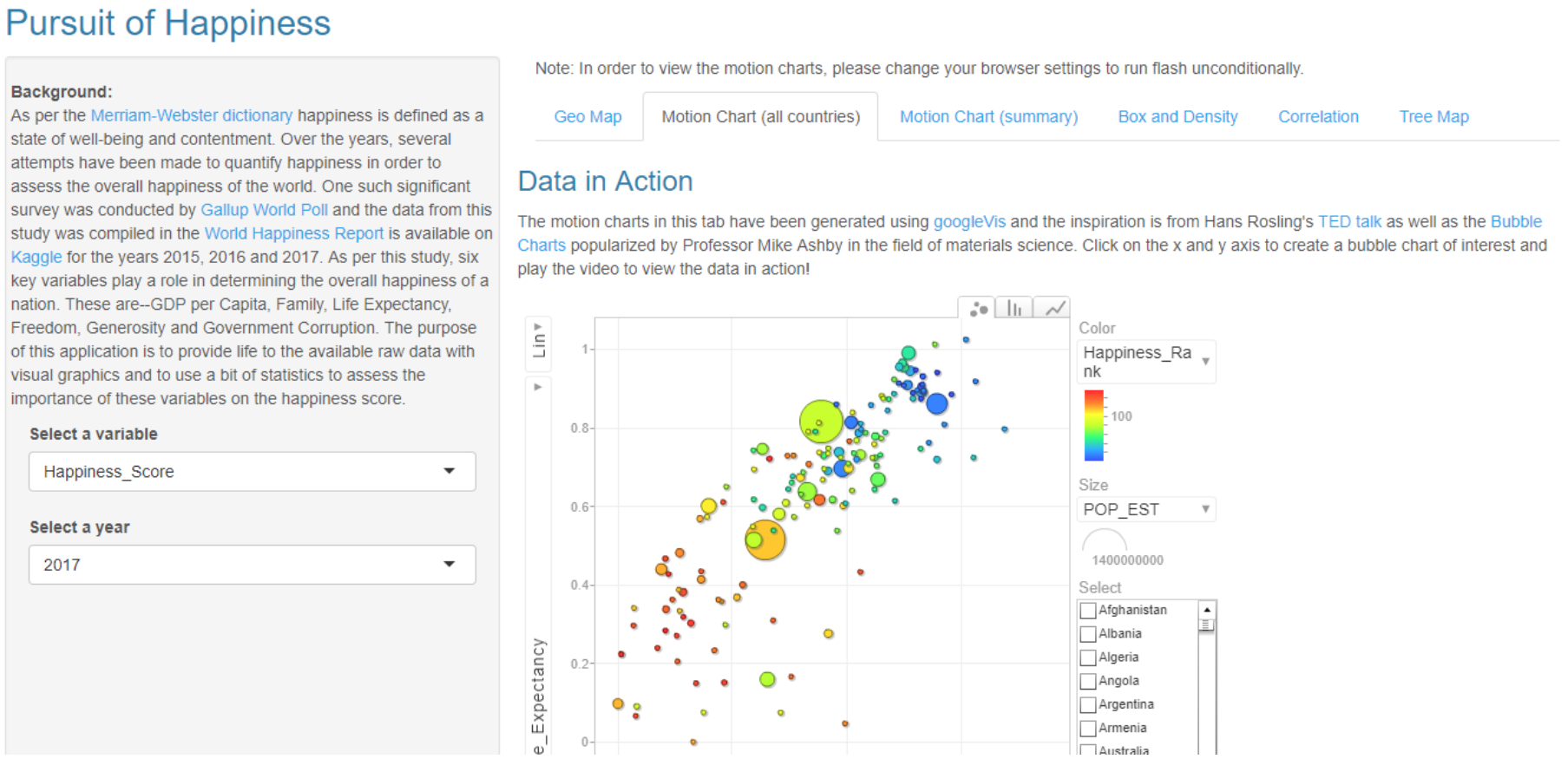
1. GDP per Capita in terms of PPP—Data from World Bank
2. Family or Social Support— "If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?"
3. Life Expectancy— Data from World Health Organization
4. Freedom— "Are you satisfied or dissatisfied with your freedom to choose what you do with your life?"
5. Generosity— "Have you donated money to a charity in the past month?"
6. Government Corruption— "Is corruption widespread throughout the government or not?"

- The purpose of this shiny app is to provide life to the raw data with visual graphics and to use statistics to assess the importance of these variables on happiness score.

# 2 App Layout

- For its simplicity, CERULEAN theme was used to design this app. For details, visit—

  https://rstudio.github.io/shinythemes/



# 3 Data Visualization & Statistics

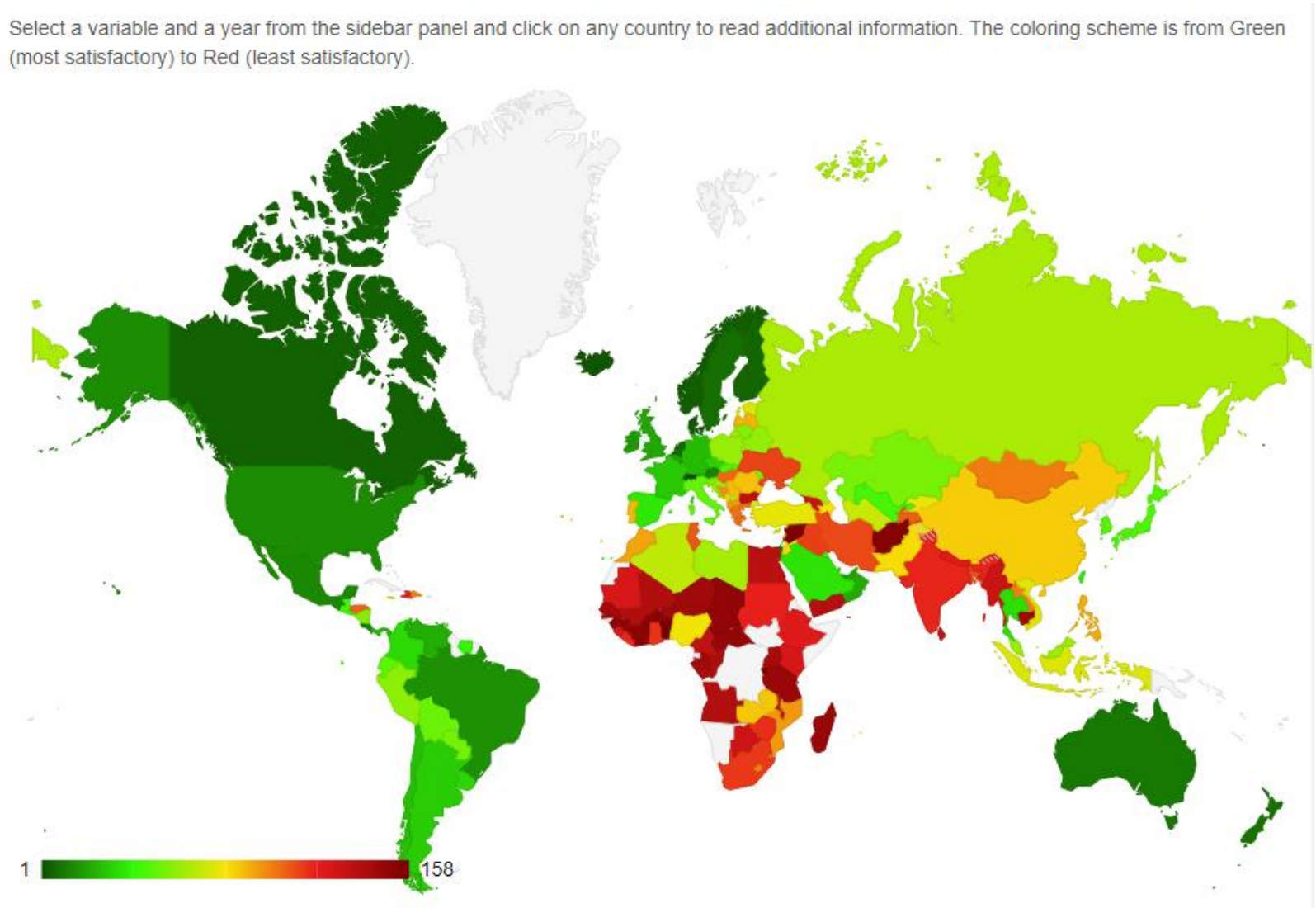
Utopia

Dystopia

- Dystopia is an imaginary country that has the world's least-happy people (opposite of Utopia).

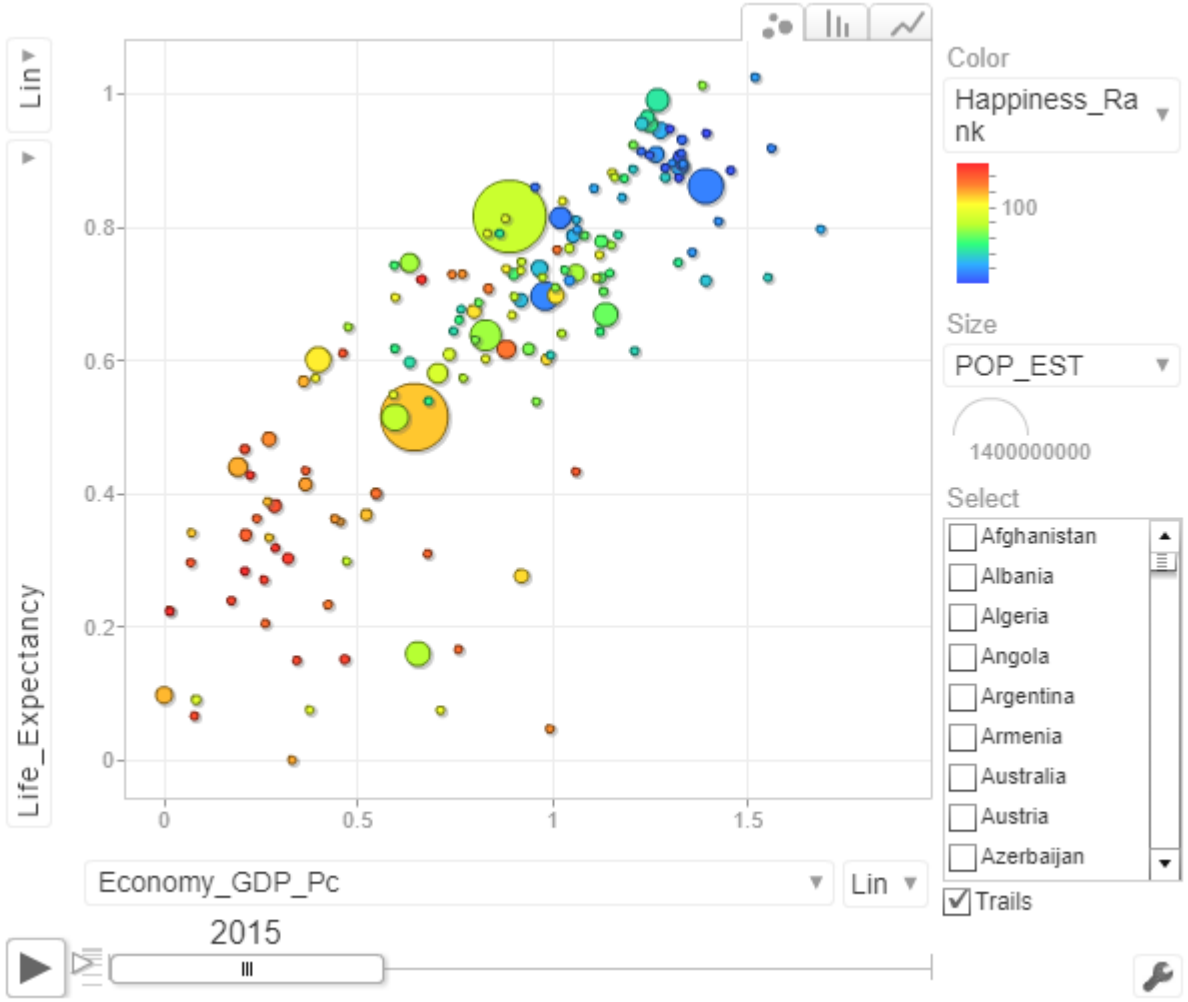
# 3 Data Visualization & Statistics

- Geo Map: Visualizing Happiness Rank



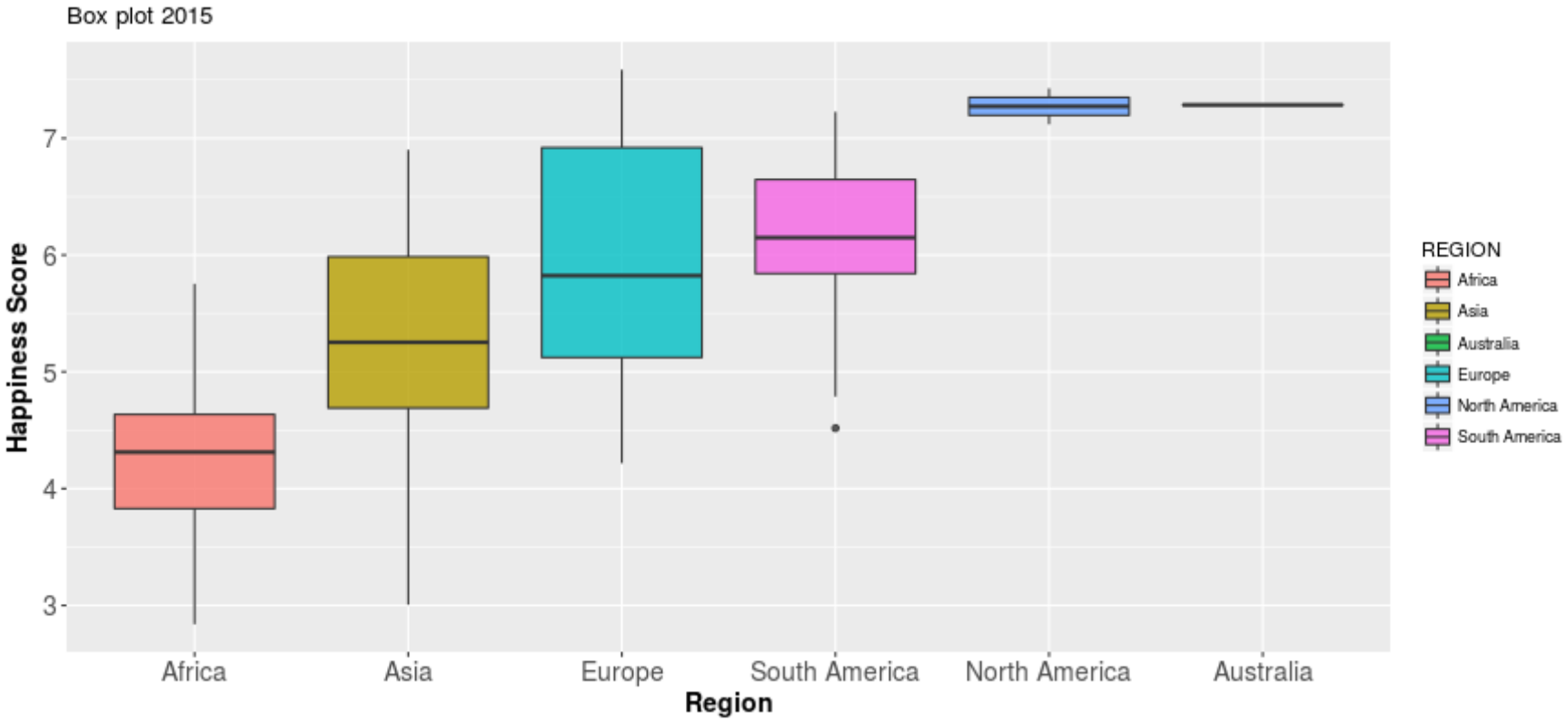
# 3 Data Visualization & Statistics

- Motion Chart: Data in Action



# 3 Data Visualization & Statistics

- Box Plot

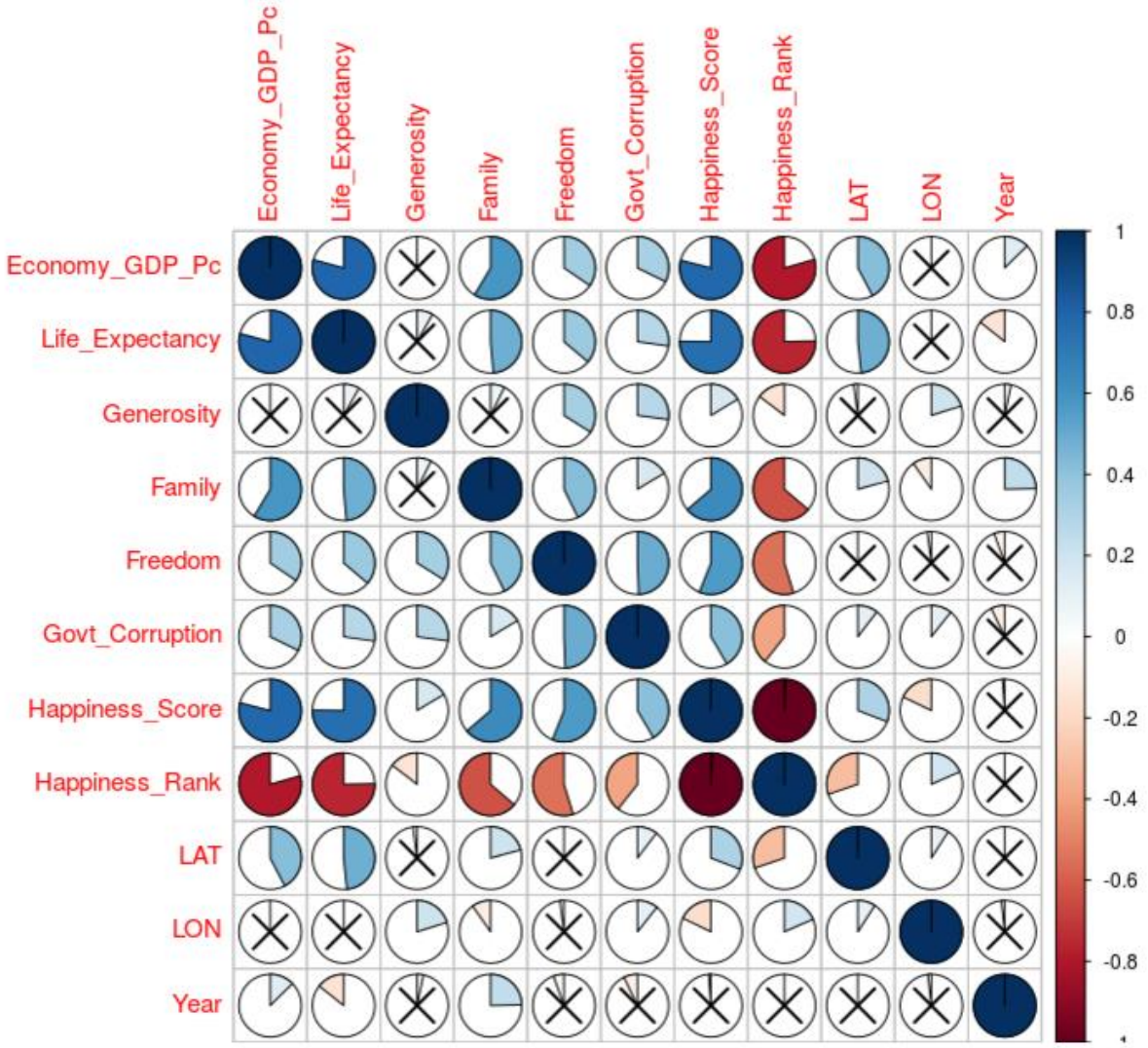


# 3 Data Visualization & Statistics

- Density Plot

# 3 Data Visualization & Statistics

- Correlation Plot



# 3 Data Visualization & Statistics

- Tree Map

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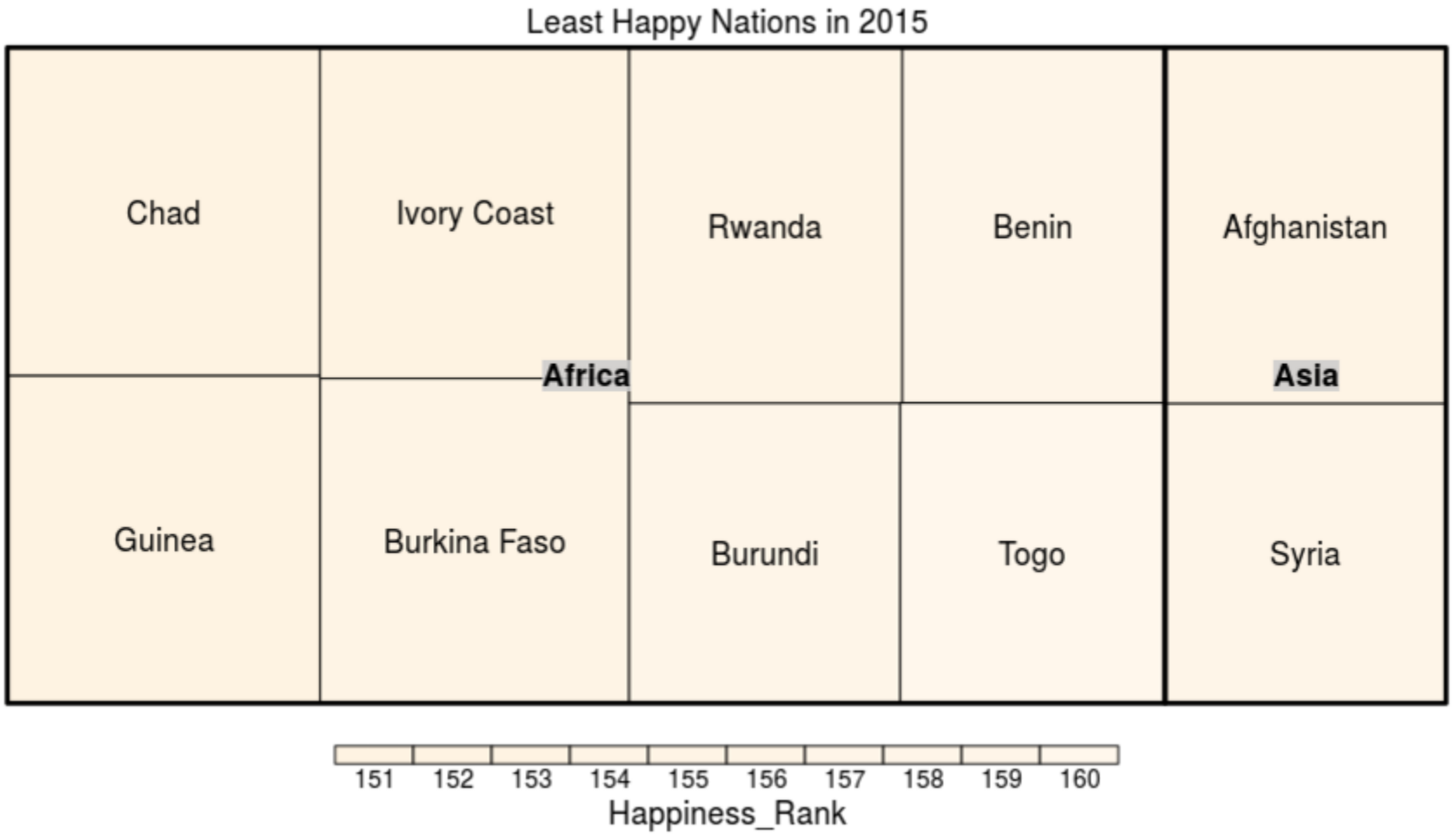

## 5 Conclusions and Future Outlook

- As an overall trend, Motion Charts reveal that world GDP has increased from 2015 to 2017 while the Life Expectancy has slightly lowered during this period
- Nordic countries are among the happiest countries in the world (closer to Utopia), while several countries in Africa (low GDP) and Asian countries like Afghanistan, Syria and Yemen (civil war) rank very low in the happiness score (closer to Dystopia)
- Myanmar is the most generous nation and the data reveals that Syria is more generous than countries like United States and Germany
- Correlation plot reveal a strong dependence between GDP, Life Expectancy and Happiness score
- On a lighter note, the latitude of a nation shows some positive correlation with GDP and Life Expectancy, whereas the dependence on Longitude is insignificant

**THANK YOU**