FINAL PROJECT
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All happy countries are alike. All unhappy countries are unhappy in their own way. Visualizing World Happiness Report data

This project is aimed at visualizing core relationships between happiness and socio-economic indicators, based on data from the [World Happiness Report 2019](). This report is part of the initiative run by the United Nations Sustainable Development Solutions Network and represents the results of the survey of the state of global happiness. The whole report covers data across 156 countries during the 10 years time span. I focus on the latest data for 2018, which includes happiness scores and economic indicators for 136 countries.

The happiness score is the national average response to the question of life evaluations: "Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?" Happiness score is also known as subjective well-being, or life ladder. Other data included into analysis are GDP per capita, healthy life expectancy at birth, freedom to make life choices, generosity, and perception of corruption.

For the long time GDP per capita has been the major indicator used by economists to measure an economy's well-being and performance. However, this indicator per se doesn't reflect people's wellbeing. In the recent years more and more economic research is focusing on revisiting the approach to measuring countries' welfare and including behavioral data into account.

The goal of my project is to find and visualize different relationships between the happiness (measure by happiness score) and socio-economic indicators.

World Happiness Score 2018

Source: World Happiness Report 2019
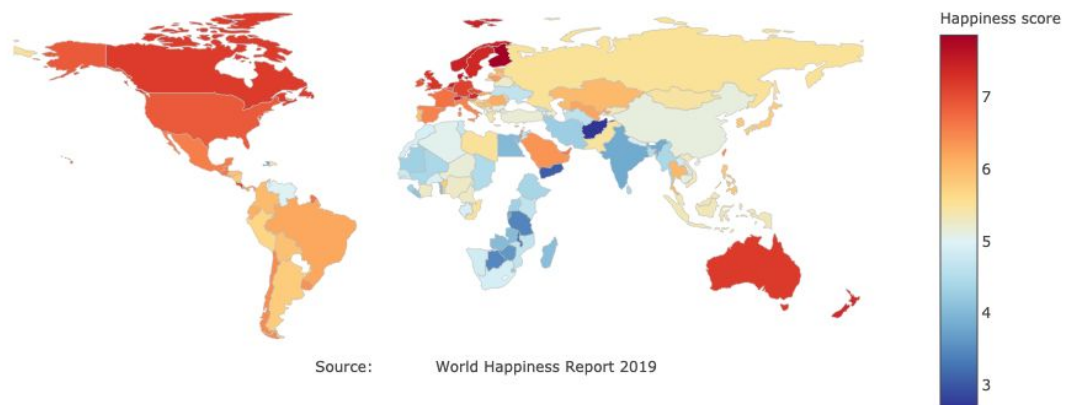
The map above shows 2018 happiness scores across 136 countries. I chose the color scale in such a way as to distinguish between the happier (red spectrum of colors), unhappier (blue spectrum) countries, and moderately happy countries (yellow score). The happiest country in 2018 was Finland, followed by other Scandinavian countries. In general, Northern and Western European countries, North American countries, and Australia tend to report highest levels of happiness score. On the first sight, developed countries tend to be "happier" than developing countries.

Happiness Score 2018 Distribution
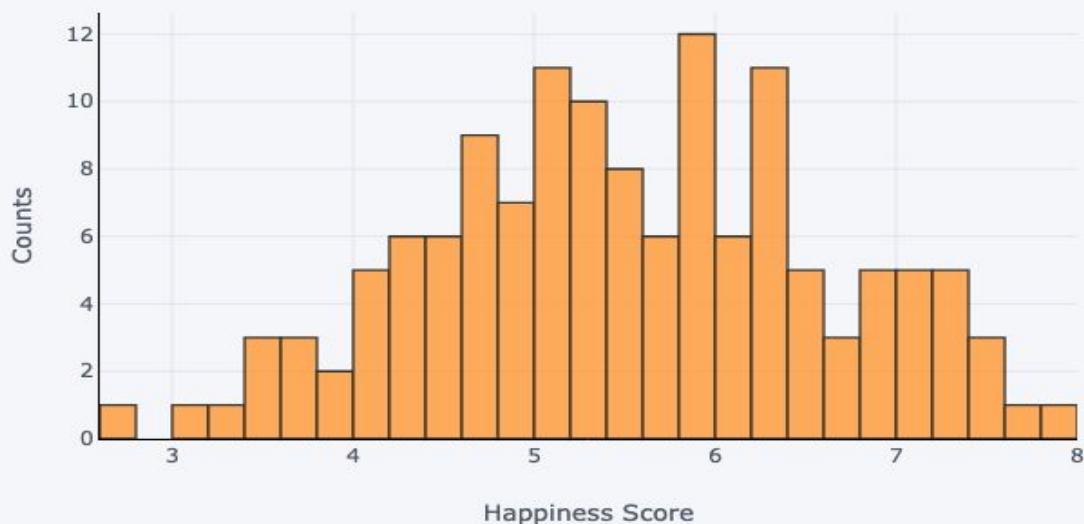
Let's take a look at happiness score key statistics by region.
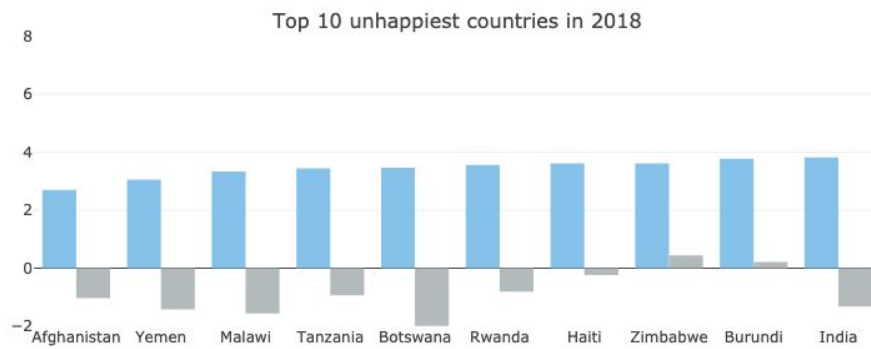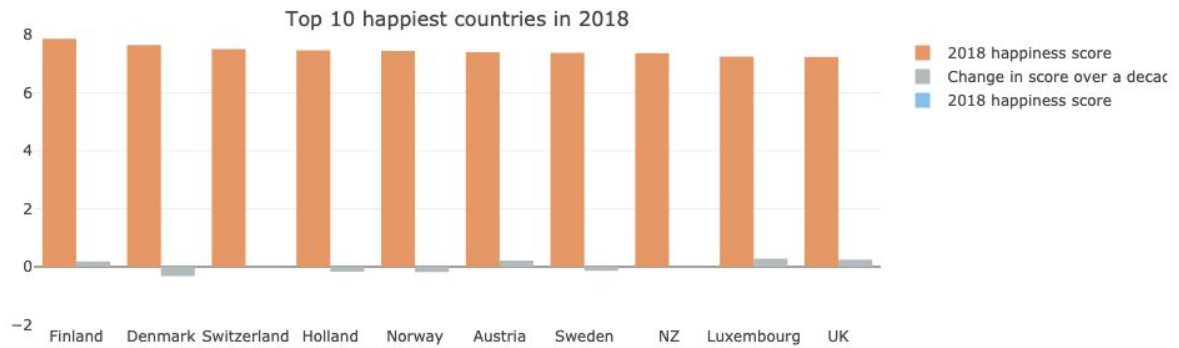

Happiness Score by Region

As we can see from the plot the happiest nations are mostly in Europe and North America. The biggest variation in happiness scores is within Middle East and North Africa region.
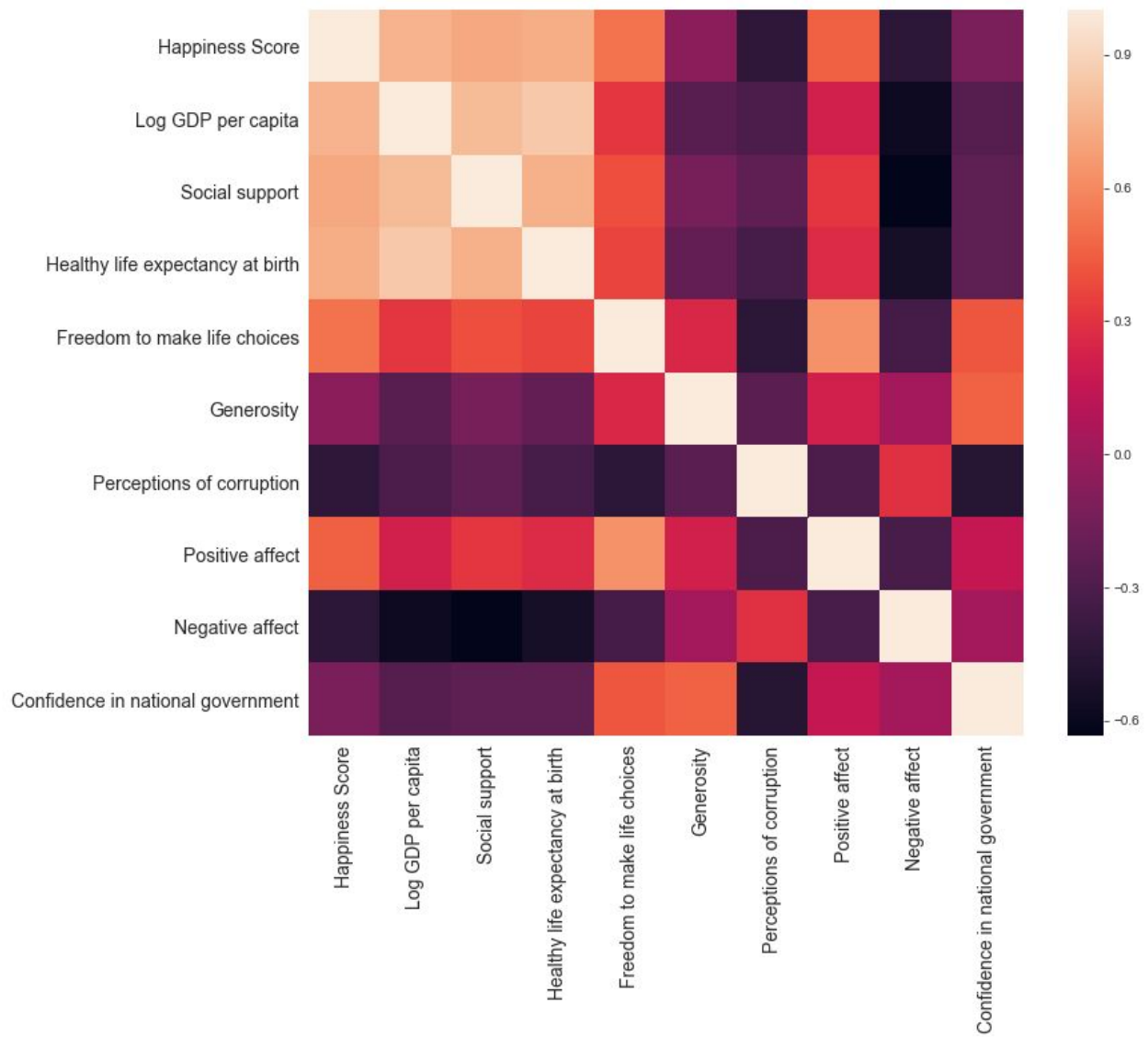
Now let's explore how **the happiness score changed over a decade for top-10 happiest and top-10 unhappiest countries.**

As we can see from the chart below, among top-10 countries there were no big changes in either positive or negative direction in happiness scores, whereas for the majority of top-10 unhappiest countries in the world there were quite large negative changes in the perception of happiness. It means that while people in happiest countries remained happy over time, people in the least happy countries feel even less happy than a decade ago.

Unhappiest countries got unhappier over a decade, while happiest countries remained pretty happy

Top 10 happiest countries in 2018

Legend:
- 2018 happiness score
- Change in score over a decade
- 2018 happiness score

x-axis: Finland, Denmark, Switzerland, Holland, Norway, Austria, Sweden, NZ, Luxembourg, UK

Top 10 unhappiest countries in 2018

x-axis: Afghanistan, Yemen, Malawi, Tanzania, Botswana, Rwanda, Haiti, Zimbabwe, Burundi, India

Let's take a look at correlations between the happiness score and key socio-ecomnomic indicators.

Now, let's see how income inequality is related to the perception of happiness.

The less the difference in incomes the happier people are
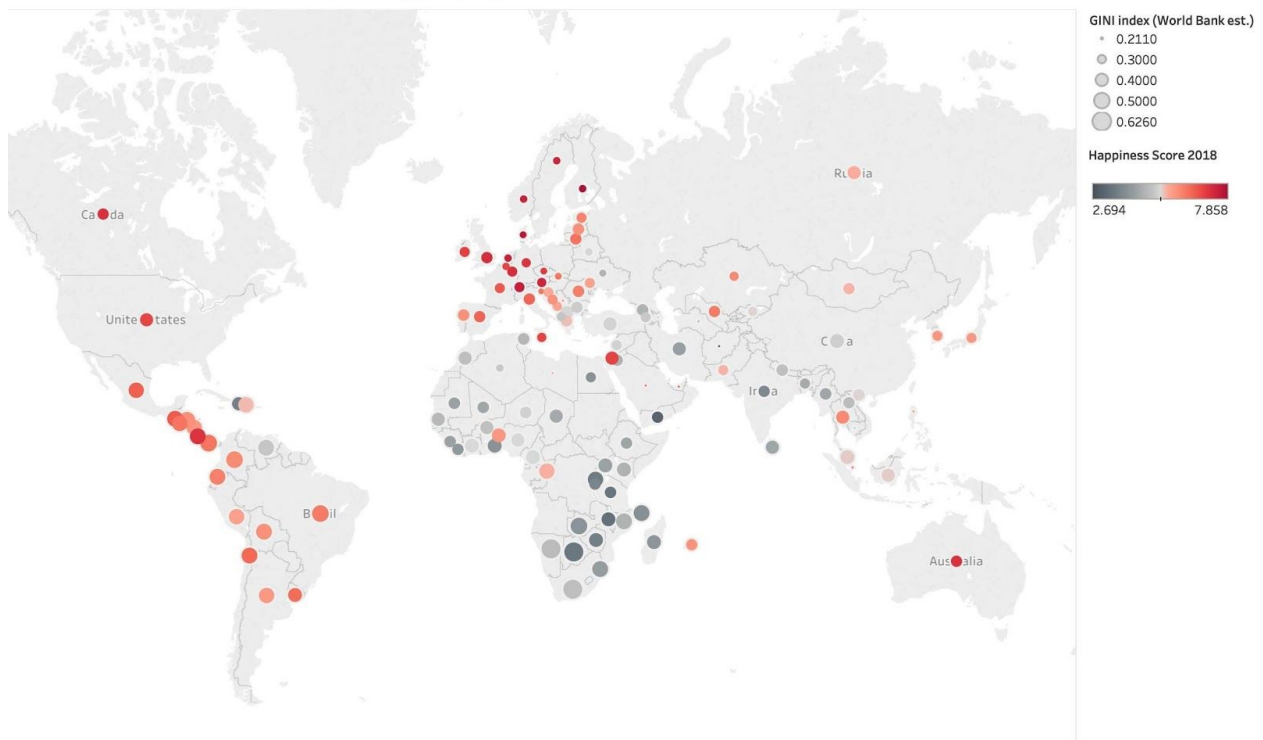
In general, the less the income inequality, the happier people feel.
Next, let's visualize the relationship between the wealth of a country (GDP in USD) and happiness.

Living in a rich country (GDP in $) doesn't necessarily mean living a happy life
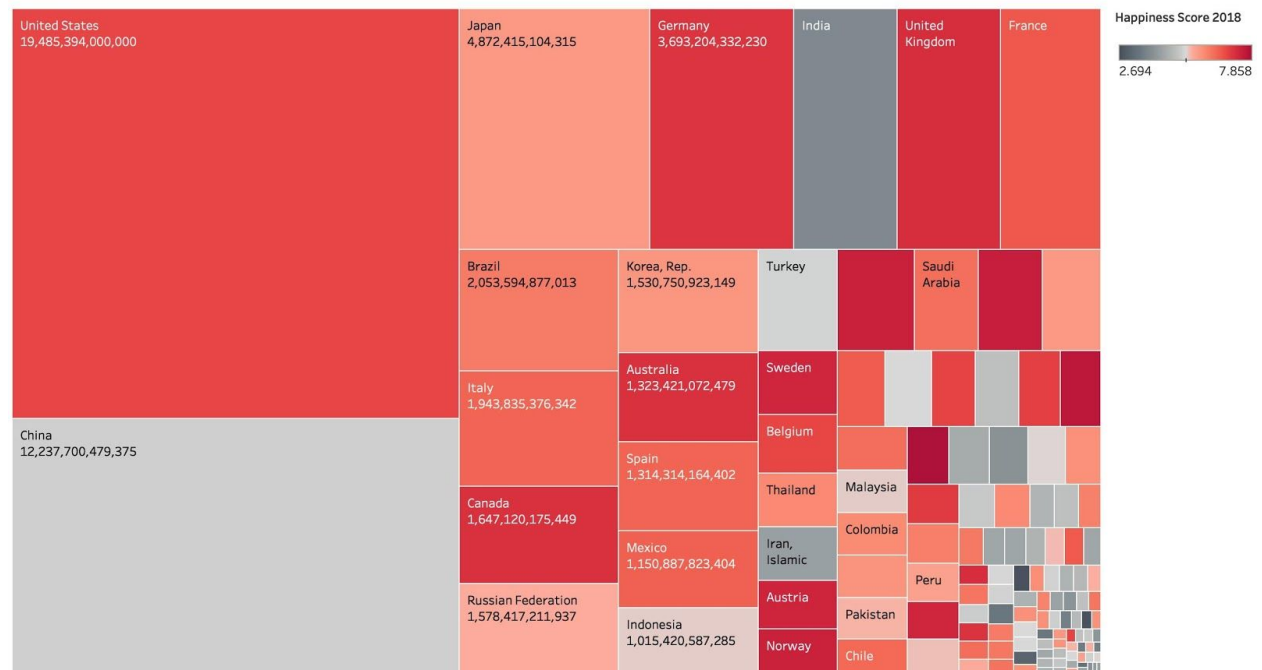
Country Name and Gdp($) as an attribute. Color shows Happiness Score as an attribute. Size shows sum of Gdp($). The marks are labeled by Country Name and Gdp($) as an attribute. The view is filtered on Country Name, which excludes Null and Gabon.

The tree map above shows that while money can buy some happiness, yet it's not the end of the story. Our final chart below show some more important ingredients.

Living longer and having someone to rely on (see colorscale) makes us happier
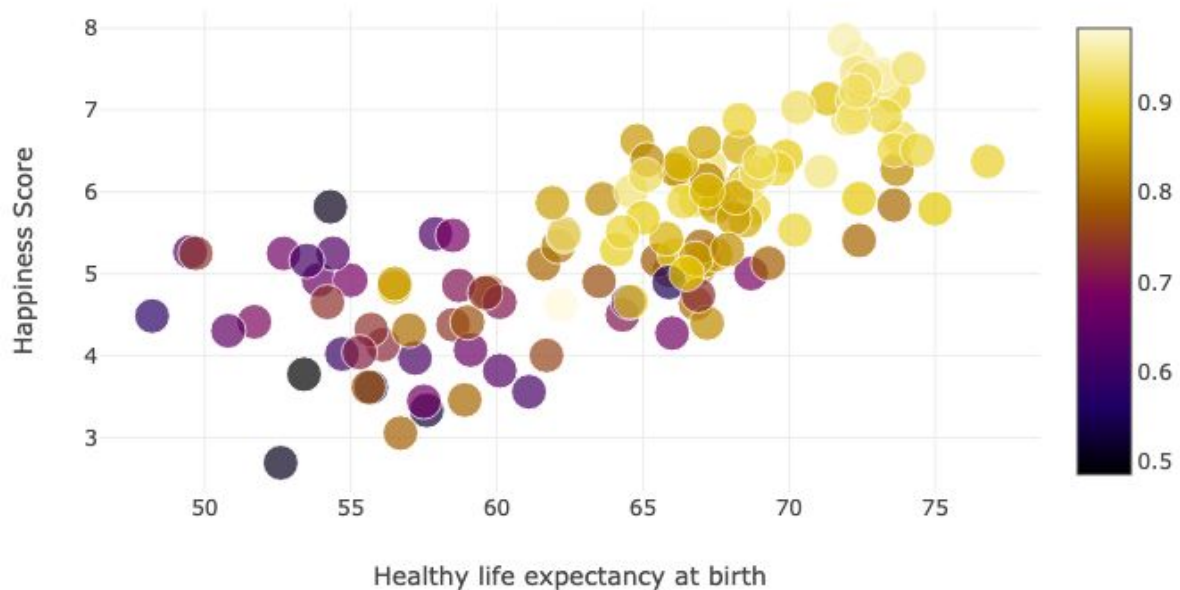
Living longer lives and having someone to rely on in trouble is strongly associated with higher perception of happiness.
Furthermore, **the ability to make life choices freely** contributes to overall happiness and feeling good.

Freedom of choice is the key to happiness and good mood (in color)