



Happiness

- Hat Team: Break Out Room #4 -

Variable Attributes to Happiness

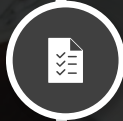
DATA

80 Countries, 13 Sub-Regions
Reviewing variables of happiness and
Covid-19



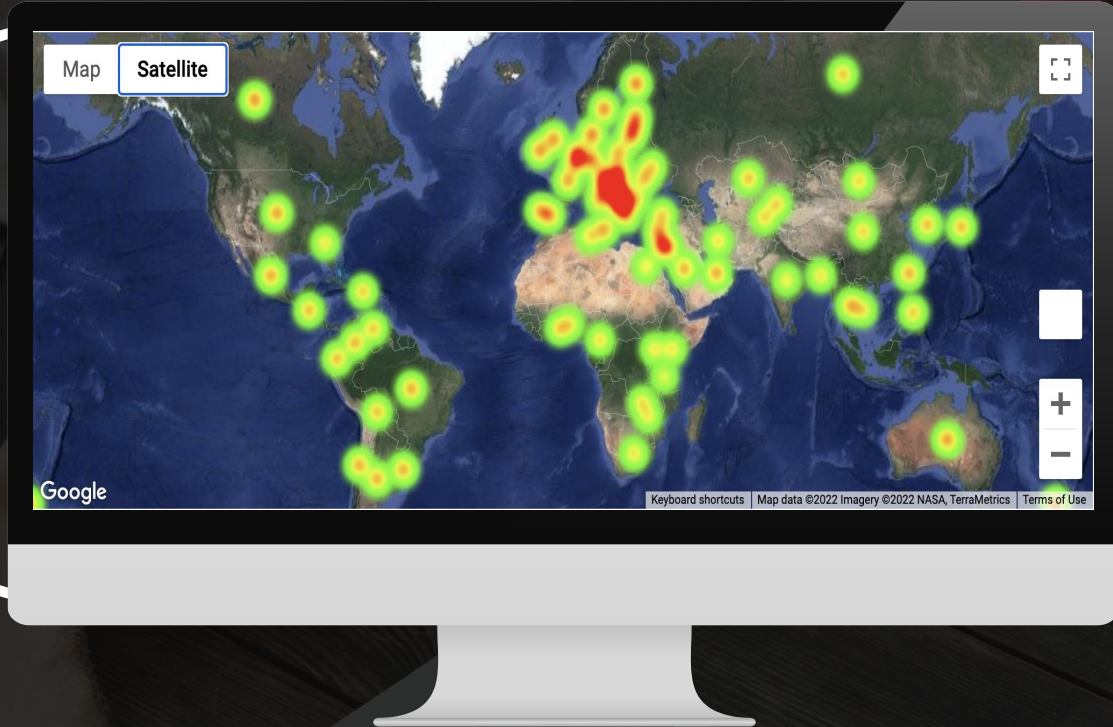
COUNTRY VARIABLES

Life ladder, corruption, social
support, GDP, healthy life
expectancy, freedom



THE BIG QUESTION

What are the factors of happiness?



Definition of Measures



Happiness Score or Life Ladder



Log of GDP per Capita



Social Support

“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?”

-The Gallup World poll survey measure of SWB is from the Feb 26, 2021 (2015–2020)

The statistics of GDP per capita (variable name gdp) in purchasing power parity (PPP) at constant 2017 international dollar prices are from the October 14, 2020 update of the World Development Indicators (WDI).*

Social support (or having someone to count on in times of trouble) is the national average of the binary responses (either 0 or 1) to the GWP question:

“If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?”



*The GDP figures for Taiwan, Syria, Palestine, Venezuela, Djibouti and Yemen are from the Penn World Table 9.1. – GDP per capita in 2020 are not yet available as of December 2020. We extend the GDP-per-capita time series from 2019 to 2020 using country specific forecasts of real GDP growth in 2020 first from the OECD Economic Outlook No 108 (December 2020) and then, if missing, forecasts from World Bank's Global Economic Prospects (Last Updated: 06/08/2020). The GDP growth forecasts are adjusted for population growth with the subtraction of 2018–19 population growth as the projected 2019–20 growth.

Definition of Measures



Perception of Corruption

The measure is the national average of the survey responses to two questions in the GWP:

“Is corruption widespread throughout the government or not?”

“Is corruption widespread within businesses or not?” The overall perception is just the average of the two 0-or-1 responses*



Freedom to Make Life Choices

Freedom to make life choices is the national average of responses to the GWP question:

“Are you satisfied or dissatisfied with your freedom to choose what you do with your life?”

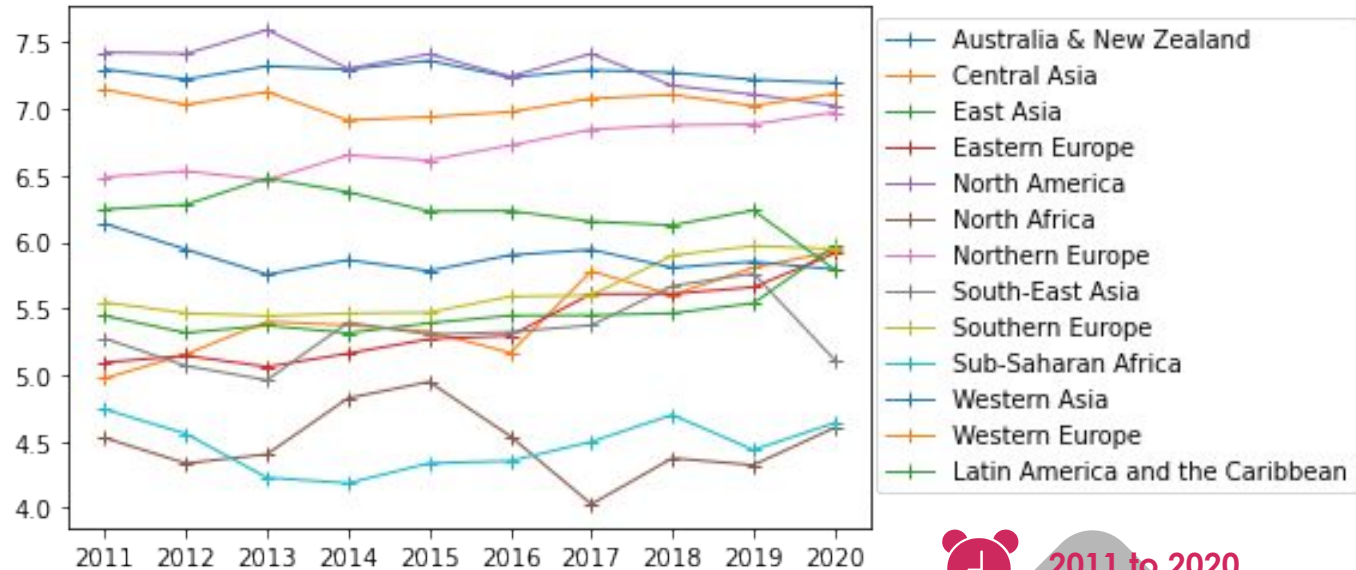


Healthy Life Expectancy (HLE)

Healthy life expectancies at birth are based on the data extracted from the World Health Organization's (WHO) Global Health Observatory data repository (Last updated: 2020-09-28). The data at the source are available for the years 2000, 2005, 2010, 2015 and 2016. To match this report's sample period (2005-2020), interpolation and extrapolation are used.



Happiness Score Over the Years

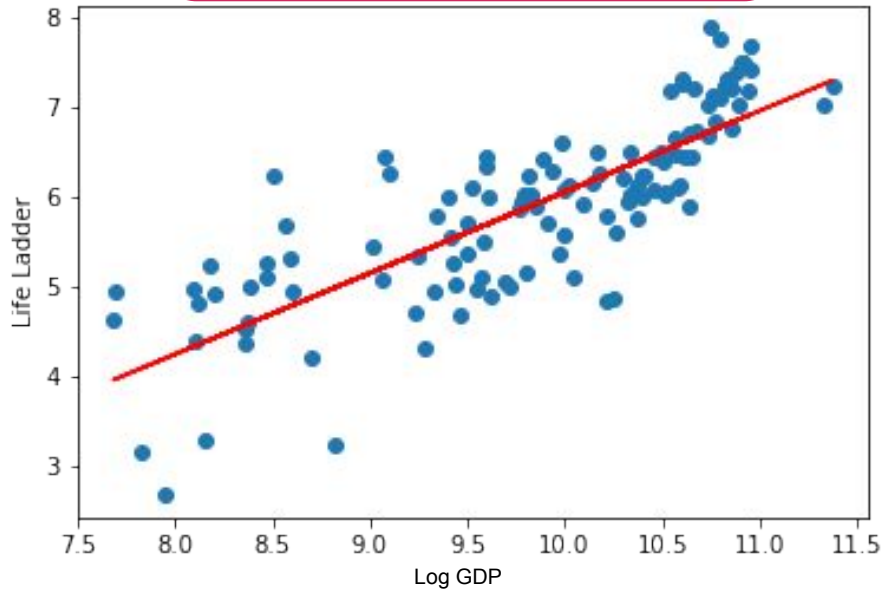


2011 to 2020

Happiness vs. Log GDP



Linear Regression of Life Ladder vs. Log GDP



R-Value = 0.80856



Slope = 0.9036



Happiness vs. Life Expectancy



Linear Regression of Life Ladder vs. Life Expectancy



R-Value = 0.7726



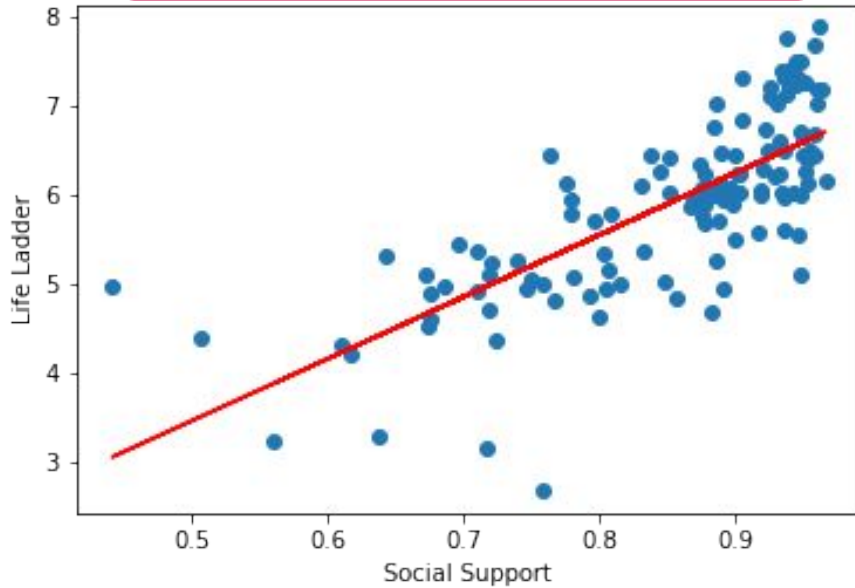
Slope = 0.1414



Happiness vs. Social Support



Linear Regression of Life Ladder vs. Social Support



R-Value = 0.7460S



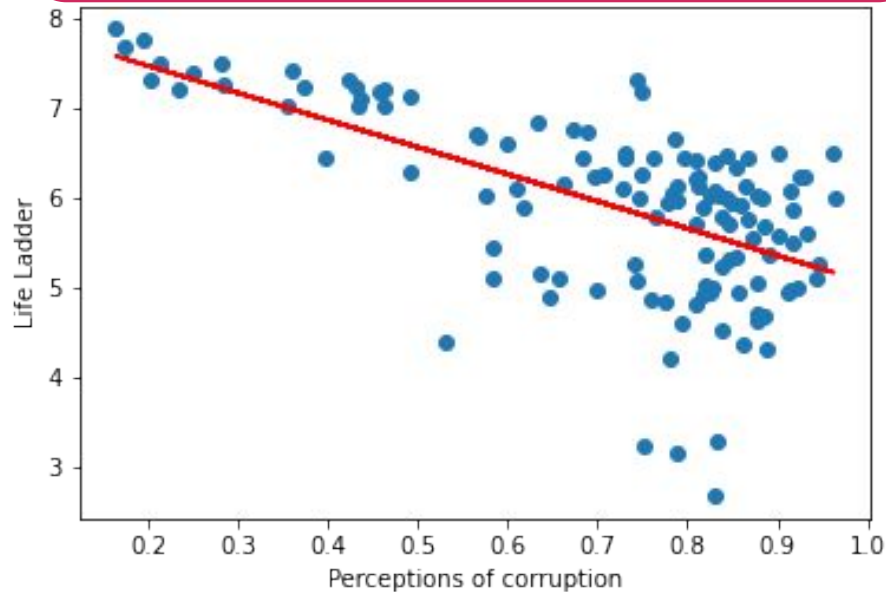
Slope = 6.958



Happiness vs. Perceptions of Corruption



Linear Regression of Life Ladder vs. Perceptions of Corruption



R-Value = -0.6066



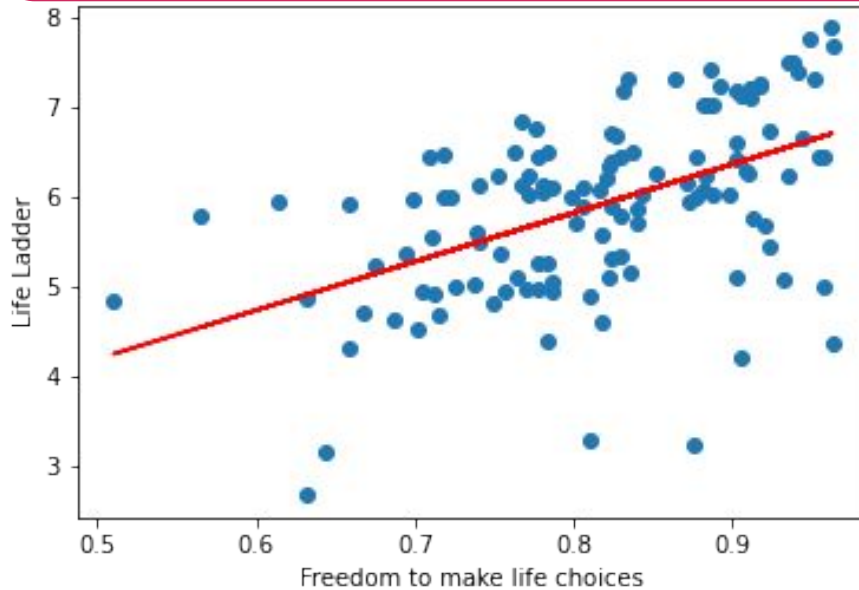
Slope = -3.018



Happiness vs. Freedom to Make Life Choices



Linear Regression of Life Ladder vs. Freedom to Make Life Choices

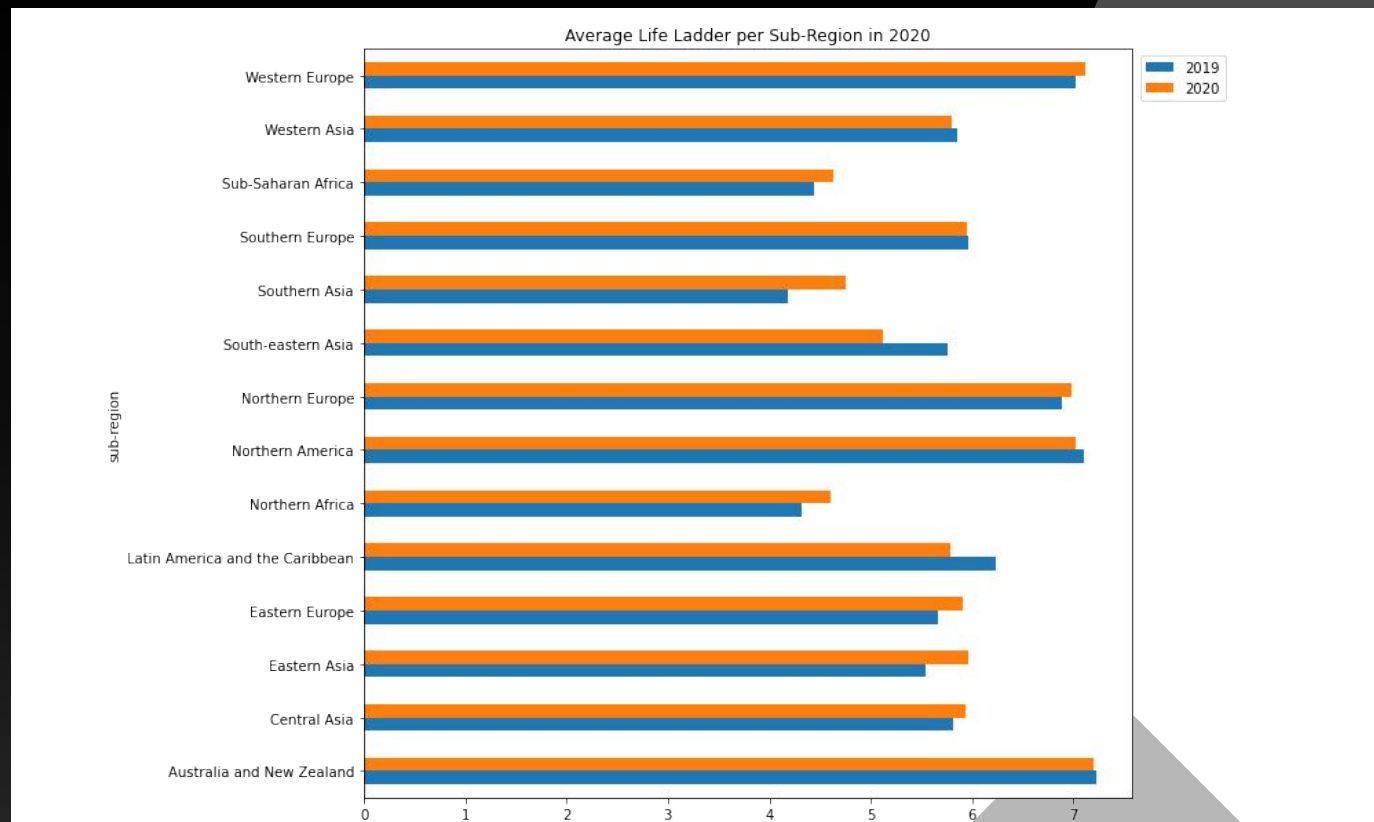


R-Value = 0.5062

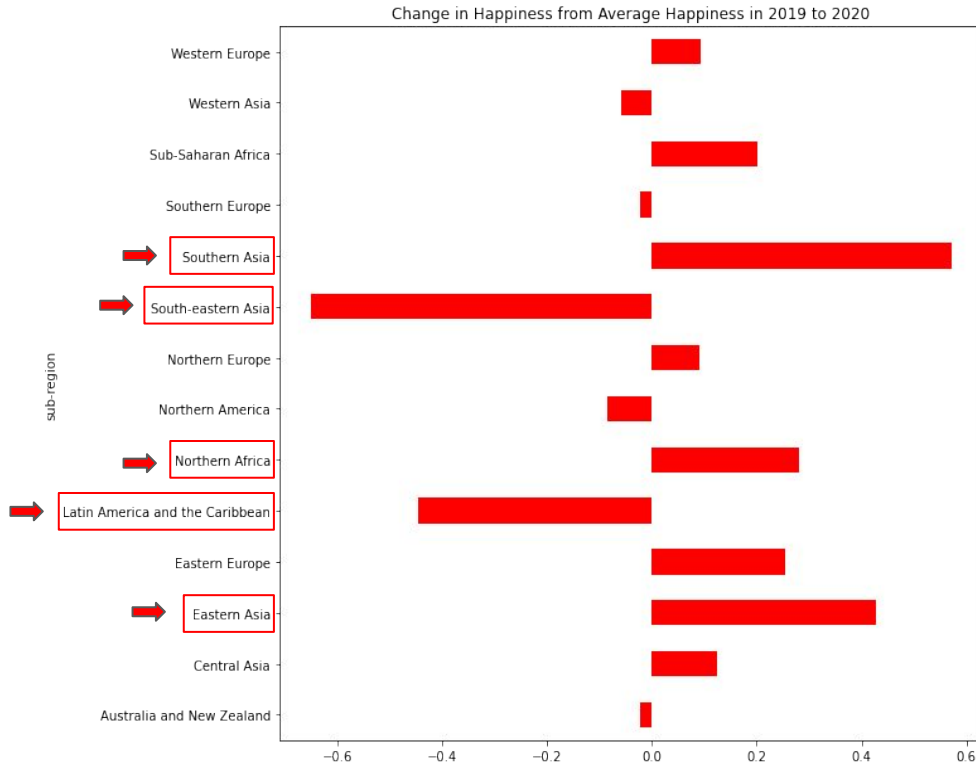


Slope = 5.41





Change in Happiness (2019–2020)

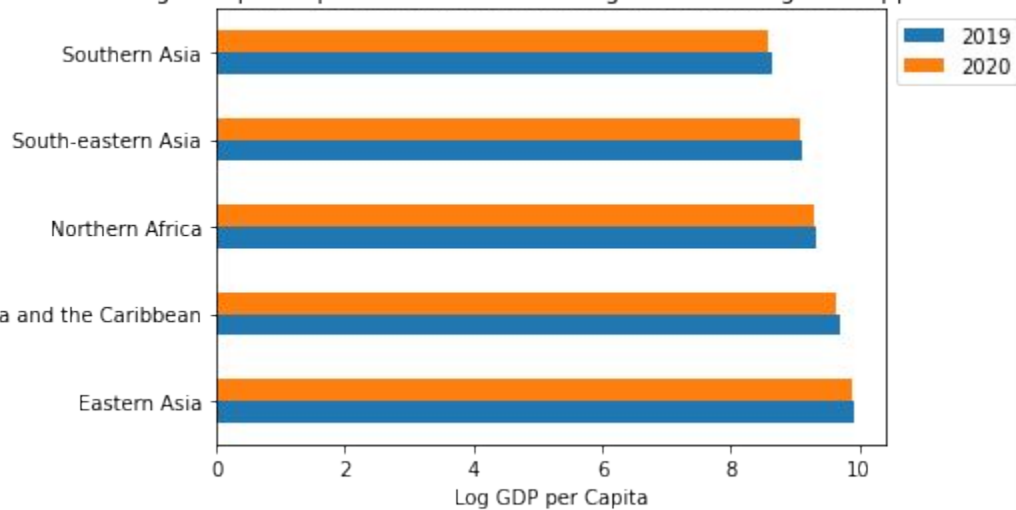


Sub-Regions Reflecting the Most Change

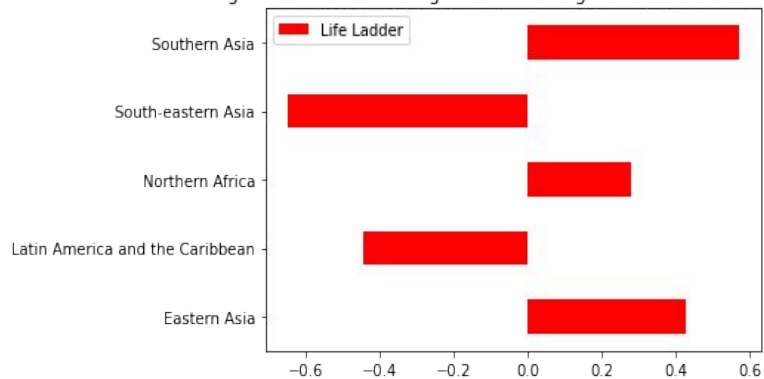
Southern Asia
South-eastern Asia
Northern Africa
Latin America and the Caribbean
Eastern Asia

Avg Change : 0.06

Log GDP per Capita in Countries with Significant Change in Happiness

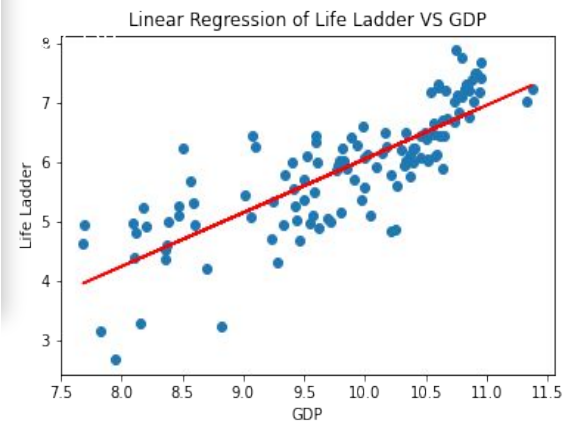


Change in Life Ladder for Significant Sub-Regions between 2019 and 2020

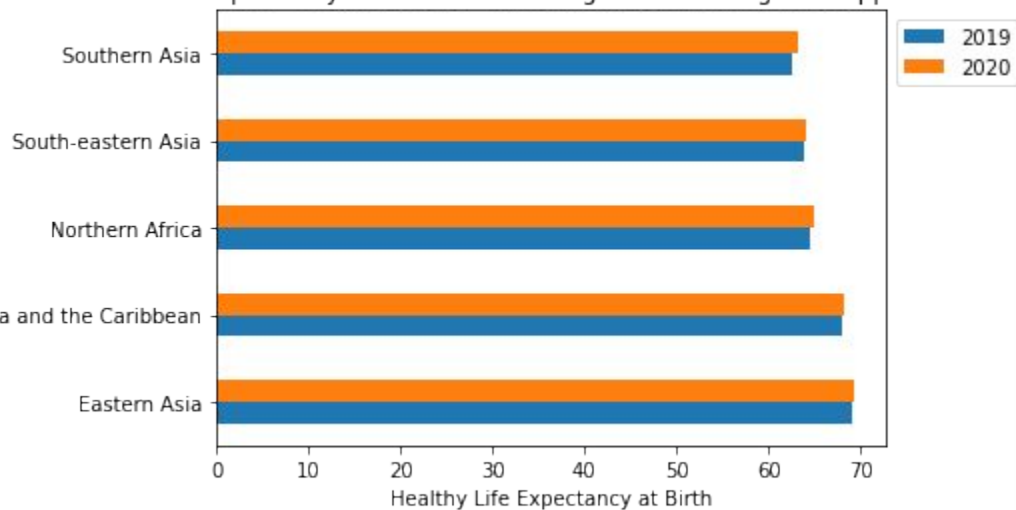


Log GDP

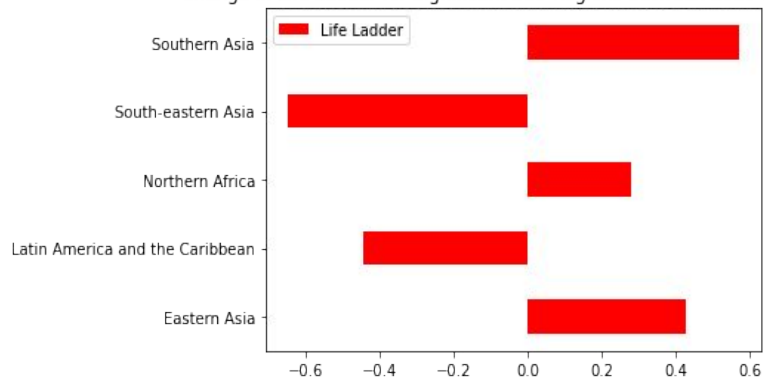
Correlation #: 0.8



Life Expectancy in Countries with Significant Change in Happiness



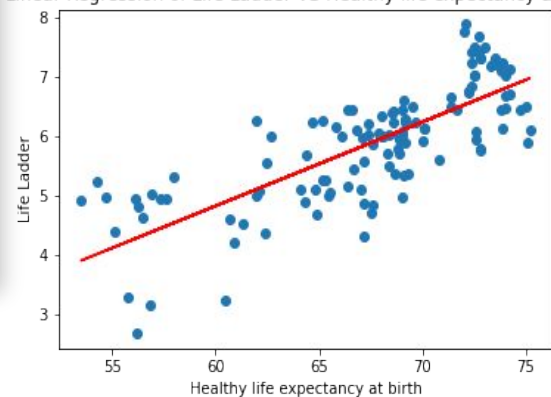
Change in Life Ladder for Significant Sub-Regions between 2019 and 2020



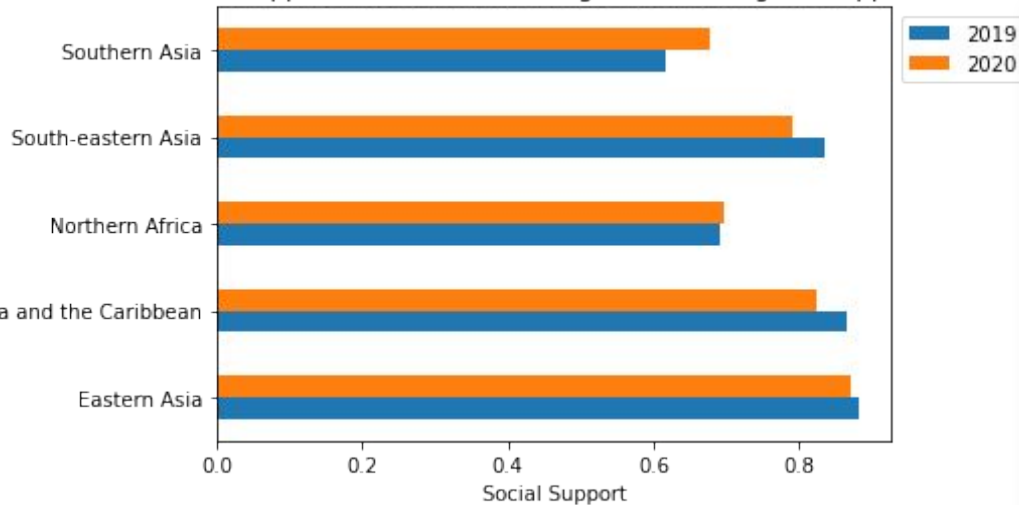
Life Expectancy

Correlation #: 0.7

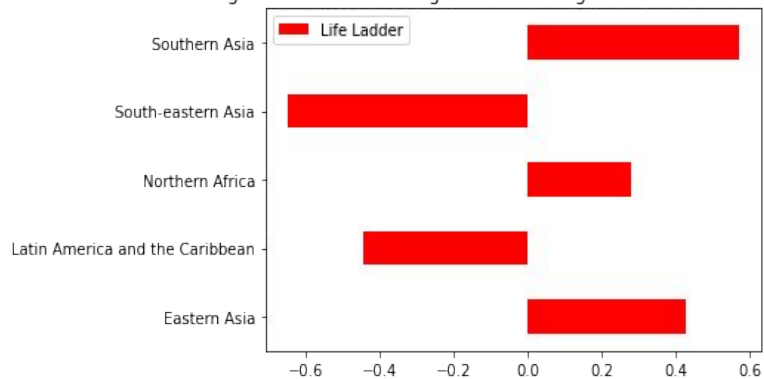
Linear Regression of Life Ladder VS Healthy life expectancy at birth



Social Support in Countries with Significant Change in Happiness



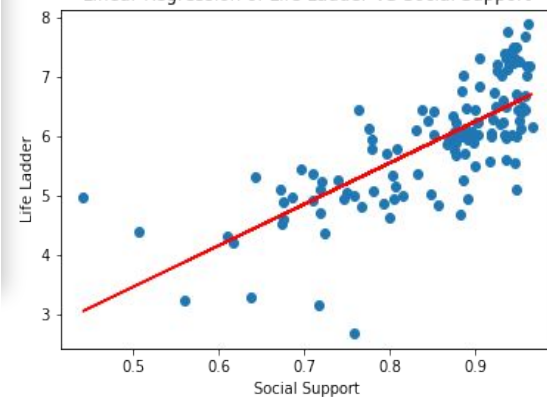
Change in Life Ladder for Significant Sub-Regions between 2019 and 2020



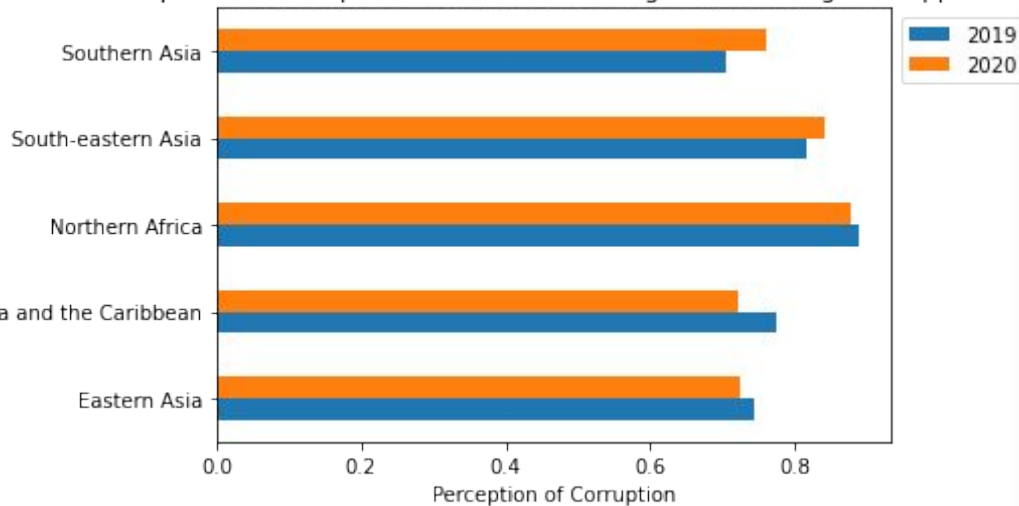
Social Support

Correlation #: 0.7

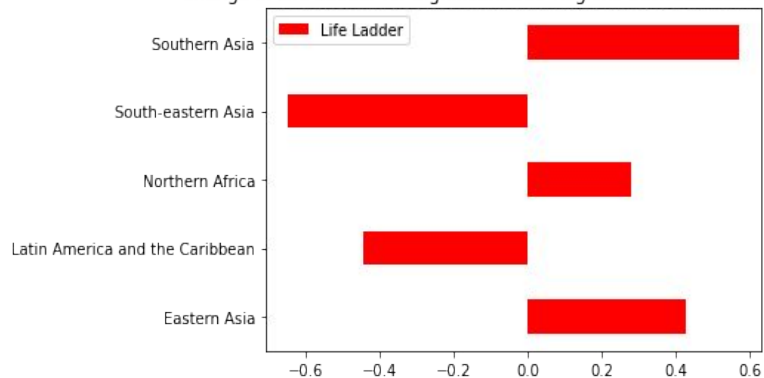
Linear Regression of Life Ladder VS Social Support



Perceptions of Corruption in Countries with Significant Change in Happiness

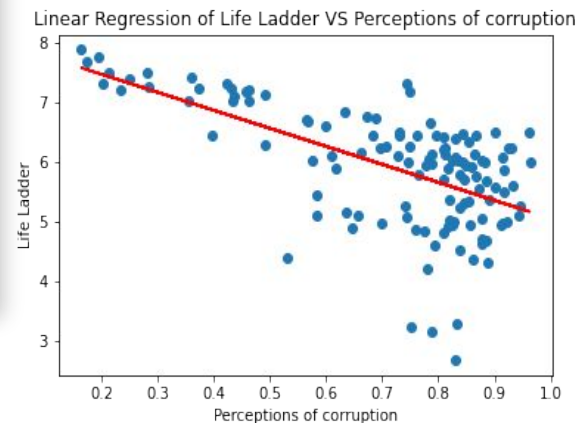


Change in Life Ladder for Significant Sub-Regions between 2019 and 2020

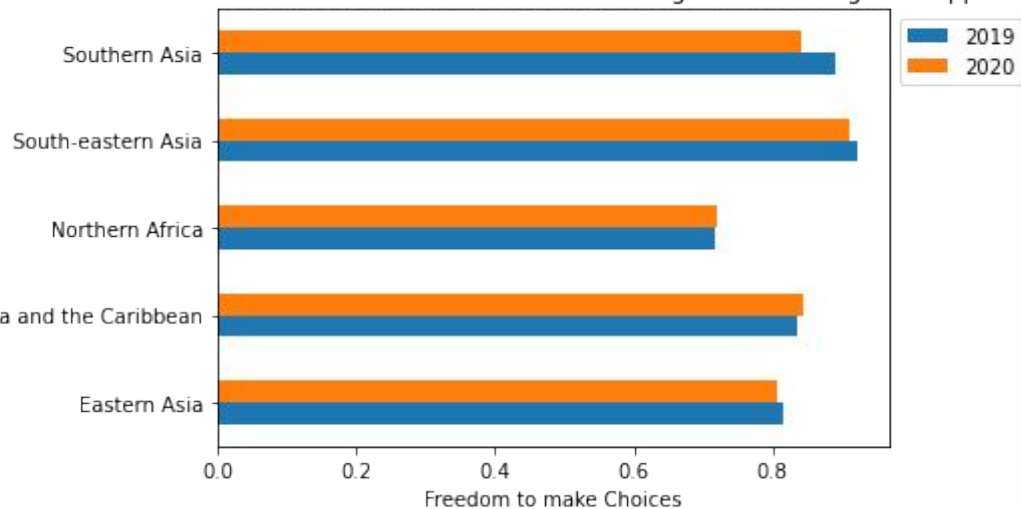


Perceptions of Corruption

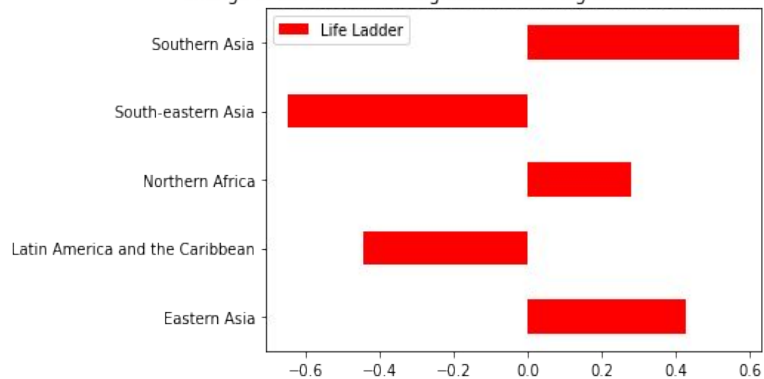
Correlation #: 0.6



Freedom to make Life Choices in Countries with Significant Change in Happiness



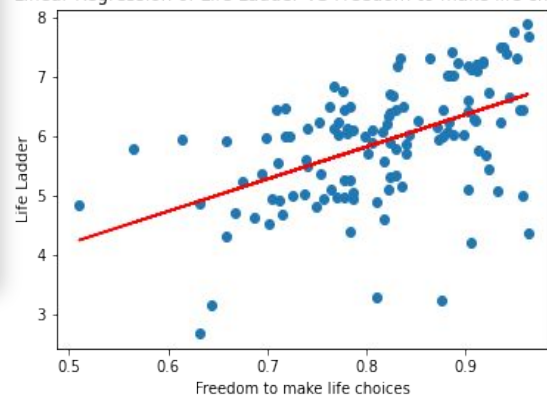
Change in Life Ladder for Significant Sub-Regions between 2019 and 2020



Freedom to Make Life Choices

Correlation #: 0.5

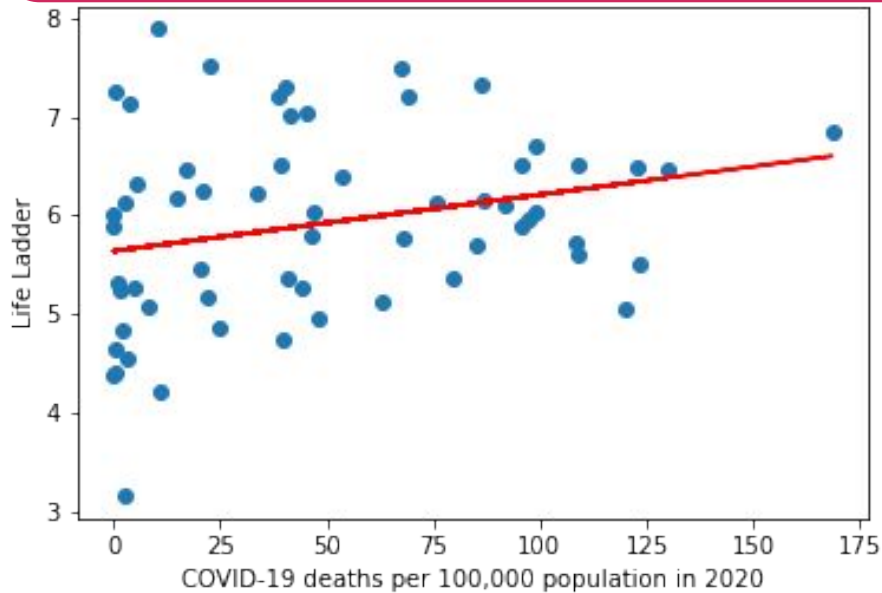
Linear Regression of Life Ladder VS Freedom to make life choices



Happiness vs. Covid-19 Mortality



Life Ladder in 2020 vs. Covid-19 Deaths per 100,000 Population



R-Value = 0.2586



Slope = 5.712



Shortcomings of Data



Social and economical components.

Studies on normalized regions.

Further Analysis

Data For Days



Happiness is a subjective matter that can not be ascertain as a direct variable.

However, with the responses we have received in the WHO report we can infer trends that may be significant



“Happiness”



Factors that can skew the analysis

Access to Healthcare

Government Influences

Access to Participate in the Surveys

Experience with Natural Disasters

Controlling the Time and Year the Data was Collected

Happiness being Skewed by Personal Perception



THANK
YOU

Sources

- Regions
- WHO Report
- Mortality Rates
- <https://github.com/luke/ISO-3166-Countries-with-Regional-Codes>