

Project Title

Repo: https://github.com/Gnosder/Group_Good_Guys

Global Happiness Indicators

Team Members

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Project Description/Outline/Core Message

The pursuit of happiness is a common human interest, although it is fairly easy to comprehend *what* happiness is, but oftentimes difficult to define *why* we experience it. In this investigation we break down national Happiness Scores from the World Happiness Report from the calendar years 2015 through 2017 and compare it to a variety of metrics, including but not limited to GDP, life expectancy, perception of freedom, and degree of air pollution. As a fun exercise, we also investigate whether the national viewership of the film 50 Shades of Gray is associated with national happiness.

Research Questions to Answer and motivations

What are some of the key indicators of happiness? (Elisa)

Which countries are the happiest? Do they seem to remain the happiest year-over-year (Elisa)

Does the average air quality (as defined by particular matter concentration) in a given country correlated with happiness? Why or why not? (Jason)

Is there a correlation between the number of deaths due to air pollution and happiness? Why or why not? (Jay)

Is there a correlation between particulate matter concentration and number of deaths due to air pollution? Why or why not? (Jay and Jason)

50 Shades of Grey is considered to be one of the worst movies from the past decade. Do countries that have the lowest (per capita?) sales for movie tickets for 50 Shades of Gray have a higher level of happiness than countries where more people patronized the film in theaters? Does a bad movie affect Global Happiness? (Control) (Ryan)

Datasets to Be Used

World Happiness Report up to 2020 from Kaggle:

<https://www.kaggle.com/mathurinache/world-happiness-report?select=2020.csv>

Our World in Data: <https://ourworldindata.org/air-pollution>

Pollution data (source: <https://ourworldindata.org/air-pollution>)

<https://docs.google.com/spreadsheets/d/1cuZsAMPJmQi6iS-8LSWHCjrs2ruc087xuDYLceTwgR8/edit?usp=sharing>

Movie ticket sales: Box Office Mojo

(<https://www.boxofficemojo.com/releasegroup/gr4024783365/>)

Rough Breakdown of Tasks

Milestone 1: Have clean data sets

- Meeting Tuesday (8PM)
 - Meeting tasks:
 - Create Jupyter Notebook - practice branching
 - Finalize list of reports
- Elisa - will merge happiness data and create data frames
- Jason, Jay- clean air pollution data set
 - Jason: Air particulates vs happiness per year
 - Jay: Per capita deaths due to air pollution per year
- Ryan- build CSV for Movie data
- Patrick- plain english descriptions of reports to pull; e.g. Happiness vs Pollution, etc.
 - Air quality vs bad movie tickets

Milestone 2: Complete analysis of data by country complete for individual metrics (country vs. air quality, country vs bad movie, country vs. happiness metrics)

- Meeting Thursday (8PM)
 - Meeting tasks:
 - Review reports & data
 - Assign milestone 3 tasks based on reports
- Ryan — Will compare the bad movie vs happiness data
- Elisa, Patrick — will break down world happiness
- Jay, Jason — will break down air quality and pollution

Milestone 3 : Complete analysis of correlated data (happiness vs. air quality, happiness vs. bad movie tickets)

- Meeting Sunday 7/19 (4PM)
 - Meeting tasks:
 - Finalize reports
 - Gather presentation
- Decide on the final comparisons/correlations between all 3 data sets

Milestone 4: Have first draft of presentation ready

Due Date: July 20th

Datapoints

happiness rank

happiness score

standard error

gdp per capita

family size

life expectancy

freedom

governmental trust

Generosity

(Air Quality) Deaths per 1000 from air quality

(Air Quality) Mean PM2.5

(50 Shades of Grey) opening day sales

(50 Shades of Grey) gross sales

(50 Shades Darker) opening day sales

(50 Shades Darker) gross sales

Visuals

Bar Chart:

- Happiness x Country (US, UK, Germany, Mexico, Philippines, Singapore)
- Countries x 50 shades opening sales (target country)- Ryan
- Countries x 50 shades gross sales (target country)- Ryan

Scatterplots:

- happiness score x freedom
- happiness score x trust
- happiness score x life expectancy
- happiness score x generosity
- happiness score x economy
- happiness score x social support
- Happiness score vs PM2.5 (2015, 2016) - Jason
- Happiness score vs Pollution Deaths - Jay 2015/2016 (done)
- Happiness score vs. co2 emissions
- Happiness score vs. 50 shades of gray gross sales - Ryan

Box and Whiskers

- happiness by income bracket

Heat map

- happiness by corruption
- Pollution PM2.5 heatmap - Jason
- Pollutions deaths - Jay (done)

These draw from multiple sources

happiness score x deaths from air quality per capita

deaths per 1000 x co2 emissions

happiness score x co2 emissions

co2 emissions vs 50 shades gross sales

Gov Trust vs 50 shades gross sales