

World Happiness Report

Date: October 25th, 2020

Author: Renee Cothorn

Write-Up

Report Links:

- Tableau Public Site - First Draft:
https://public.tableau.com/profile/renee.cothorn#!/vizhome/world-happiness_visualization_draft/Story1
- Tableau Public Site - Final Draft:
https://public.tableau.com/profile/renee.cothorn#!/vizhome/world-happiness_visualization/Story-WorldHappiness
- GitHub: <https://github.com/p2pgirl/Visualization>

Summary:

Section Explanation: Brief introduction to the data visualization and the context

What is the driving force that makes the citizens of a country happy? In order to find out the answer to that question, this story visualization uses two principal sources of data joined at the hip. The first is the Gallup World Poll (from 2016-2019) about the state of World Happiness and the second source of data, Human Rights (2016-2017), is aimed to measure how a government protects its citizens' physical integrity, by taking into account torture, government killing, political imprisonment, extrajudicial executions, mass killings and disappearances.

Design:

Section Explanation: Explanation of design choices which includes changes made after peer/evaluator feedback

- **Graph Selections**
 - **Bar and Scatter plots:** In order to really answer the question, what drives a country to be happy I had to do a lot of comparison, involving comparing categories from one country to another. For that reason I chose to use mostly bar graphs. However in a few cases I needed to show the relationship between "happiness" and a category. I often used scatter plots which showed trending lines to see if relationships exist with individual categories and happiness. In the beginning, with one particular visualization, I had to format the scatter plot in a "density" or "cloud" format because all the data points were so crowded it took away the point of the visualization which was to show the trends.
 - **Bubble Charts:** Using a bubble chart, I was able to show happier vs. sadder countries just by a glance, with the larger bubble being the happier country. In the beginning the bubble chart showed several variables, human rights, happiness score, and government corruption. I realized though after my peer reviews, that being too "busy" can also add

World Happiness Report

Date: October 25th, 2020

Author: Renee Cothorn

confusion really quick. So I used less variables in my final draft, as I compared one of the extraneous categories on a different plot anyhow.

- **Maps:** I used a lot of maps to evaluate how data looks across different locations, as well as to get a quick look at where the countries are that are happier than another.
- **Tooltip:** Too much data or unclear data was important. My peer reviews were very helpful in this regard.
- **Color**
 - I chose to give most of my story an **orange** undertone. Orange undertones tend to give energy and overall happiness since that's what the story is about.
 - I tried to stick to mostly earth tones to not take away from the meaning of the data using loud colors. However, in some cases I did use more of a rainbow of color on the simpler bar charts to emphasize that we were dealing with different countries.
- **Flow**
 - In the beginning I made my visualizations complex and offered less information. The flow can be confusing if too much is going on and not enough information, so I made the flow easier to following by numbering slides, and I gave more information about the data in a more readable format. This was also recommended by my peers.

Feedback:

Section Explanation: feedback received from peers/evaluator on the visualization from the first sketch to the final visualization

Peer Review 1:

Paul Mosser

Retired Data Analyst from Wells Fargo

(I viewed in Chrome, so that may have affected some of the issues I encountered):

- The list of meta-data at the bottom of the main page seems to have some duplicate entries.
- It took me a while to figure out how to get to the different visualizations via the horizontal scroll at the top. Is there a way to make it a bit more obvious? Maybe a different color scheme?
- For the Intro page, the info in the big box is hard to read, due to small font, and it appears to have been cut off near the bottom (I could not find a vertical scroll bar). Can that info be re-formatted?
- Regarding the Gallup "Happiness" score – much of your correlations and conclusions depend on this one factor, yet it seemed to me to be a bit vague as to how this "score" was determined? If you have some info on that particular Gallup survey (kinds of questions, how broad-based was the survey pool, etc.), it would help, I think, to give more support to your correlations and conclusions.
- Also, a bit more info on the other surveys, if possible, would help support your story. It looks like most of them are single question, yes-or-no (binary response) surveys.

World Happiness Report

Date: October 25th, 2020

Author: Renee Cothorn

- In the third visualization (showing the multi-colored, multi-sized dots on the world map), it seems confusing to me, as it seems to be showing too much info on one graphic (Happiness score plus Perception of Corruption, plus Human Rights Protection??). I suggest splitting this into separate visualizations: maybe Happiness plus Perception on one, then Happiness and Rights Protection on another?
- Your conclusions at the end, regarding the main four (not three) factors that seem to affect happiness, are very good, and it is very apparent from the data presented that they are valid conclusions!
- Realizing, of course, that this is a first draft, I suggest that you read out loud each of the comments / observations in the story; I only saw a couple of typos, but some grammatical corrections are needed, especially the usage of “effect” (noun) vs. “affect” / “affecting” / “affected” (verbs).

Peer Review 2:

Kristopher Kingsbury

Bachelor's Degree in Mathematics

So, I am going to answer each of these question as to some of my thoughts. For the record, I am viewing the project on Google Chrome.

- **What do you notice in the visualization?**
The first thing I notice is on the introduction it is very difficult to read the explanation for each measurement, which I believe is fairly important when knowing what each is referring to. The second thing that I notice is the usage of color for the data. I appreciate the different colors in how they make the data more readable. I also notice that a few times when the AVG happiness score is shown, it says “happiness.score” I think having that change to “happiness score” would look better.
- **What questions do you have about the data?**
The only question I have is if there is a link to the Gallup poll that I could click on and look at the data myself.
- **What relationships do you notice?**
I noticed in the slide that looked at the difference between the number one happiest and saddest country was the human rights protection. It is not that surprising to me, but it was by far the biggest difference. I also find it interesting how the majority of the happiest countries are found in Europe and primarily western cultures.
- **What do you think is the main takeaway from this visualization?**
The main takeaway that I have from this data is that the more a country perceives its own human rights protection as well as how “free” they are in their daily lives will directly correlate to how happy that country is.
- **Is there something you don't understand in the graphic?**
When I hover over a country on the second slide, there are three things listed: “top 10 happy countries”, “Country”, and “AVG happiness score”, I am not sure what the top 10 happy countries is supposed to represent, and seems redundant.

World Happiness Report

Date: October 25th, 2020

Author: Renee Cothorn

Resources:

Section Explanation: list of sources consulted

- World Happiness Data: <https://www.kaggle.com/unsdsn/world-happiness>
- Supporting World Happiness Data: <https://worldhappiness.report/ed/2019/changing-world-happiness/>
- Human Rights Data Information: <https://ourworldindata.org/human-rights>
- GDP per capita: <https://ourworldindata.org/economic-growth>
- Pearson's Correlation: <https://kb.tableau.com/articles/howto/finding-the-pearson-correlation>
- Psychology of color: <https://www.verywellmind.com/the-color-psychology-of-orange-2795818>

Data Files

Data Set:

Section Explanation: the final data set used to create the visualization

- **World Happiness data from 2016 - 2019:** wh_2016to2019.csv2016.csv (this data set was created by myself using a py script to combine data from 2016 - 2019 as well as do some data clean up)
 - 2016.csv
 - 2017.csv
 - 2018.csv
 - 2019.csv
 - Python script to clean and load: combineYears.py
- **Human Rights data from 2016-2017:** human-rights-scores.csv

Link to data:

- Tableau Public Site - First Draft: https://public.tableau.com/profile/renee.cothorn#!/vizhome/world-happiness_visualization_draft/Story1
- Tableau Public Site - Final Draft: https://public.tableau.com/profile/renee.cothorn#!/vizhome/world-happiness_visualization/Story-WorldHappiness
- GitHub: <https://github.com/p2pgirl/Visualization>

Related Files:

Section Explanation: other files related to the data set (description, readme, license)

World Happiness Report

Date: October 25th, 2020

Author: Renee Cothorn

- README.md - general information and a link to the final visualization

General Description of Dataset

The data has: 295 rows

Combination of two joined datasets, joined at Country:

- human-rights-score.csv (2016-2017)
- wh_2016to2019.csv (2016-2019)

Context The World Happiness Report is a landmark survey of the state of global happiness. The first report was published in 2012, the second in 2013, the third in 2015, and the fourth in the 2016 Update. The World Happiness 2017, which ranks countries by their happiness levels, was released at the United Nations at an event celebrating International Day of Happiness on March 20th. The report continues to gain global recognition as governments, organizations and civil society increasingly use happiness indicators to inform their policy-making decisions. Leading experts across fields – economics, psychology, survey analysis, national statistics, health, public policy and more – describe how measurements of well-being can be used effectively to assess the progress of nations. The reports review the state of happiness in the world today and show how the new science of happiness explains personal and national variations in happiness.

What exactly is the Happiness Score? The happiness scores and rankings are based on answers to the main life evaluation question asked in the survey (Gallup World Poll). This question asks respondents to think of the best possible life for them being a 10 and the worst possible life being a 0. The other categories measured have no impact on the total score reported for each country, but they do explain why some countries rank higher than others.

The World Happiness Report Data in this Story This story uses two principal sources of data joined at the hip. The first is the World Happiness data (from 2016-2019) about the state of World Happiness (see <https://worldhappiness.report/ed/2019/changing-world-happiness>). The second source of data, Human Rights, is originally derived by political scientist Christopher J. Fariss. Fariss' assessment aimed to measure how a government protects its citizens' physical integrity, by taking into account torture, government killing, political imprisonment, extrajudicial executions, mass killings and

World Happiness Report

Date: October 25th, 2020

Author: Renee Cothorn

disappearances. He then employed statistical techniques to correct for changing standards. Its values range from -3.8 to around 5.4 (the higher the better). It is constructed from an econometric model with data from nine sources. The data is from 2016 - 2017 at <https://ourworldindata.org/human-rights>