

World Happiness 2021

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Follow along @ <https://ygroza.com>

Data Sources

Datasets from Kaggle

World Happiness Report 2021

- CSV File
- 149 Countries Included
- <https://www.kaggle.com/ajaypalsinghlo/world-happiness-report-2021>

World Capitals GPS

- CSV File
- 245 Countries Included
- <https://www.kaggle.com/nikitagrec/world-capitals-gps>

Resulting Dataset

- 141 Countries with geo-coordinates



Database and Flask Powered API

- Join datasets to provide all data fields needed for visualization and clean up unnecessary data.
- Make Flask app with Python to provide API in JSON format.

```
SQL 1 ✕  
1 INSERT INTO results  
2 SELECT worldHappiness.Countryname, worldHappiness.Generosity,  
3        worldHappiness.Healthylifeexpectancy, worldHappiness.Ladderscore,  
4        worldHappiness.LoggedGDPpercapita, worldHappiness.Perceptionsofcorruption,  
5        worldHappiness.Socialsupport, concap.CapitalLatitude,  
6        concap.CapitalLongitude, concap.CapitalName  
7 FROM worldHappiness  
8 JOIN concap ON worldHappiness.Countryname=concap.CountryName
```

```
{  
  {  
    "Capital": "Kabul",  
    "Corruption": 0.924,  
    "GDP": 7.695,  
    "Generocity": -0.102,  
    "Lat": 34.516666666666666,  
    "LifeExp": 52.493,  
    "Long": 69.183333,  
    "Name": "Afghanistan",  
    "Score": 2.523,  
    "Support": 0.463  
  },  
  {  
    "Capital": "Tirana",  
    "Corruption": 0.901,  
    "GDP": 9.52,  
    "Generocity": -0.03,  
    "Lat": 41.316666666666667,  
    "LifeExp": 68.999,  
    "Long": 19.816667,  
    "Name": "Albania",  
    "Score": 5.117,  
    "Support": 0.697  
  },  
}
```

```
app = Flask(__name__)  
@app.route("/")  
def home():  
    return jsonify(data)  
  
if __name__ == "__main__":  
    app.run(debug=True)
```


Happiness Factors by Country Bar Chart

- Drop down to select country of interest
- Compares the selected country to the average across “happiness factors”
- Default Chart/View prior to selection



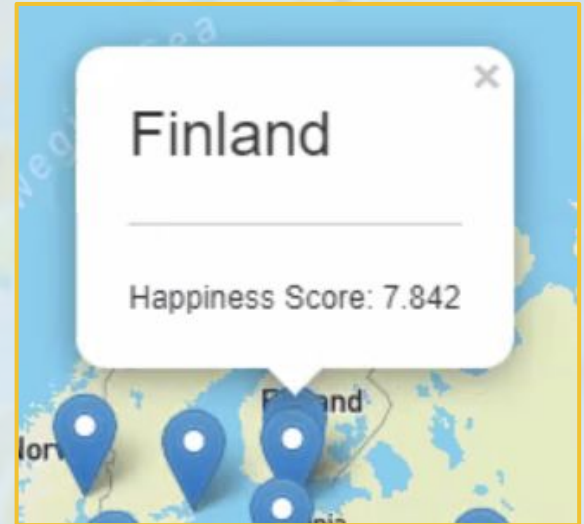
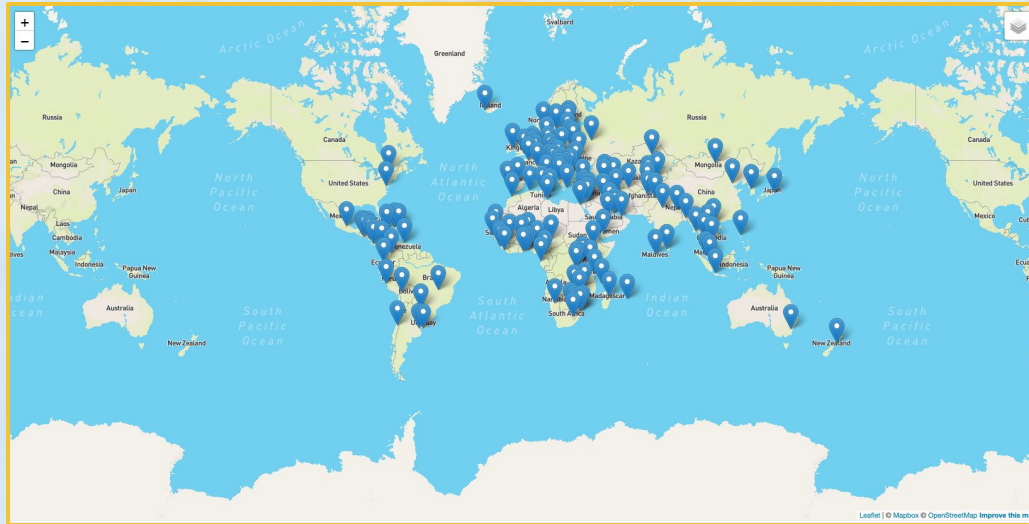
Scatter Plots for Happiness Factors

- Displays happiness scores and “happiness factors” of each country:
 - Generosity
 - Life expectancy
 - GDP per capita
 - Social support
 - Perception of corruption
- Displays country name and scores



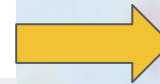
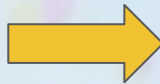
Leaflet Map with Countries

- Pulls geo-coordinates for each country's capital
- Displays marker on the capital with the country name and happiness score



Deployment:

- Heroku (Data and Python Flask)
- GitHub Pages (HTML/CSS/Bootstrap JS)
- G-Domains (web address)



Google Domains



Conclusions and Next Steps

Conclusions:

- High impact for overall happiness:
 - Healthy Life Expectancy
 - GDP
 - Social Support
- Low impact for overall happiness:
 - Generosity
 - Perceptions of Corruption

Next Steps:

- Add linear regression lines to scatter plots
- Additional formatting with HTML/CSS
- Compare happiness across regions - boxplots

