



World Happiness Report (2015–2019)

This report based on an interactive analysis of global well-being trends, top performers, and key influencing factors from 2015 to 2019.

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Overview

This report analyzes global happiness data using PostgreSQL and TablePlus for data processing, and Power BI for interactive visualization and trend exploration.

Data Overview

The World Happiness Report is a comprehensive global survey that evaluates the state of well-being across nations using data from the Gallup World Poll. The core metric is the **Happiness Score**, derived from respondents' self-reported life evaluations on the Cantril ladder, which ranges from 0 (worst possible life) to 10 (best possible life). The scores are based on nationally representative samples, weighted to reflect each country's population accurately.

The happiness score is explained through six key contributing factors: **GDP per capita**, **Social support (Family)**, **Healthy life expectancy**, **Freedom to make life choices**, **Generosity**, and **Perceived absence of corruption**. These dimensions are benchmarked against a hypothetical baseline country called **Dystopia**, which represents the lowest observed values globally in each category. The remaining, unexplained portion of a country's score is represented by the **Dystopia Residual**.

The data used in this report spans from 2015 to 2019 and is structured to allow both time-based trend analysis and country-level comparisons. Changes in ranking or score reflect shifts in well-being influenced by economic, social, and political conditions. This dataset enables users to explore not only where happiness is highest or lowest, but also **why**—based on measurable and comparable national attributes.

Data Cleaning Steps (performed using TablePlus with PostgreSQL):

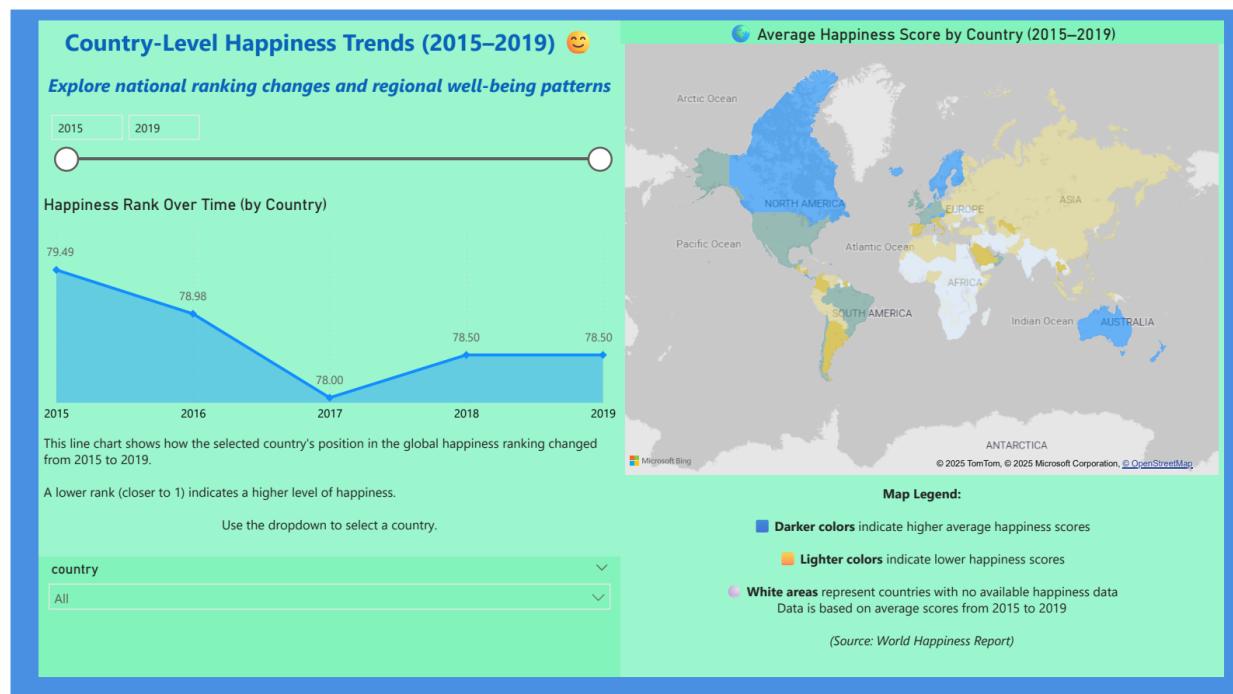
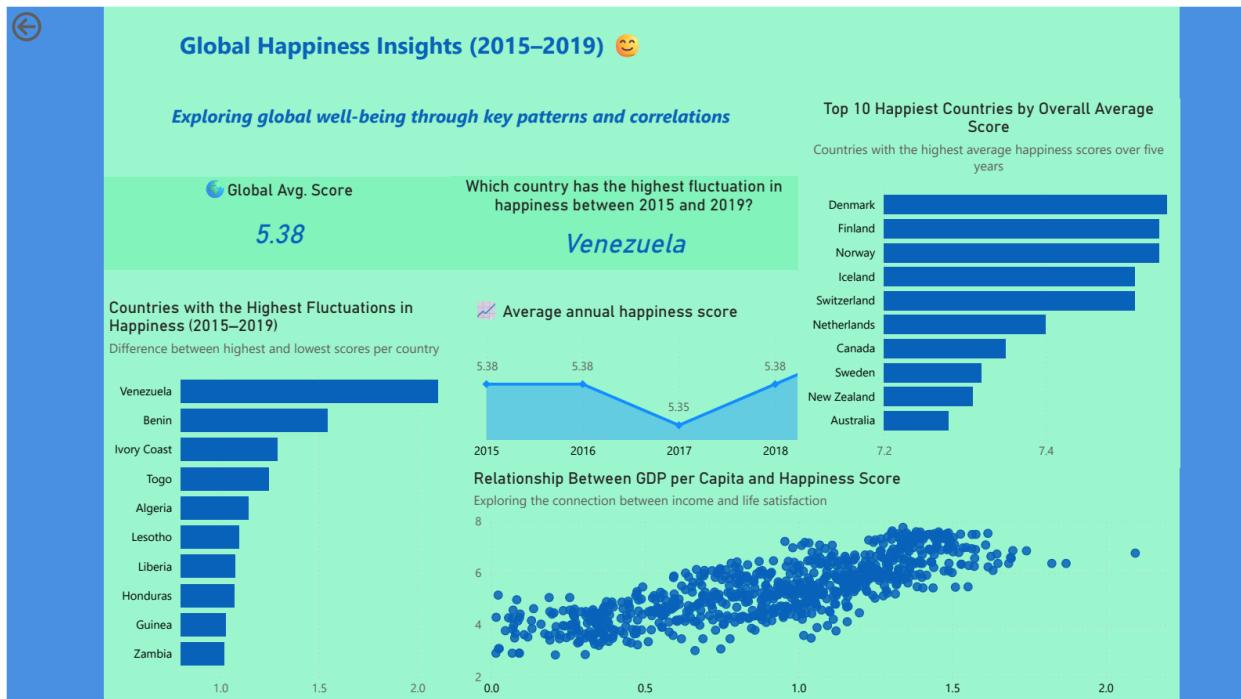
To ensure consistency and reliability across all five years (2015–2019), the dataset underwent several cleaning steps:

1.  **Column standardization:** Column names were harmonized across all CSV files (e.g., country, happiness_score, freedom, trust_government_corruption) to enable merging into a single table.
2.  **Table integration:** All datasets were combined using UNION ALL into a unified table called happiness_all_years, created and managed in PostgreSQL via TablePlus.
3.  **Missing values:** Null checks revealed that family and dystopia_residual had missing values from 2018–2019, as those factors were no longer reported. These were acknowledged and left untouched to preserve integrity.
4.  **Duplicate detection:** Checks confirmed that there were no duplicated country-year records.
5.  **Outlier detection:** Values such as 0 in GDP fields were reviewed and found to be valid but excluded from specific analyses.
6.  **Country name formatting:** Text values (e.g., country) were trimmed and checked for consistency (no leading/trailing spaces or casing issues).
7.  **Numeric formatting validation:** Decimal separators were checked and confirmed to be consistent with system locale (. as decimal point).



Dashboard Overview

The dashboard consists of two interactive Power BI pages visualizing global and country-level happiness trends. It highlights score patterns, correlations, regional rankings, and user-driven comparisons.





SQL queries

Average annual happiness score

```
< > [ ]  
1 SELECT year, ROUND(AVG(happiness_score), 2) AS avg_score  
2 FROM happiness_all_years  
3 GROUP BY year  
4 ORDER BY year  
5 /*  
6 Average annual happiness score (trend)  
7 */;  
  
⇒ line 4, column 14, location 112  
  


|   | year | avg_score |
|---|------|-----------|
| 1 | 2015 | 5.38      |
| 2 | 2016 | 5.38      |
| 3 | 2017 | 5.35      |
| 4 | 2018 | 5.38      |
| 5 | 2019 | 5.41      |


```

- The global average happiness score remained consistently around 5.38 across the five-year period.
- A minor decline is observed in 2017, reaching the lowest point of the period, followed by a recovery through 2019.
- The overall trend suggests global happiness was relatively stable, with only slight fluctuations year over year.



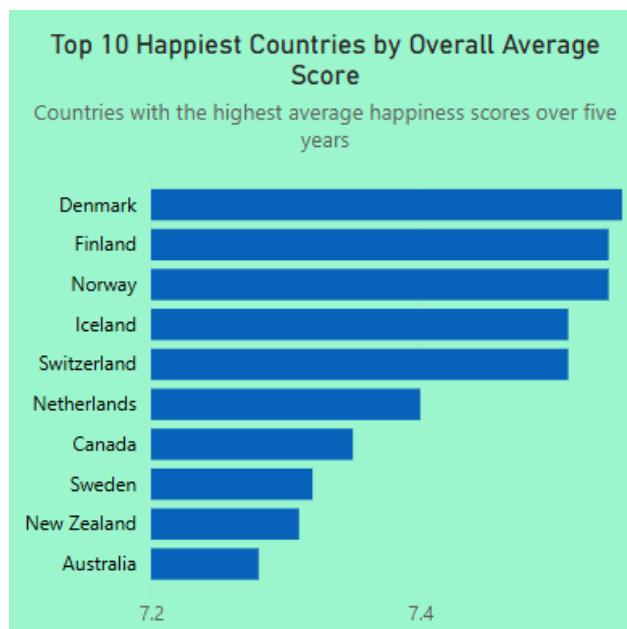
Top 10 Happiest Countries by Overall Average Score

```
< >
2 FROM happiness_all_years
3 GROUP BY country
4 ORDER BY avg_score DESC
5 LIMIT 10
6 /*
7 Top 10 happiest countries by overall average (2015-2019)
8 */
9 ;
```

line 9, column 2, location 207

| | country | avg_score |
|----|-------------|-----------|
| 1 | Denmark | 7.55 |
| 2 | Finland | 7.54 |
| 3 | Norway | 7.54 |
| 4 | Iceland | 7.51 |
| 5 | Switzerland | 7.51 |
| 6 | Netherlands | 7.40 |
| 7 | Canada | 7.35 |
| 8 | Sweden | 7.32 |
| 9 | New Zealand | 7.31 |
| 10 | Australia | 7.28 |

- Denmark, Finland, and Norway lead the global rankings with the highest overall average happiness scores.
- All top 10 countries have average scores exceeding 7.2, indicating consistently high levels of well-being.
- The chart highlights that Northern and Western European countries dominate the top rankings over the five-year period.



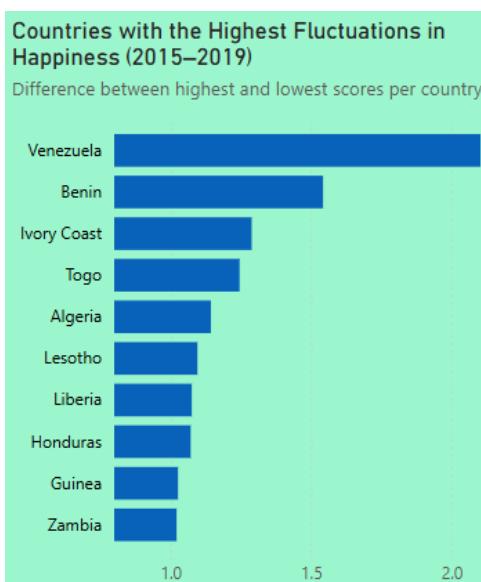
Countries with the Highest Fluctuations in Happiness (2015–2019)

```
< > SQL Query
1 SELECT country,
2      ROUND(MAX(happiness_score)::numeric, 3) - ROUND(MIN(happiness_score)::numeric, 3)
3      AS score_range
4 FROM happiness_all_years
5 GROUP BY country
6 HAVING COUNT(*) > 1
7 ORDER BY score_range DESC
8 LIMIT 10
9 /*
10 Analysis of variance or discrepancy (e.g. largest differences between years)
11 */
12 ;|
```

line 12, column 2, location 321

| | country | score_range |
|----|-------------|-------------|
| 1 | Venezuela | 2.103 |
| 2 | Benin | 1.543 |
| 3 | Ivory Coast | 1.289 |
| 4 | Togo | 1.246 |
| 5 | Algeria | 1.144 |
| 6 | Lesotho | 1.096 |
| 7 | Liberia | 1.076 |
| 8 | Honduras | 1.072 |
| 9 | Guinea | 1.027 |
| 10 | Zambia | 1.022 |

- Venezuela shows the greatest fluctuation in happiness scores across the five-year period, followed by Benin and Ivory Coast.
- These fluctuations may reflect political instability, economic shifts, or social challenges impacting well-being.
- The chart emphasizes which countries experienced the most volatile changes in life satisfaction year over year.



Relationship Between GDP per Capita and Happiness Score

```
< >          happiness_all_years
1 SELECT economy_gdp_per_capita, happiness_score
2 FROM happiness_all_years
3 WHERE economy_gdp_per_capita > 0
4 /*
5 Relationship Between GDP per Capita and Happiness Score
6 */
7 ;
```

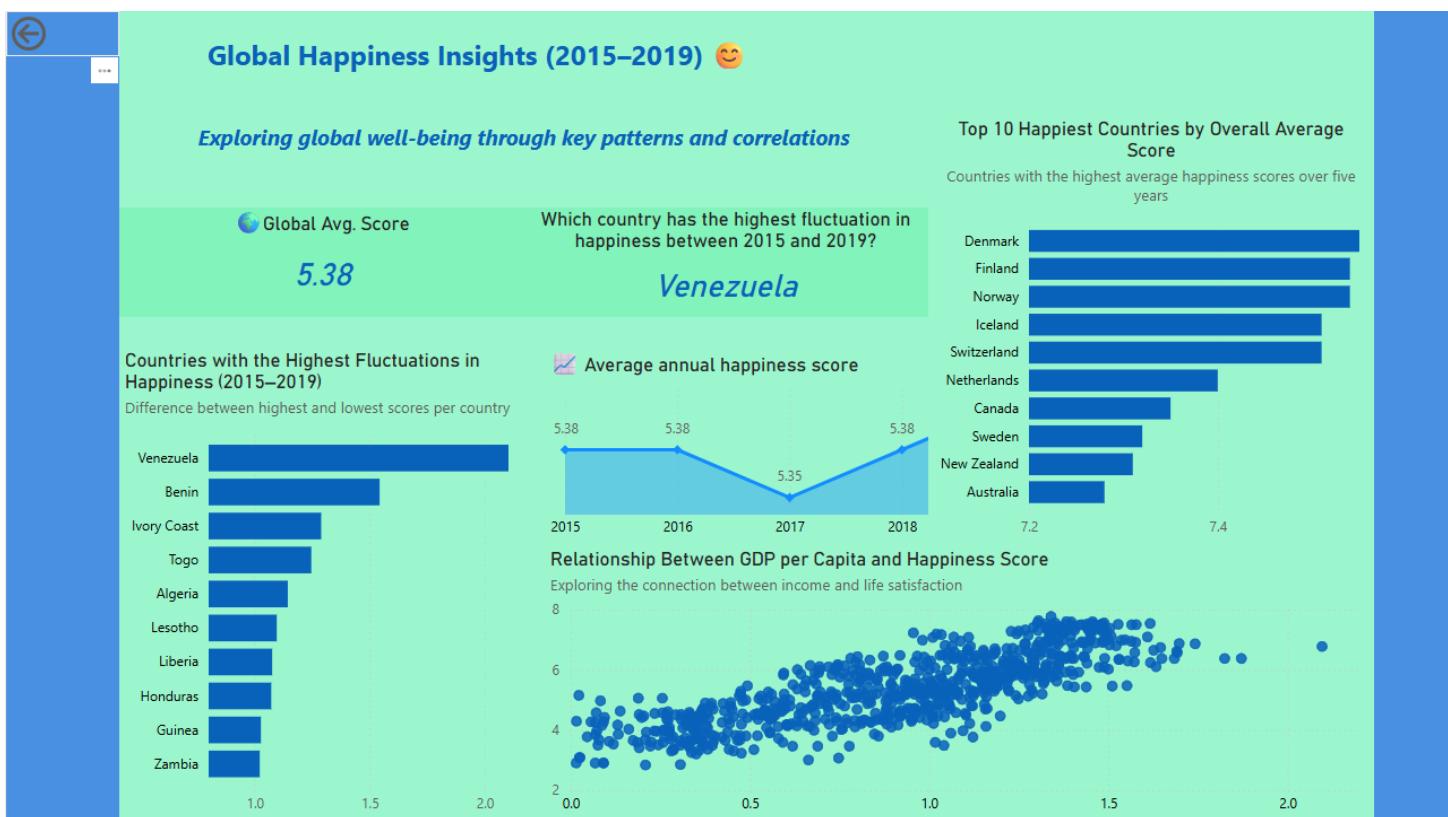
☰ line 7, column 2, location 174

| | economy_gdp_per_capita | happiness_score |
|----|------------------------|-----------------|
| 1 | 1.39651 | 7.587 |
| 2 | 1.30232 | 7.561 |
| 3 | 1.32548 | 7.527 |
| 4 | 1.459 | 7.522 |
| 5 | 1.32629 | 7.427 |
| 6 | 1.29025 | 7.406 |
| 7 | 1.32944 | 7.378 |
| 8 | 1.33171 | 7.364 |
| 9 | 1.25018 | 7.286 |
| 10 | 1.33358 | 7.284 |

- The scatter plot reveals a clear positive correlation between GDP per capita and happiness score—countries with higher economic output tend to report greater life satisfaction.
- Most data points form an upward trend, though there are notable outliers with high happiness despite modest GDP, and vice versa.
- This visualization suggests that while economic prosperity contributes to happiness, it is not the sole determining factor.



Summary of Visualizations – Page 1 & Page 2

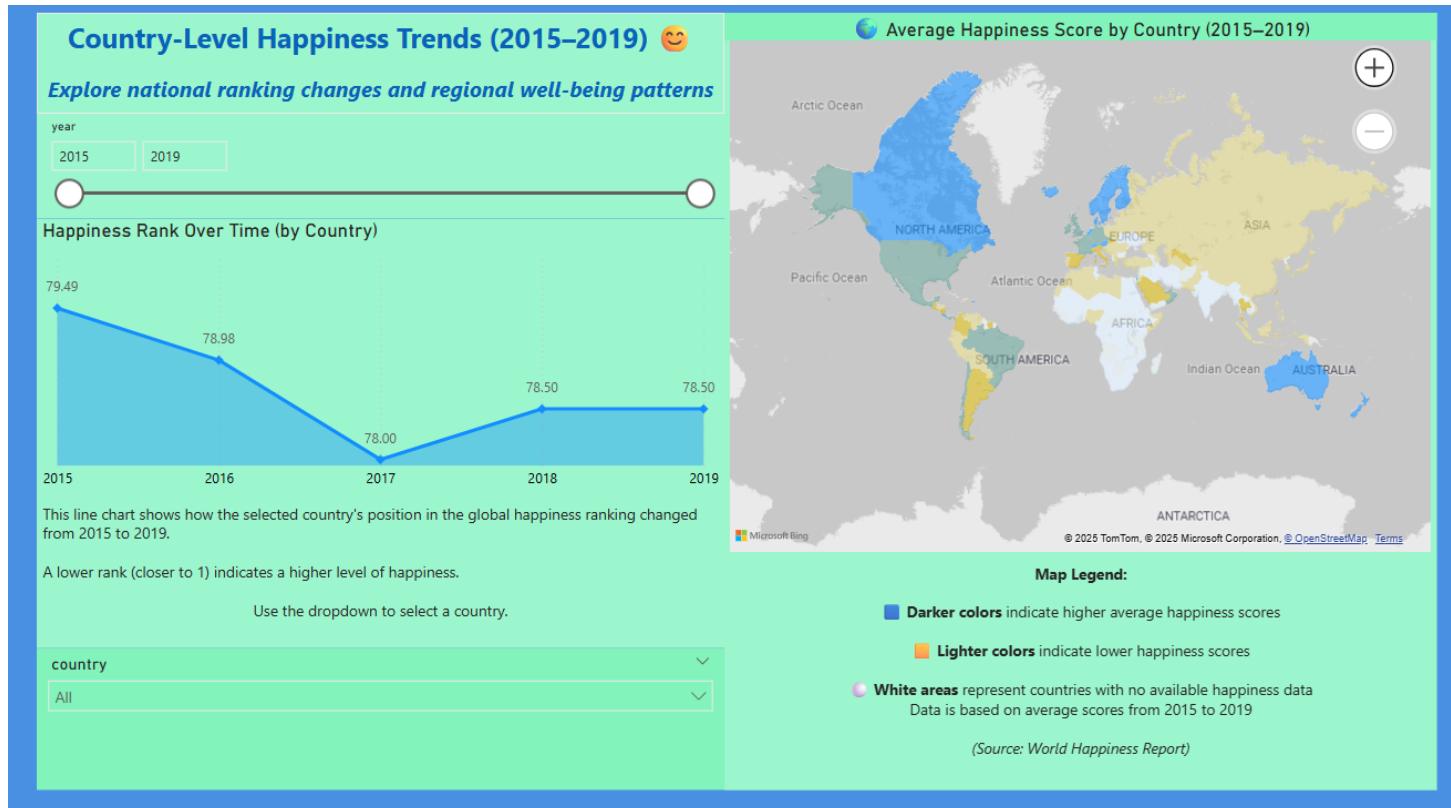


Page 1: Global Insights (2015–2019)

- The *Global Average Happiness Score* over the five-year period is **5.38**.
- *Venezuela* experienced the **highest fluctuation** in happiness scores, showing notable instability.
- Additional visualizations include:
 - A line chart showing *average annual happiness score trends*, revealing a slight dip in 2017.
 - A bar chart of the *Top 10 happiest countries*, with Denmark and Finland leading.
 - A scatter plot illustrating the *positive correlation* between GDP per capita and happiness.

Page 2: Country-Level Trends

- A *line chart* tracks the selected country's **rank changes over time**, helping users observe progress or decline.
- A *map chart* displays the **average happiness score by country** using color gradients—darker shades indicate higher happiness.
- A *year range slicer* enables filtering and **dynamic analysis by year**, enhancing interactivity for exploring time-based changes.



💡 Key Insights

1. **Nordic countries consistently rank highest** in happiness, with Denmark, Finland, and Norway leading the global averages from 2015–2019.
2. **GDP per capita shows a strong positive correlation** with happiness, highlighting the role of economic well-being in life satisfaction.
3. **Venezuela experienced the greatest fluctuations** in happiness, suggesting social or economic instability during the period.
4. **Global happiness remained relatively stable**, averaging around 5.38, with only slight year-to-year variations.

Conclusion

This report highlighted key global and national trends in happiness between 2015 and 2019. The consistent performance of Nordic countries, the link between economic prosperity and well-being, and the volatility observed in certain nations underscore the complex and multifaceted nature of happiness. By leveraging data tools like PostgreSQL, TablePlus, and Power BI, we gained valuable insights into the dynamics of global well-being — insights that can support policymakers, researchers, and society in promoting happier and more resilient communities.