

# HAPPINESS & ECONOMIC TRENDS: A 2016 RETROSPECTIVE

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Beyond GDP: How Social Resilience  
Redefines Global Happiness

<https://github.com/MagaliTrueAnalytics/>

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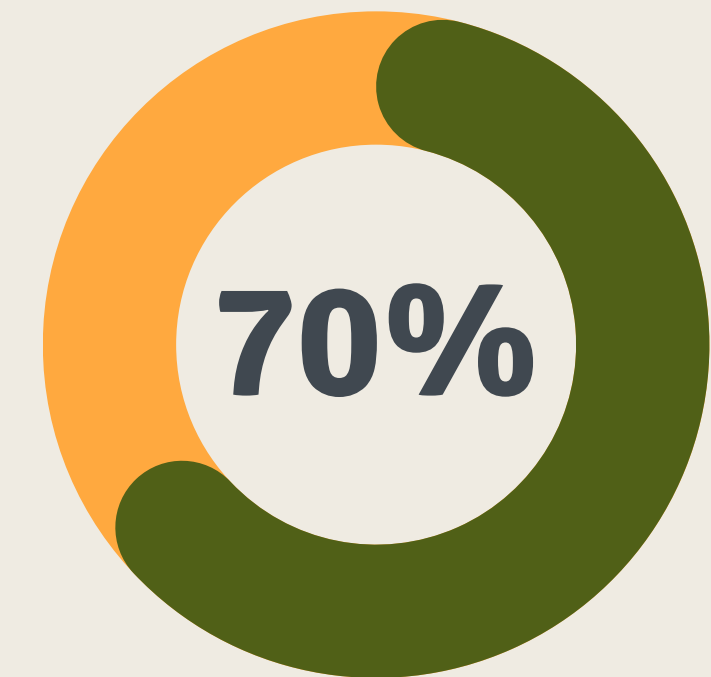
# OUTLINE

- Executive Summary
- Introduction
- Methodology
- Results : Charts & Insights
- Keys Insights
- Discussion
- Conclusion



# EXECUTIVE SUMMARY

The World Happiness & Economics Trends 2016 Retrospective provides a data-driven analysis of global well-being, exploring key factors such as GDP per Capita, Healthy Life Expectancy, Family Support, Freedom, Trust in Government, and Generosity. Using interactive visualizations, the dashboard uncovers how these elements shape happiness worldwide.



# INTRODUCTION

The World Happiness & Economics Trends 2016 Retrospective is designed to provide a data-driven exploration of **global well-being**, highlighting the complex relationships between economic prosperity, healthcare quality, social support, and happiness levels.

Targeted at policymakers, researchers, and organizations, this report offers valuable insights into the **key determinants of happiness**, empowering stakeholders to make informed decisions that enhance quality of life worldwide.

By leveraging interactive visualizations, users can uncover regional disparities, economic trends, and social dynamics, fostering a deeper understanding of how various factors influence **global happiness and longevity**.



# METHODOLOGY

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## Dataset Origin :

This dataset, sourced from **Kaggle under a CC0: Public Domain license**, provides cross-country happiness metrics. For this study, we focus on the **2016 dataset**, slightly modified for guided analysis.

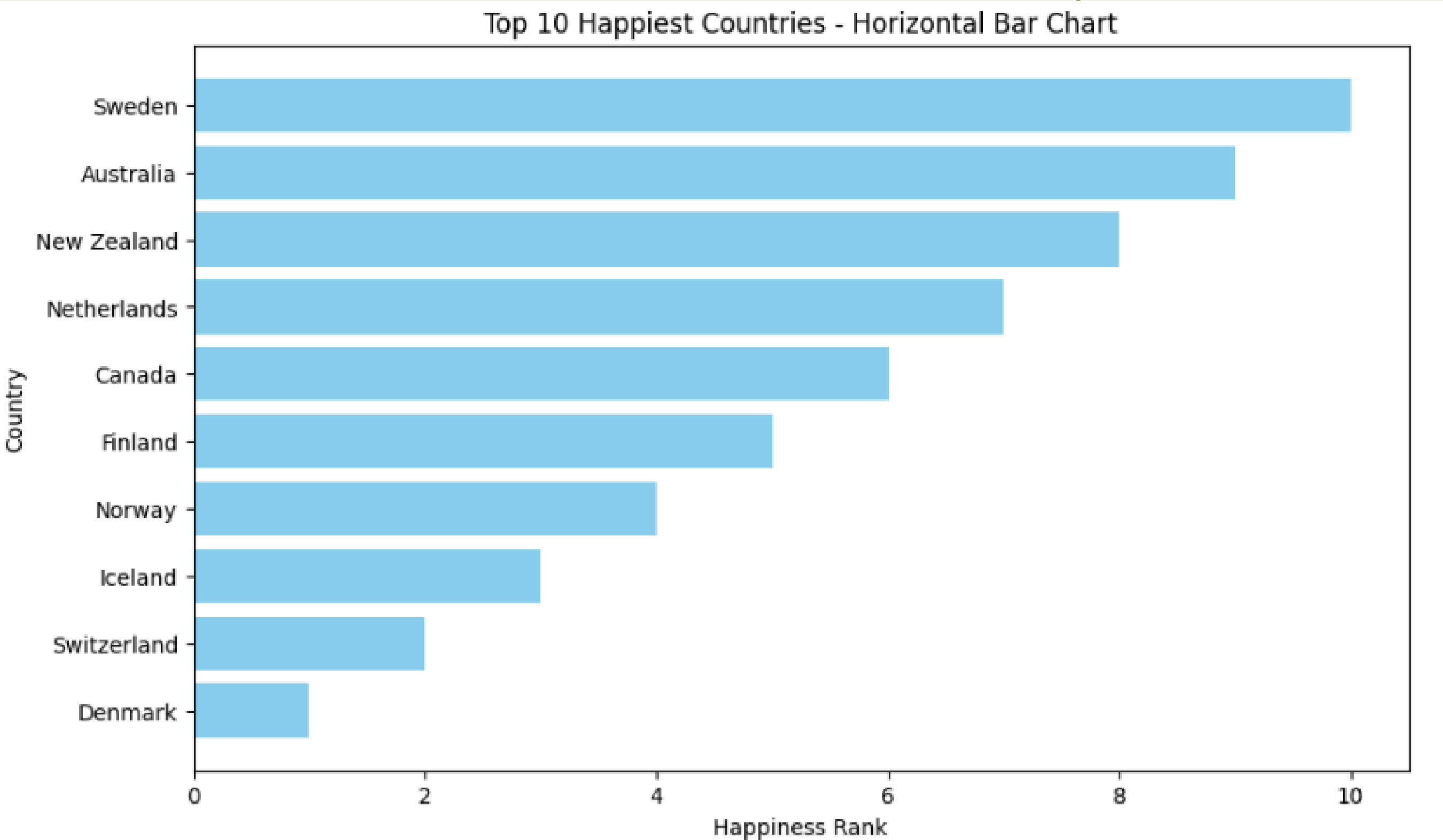
## Step-by-Step Process :

Using **Jupyter Notebook**, data wrangling and exploratory analysis utilizing visualizations to uncover trends. Finally, Plotly dashboard illustrated key insights on global happiness and economics.

## Generative AI Integration :

Throughout the process, GenAI played a key role in Python scripting for data wrangling, visualization, and storytelling. It assisted in refining insights—boosting efficiency and clarity at every stage.

# TOP 10 HAPPIEST COUNTRIES: BAR CHART



The visualization presents the top 10 countries ranked by their Happiness Rank.

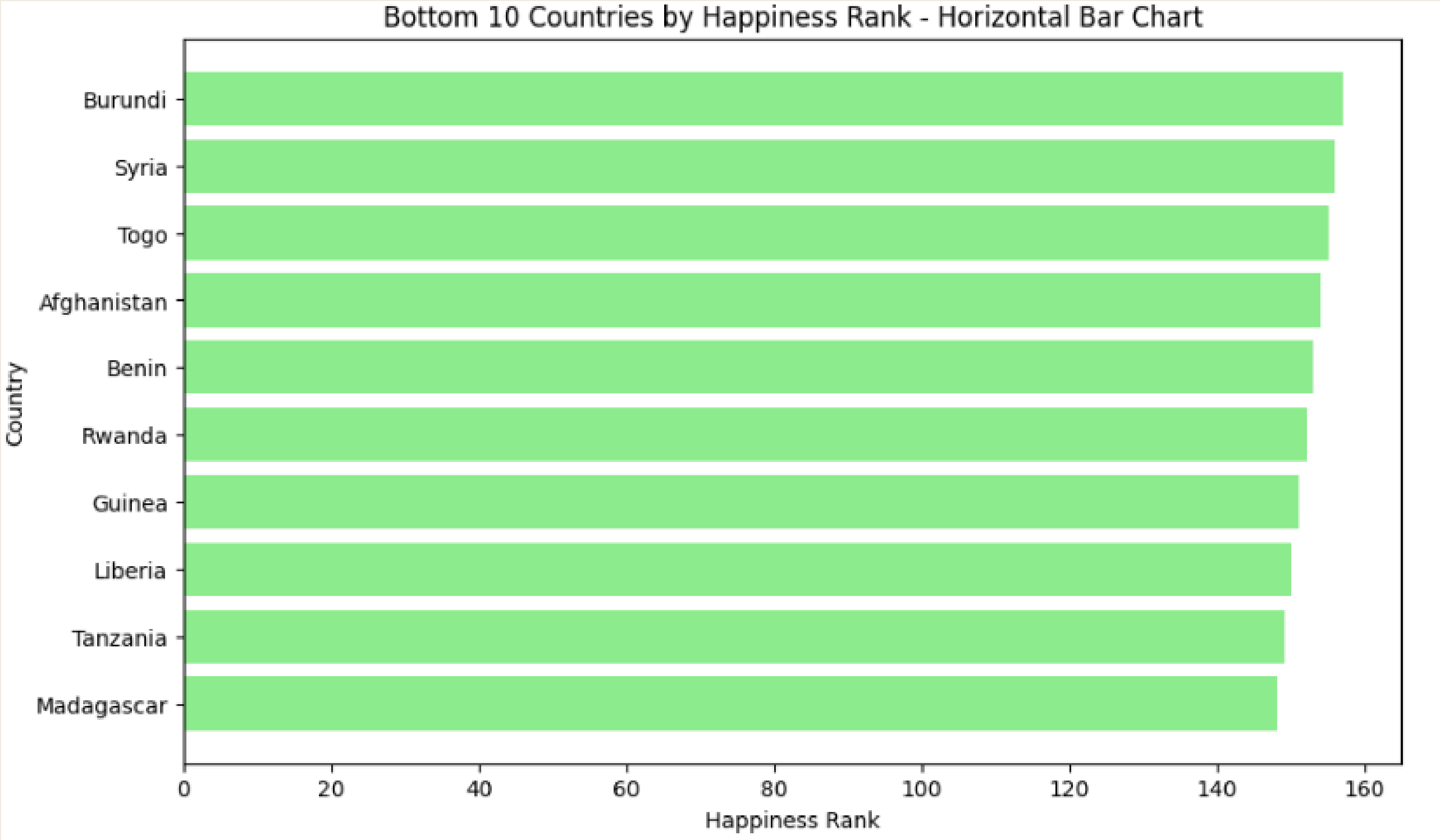
# TOP 10 HAPPIEST COUNTRIES: INSIGHTS



- The dominance of Nordic countries in the top 10 happiest nations (Sweden, Netherlands, Finland, Norway, Iceland, Denmark) suggests that happiness may be strongly linked to social structures.
- These nations share common characteristics: strong welfare systems, high income equality, excellent healthcare, and robust social trust—all key contributors to well-being.
- However, the presence of Canada in this elite group raises an interesting correlation: cold climates don't necessarily lead to lower happiness.



# THE BOTTOM 10 COUNTRIES IN HAPPINESS: BAR CHART



The visualization presents the bottom 10 countries ranked by their Happiness Rank.



# THE BOTTOM 10 COUNTRIES IN HAPPINESS: INSIGHTS



This bottom 10 ranking reflects a mix of conflict-affected, economically struggling, and politically unstable nations.

Countries like **Syria** and **Afghanistan** have faced ongoing wars, humanitarian crises, and displacement, severely impacting overall well-being. **Burundi** and **Rwanda**, with histories of political turbulence, continue to navigate governance challenges that affect social trust.

Most nations on this list have low GDP per capita, limiting access to essential services, education, and healthcare. **Guinea**, **Liberia**, **Benin**, and **Tanzania** struggle with economic inequality and infrastructure gaps, making daily life more difficult.

A lack of robust healthcare systems leads to lower life expectancy and quality of life. **Madagascar**, despite its rich biodiversity, faces healthcare challenges and climate vulnerability affecting its population's well-being.



# ECONOMIC STRENGTH & HEALTHY LIFE EXPECTANCY: BAR CHART ✨



GDP per Capita & Healthy Life Expectancy of Top 10 Countries



The visualization presents the top 10 countries ranked by Healthy Life Expectancy, highlighting their GDP per Capita.

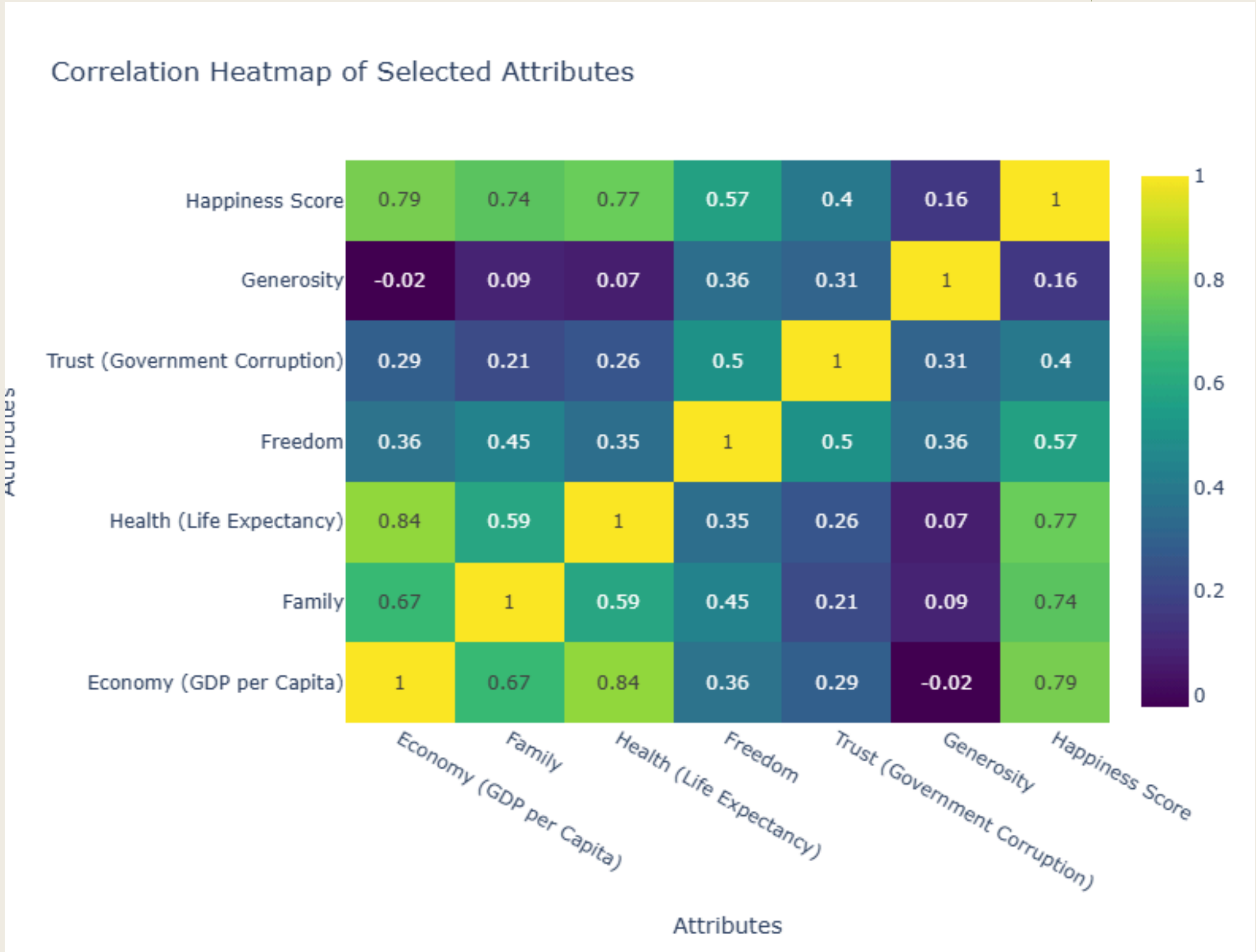
# ECONOMIC STRENGTH & HEALTHY LIFE EXPECTANCY: INSIGHTS



- Hong Kong leads in Healthy Life Expectancy, securing the first position, while placing third in GDP per Capita.
- Singapore takes the top spot in GDP per Capita and second place in Healthy Life Expectancy.
- The list continues with Japan, South Korea, Spain, Iceland, Switzerland, Australia, Italy, and Israel, demonstrating strong economic prosperity coupled with high life expectancy. This analysis underscores the relationship between financial stability and public health, showing how countries with higher GDP tend to provide better healthcare, leading to longer lifespans.



# CORRELATION AMONG KEY HAPPINESS INDICATORS: HEATMAP



A detailed heatmap unveils the strong correlations between different factors affecting happiness.



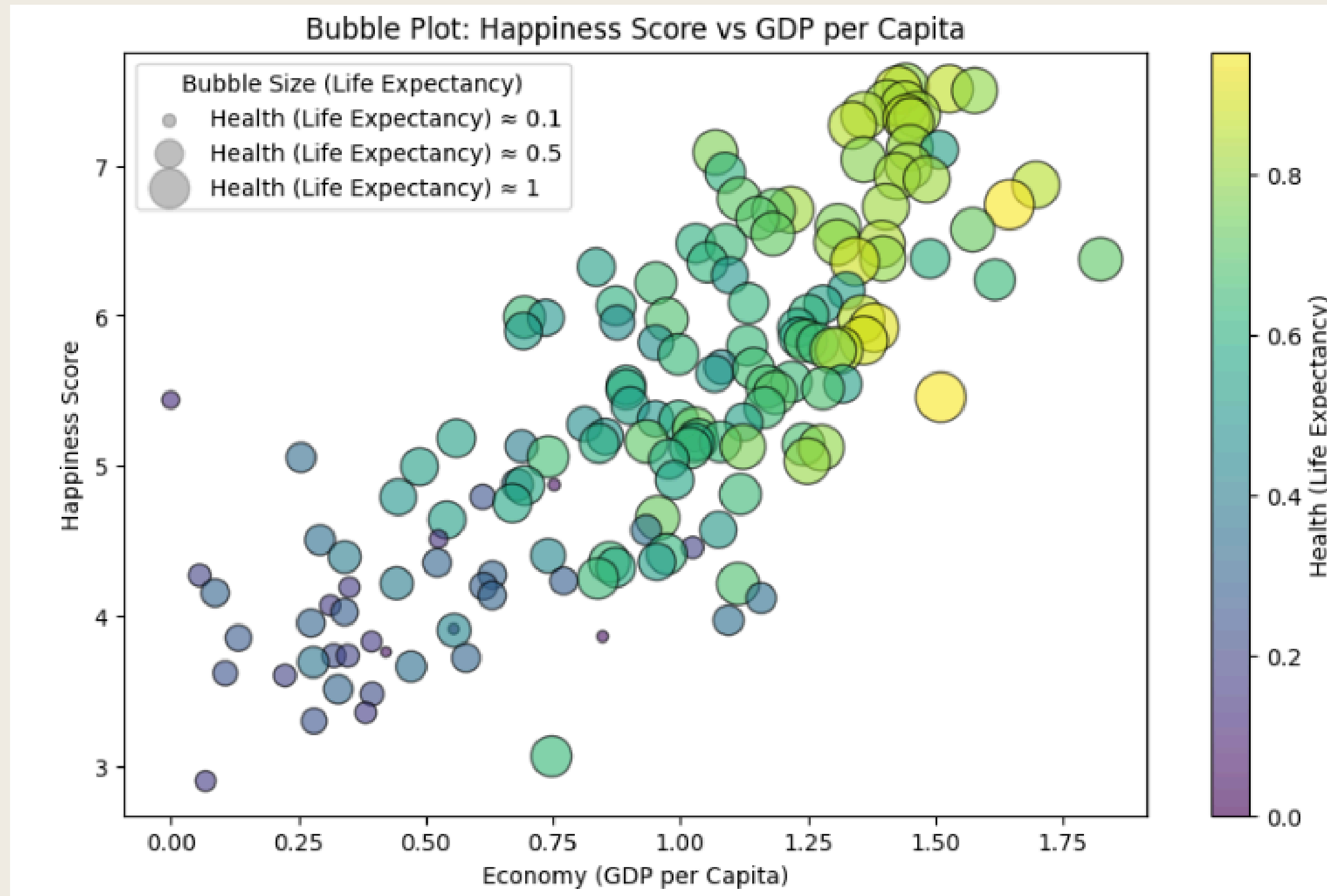
# CORRELATION AMONG KEY HAPPINESS INDICATORS: INSIGHTS



- **Health Life Expectancy vs Economy (GDP) (0.84)** – A high correlation indicating that economic prosperity contributes to better healthcare infrastructure.
- **Happiness vs GDP (0.79)** – Financial security plays a crucial role in overall life satisfaction.
- **Happiness vs Health Life Expectancy (0.77)** – Longer, healthier lives contribute to increased happiness. These relationships provide compelling evidence of the fundamental elements shaping well-being.
- **Happiness vs Family Support (0.74)** – Strong family connections significantly enhance happiness.



# CORRELATION AMONG ECONOMY AND HEALTH INDICATORS: BUBBLE PLOT



A bubble plot  
unveils the  
**strong**  
correlation  
between  
**Economy** and  
**Health** affecting  
happiness.

# CORRELATION AMONG ECONOMY AND HEALTH INDICATORS : INSIGHTS



The bubble plot reveals a **strong linear relationship** between **economic prosperity**, **life expectancy**, and **overall happiness**.

- **Positive Correlation:** As GDP per Capita increases, so does the Happiness Score, indicating that **economic stability** plays a major role in well-being.
- **Health as a Reinforcer:** Countries with higher Health (Life Expectancy) not only have greater GDP but also report higher happiness levels, suggesting that longevity and access to quality healthcare significantly impact happiness.
- Larger bubbles (indicating higher life expectancy) are predominantly found at the upper right of the plot, confirming that **economic and healthcare advantages complement each other** in driving well-being.





The scatter plot  
examines the  
effect of GDP  
per Capita on  
Happiness  
Scores across  
various regions



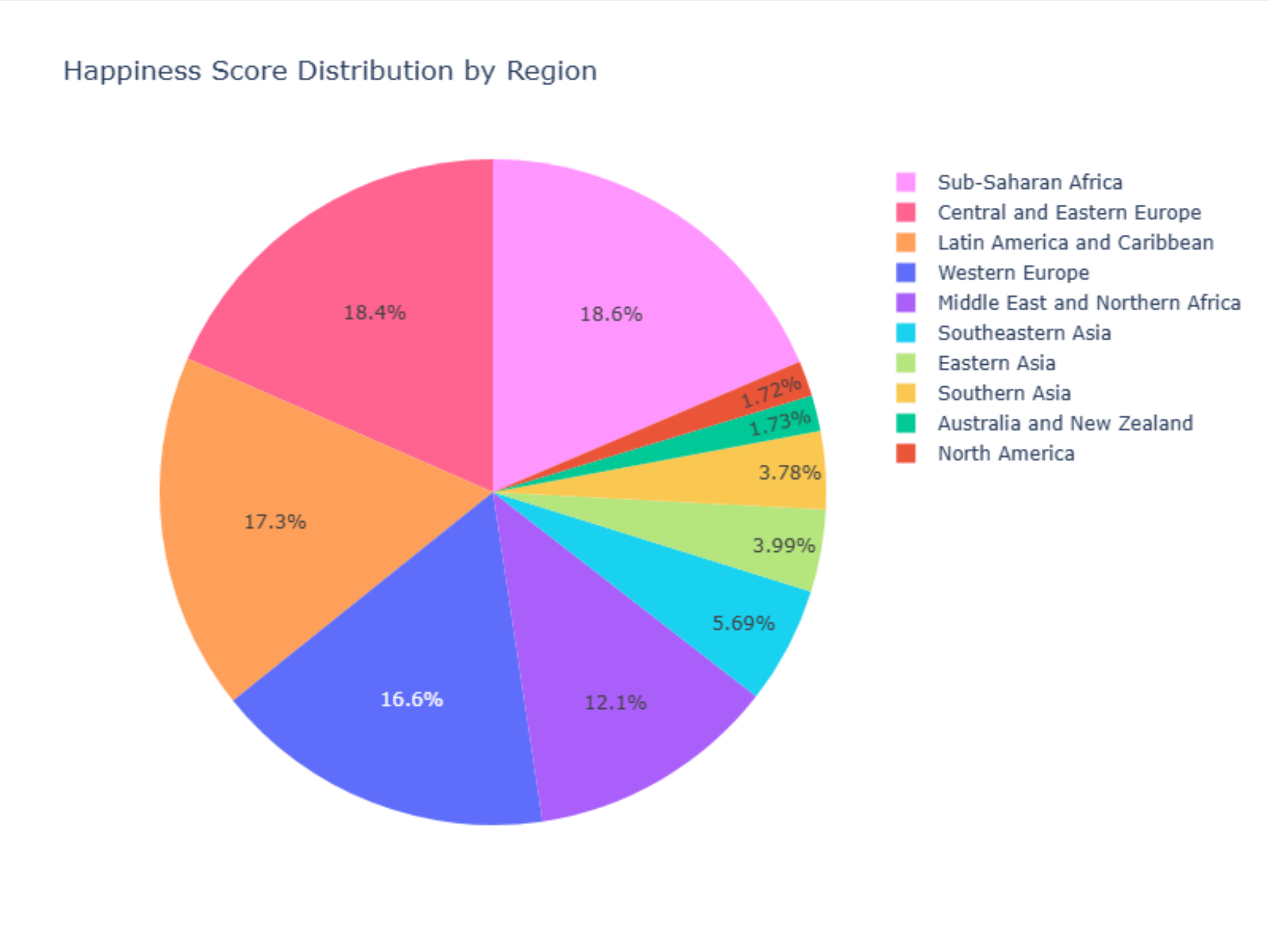
# THE ECONOMIC IMPACT ON HAPPINESS: INSIGHTS



- Western Europe & North America demonstrate high GDP indexes and high Healthy Life Expectancy, showcasing their advanced healthcare systems and economic strength.
- Latin America & The Caribbean occupy a middle ground, reflecting moderate prosperity with varying levels of life satisfaction.
- Sub-Saharan Africa faces the lowest GDP indexes and Healthy Life Expectancy, highlighting economic struggles and lower overall happiness.
- This visualization underscores **global inequalities** and the role of wealth distribution in shaping happiness levels.



# REGIONAL DISTRIBUTION OF HAPPINESS: PIE CHART



The pie chart presents the Happiness Score distribution across regions

# REGIONAL DISTRIBUTION OF HAPPINESS: INSIGHTS



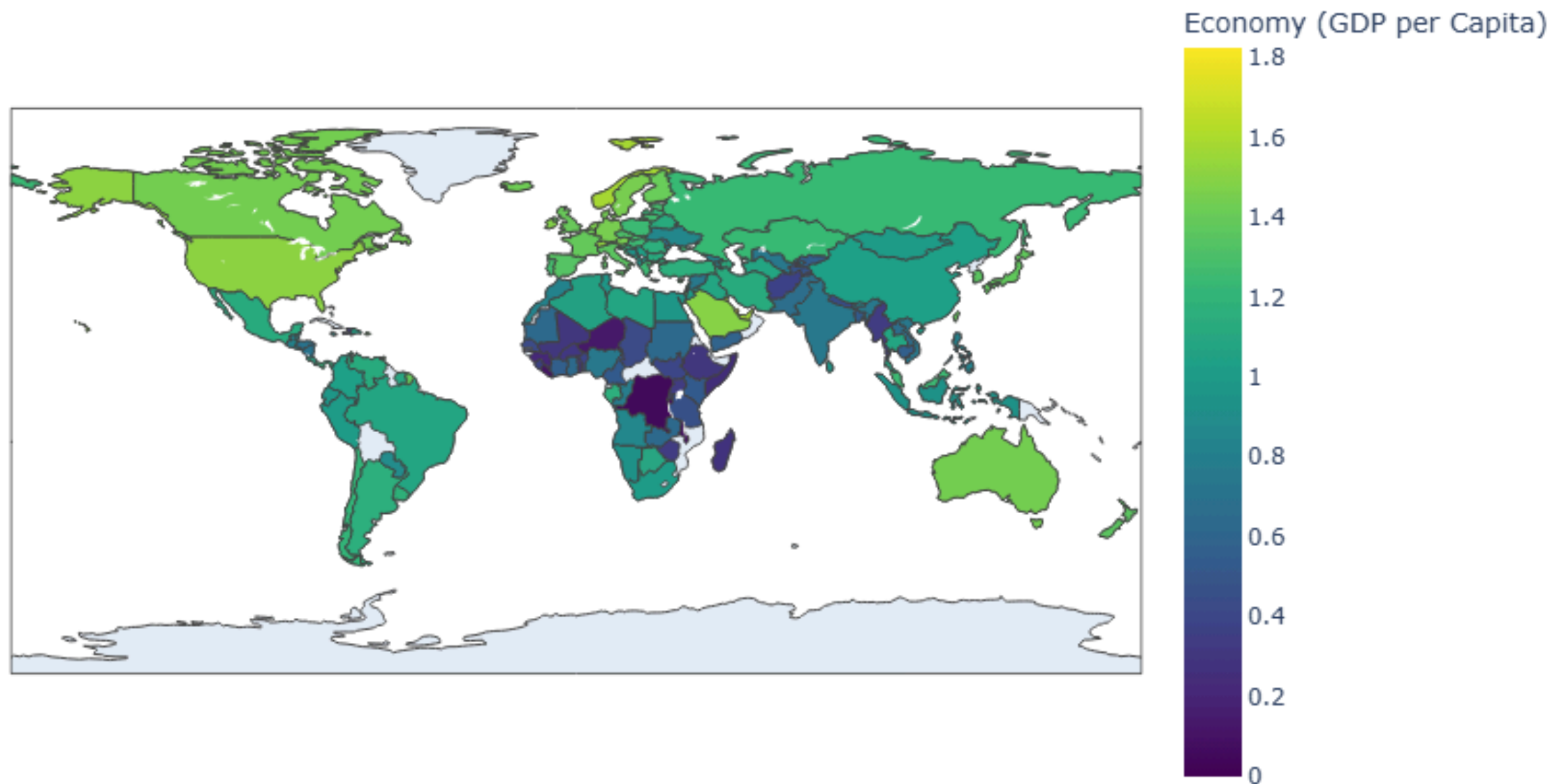
- **Data Distribution Bias:** Sub-Saharan Africa has the highest representation (18.6%), due to a larger number of countries in the dataset.
- **Socioeconomic Impact:** Despite its high occurrence, Sub-Saharan Africa often ranks lower in GDP and life expectancy, suggesting economic and health factors significantly influence happiness scores.
- **Data Representation vs. Happiness Trends:** A region's presence in the dataset doesn't necessarily correlate with its happiness ranking. Western Europe, despite lower representation (16.6%), has higher happiness scores, highlighting possible data skews.



# GLOBAL ECONOMIC & HEALTH OVERVIEW: MAP



Global GDP per Capita with Healthy Life Expectancy



The interactive world map showcases GDP per Capita across countries, with Healthy Life Expectancy displayed as a tooltip. Users can explore individual countries, comparing economic well-being and public health outcomes across different regions.







# KEYS INSIGHTS : GLOBAL TRENDS: THE POWER OF ECONOMY, HEALTH & FAMILY



- **Economic Strength Drives Longevity:** The 84% correlation between GDP and Health Life Expectancy confirms that wealthier nations tend to provide better healthcare, contributing to longer lifespans.
- **Happiness Leans on GDP (79%) & Health (77%):** Economic security and healthcare accessibility are strong indicators of national happiness, yet they aren't the only factors that define well-being.
- **Family Support Matters (74%):** The role of community, strong social bonds, and emotional security appears nearly as impactful as GDP in shaping happiness levels—highlighting the importance of social infrastructure beyond financial wealth.



# KEYS INSIGHTS : SUB-SAHARAN AFRICA: A PARADOX OF HAPPINESS



Despite facing the lowest GDP and Health Life Expectancy, Sub-Saharan Africa holds 18.6% of the total happiness score distribution, revealing a diverse spread of happiness levels across countries:

- **Burundi** (2.905 Happiness Score, GDP 0.06831) ranks as the least happy nation in the world—reflecting extreme economic hardship.
- **Somalia** (5.44 Happiness Score, GDP = 0) defies economic expectations, reporting happiness levels comparable to Hong Kong (5.458) despite having no measurable GDP—an extraordinary social resilience at play.

# KEY TAKEAWAY: BEYOND GDP, SOCIAL BONDS & CULTURAL RESILIENCE MATTER

This comparison highlights that economic prosperity alone does not guarantee happiness. **Hong Kong excels in GDP and life expectancy**, yet **happiness remains moderate** due to societal pressures. Conversely, **Somalia, despite economic hardship, maintains notable happiness**—suggesting that community, adaptability, and intrinsic social resilience play a critical role in shaping well-being.

# HONG KONG: ECONOMIC & HEALTH SUPREMACY, BUT MODERATE HAPPINESS

- **Top GDP & Life Expectancy:** Hong Kong ranks first globally in GDP per capita and boasts one of the highest life expectancies.
- **Happiness Score (5.458):** Despite its economic strength and longevity, its happiness score remains moderate—suggesting that beyond wealth and health, other societal factors influence well-being.
- **What Could Be Holding Happiness Back?**
  - High-pressure work culture and extreme competitiveness ?
  - Cost of living strains, widening inequality, and social mobility concerns ?
  - Lack of community cohesion, with urban isolation playing a role ?



# BURUNDI: EXTREME ECONOMIC HARDSHIP & LOWEST HAPPINESS

- GDP: 0.06831 | Happiness: 2.905 (Lowest in the world).
- Burundi experiences deep economic struggles and low life expectancy, contributing to widespread dissatisfaction.
- Factors driving low happiness levels include:
  - Economic instability & political turmoil.
  - Limited healthcare & infrastructure.
  - Food insecurity & social unrest.

# SOMALIA: THE HAPPINESS OUTLIER WITH GDP INDEX = 0

- GDP: 0 | Happiness Score: 5.44 (Comparable to Hong Kong).
- Somalia defies the economic-happiness logic—despite having the lowest GDP index, its happiness score is closer to developed economies than extreme-poverty nations.
- What drives this anomaly?
- Strong community ties & cultural resilience ?
- A mindset of adaptability despite adversity ?
- Happiness rooted in social dynamics rather than wealth ?



# CONCLUSION: THE COMPLEX FORMULA OF HAPPINESS



Happiness is a **multidimensional experience**, shaped not only by economic prosperity but also by social trust, resilience, and cultural identity. The clear correlation between GDP per capita, life expectancy, and happiness suggests that material security enhances well-being—but economic strength alone is not the sole determinant.

The **dominance of Nordic countries** (Sweden, Finland, Norway, Iceland, Denmark, and the Netherlands) in the top 10 happiest nations points to **strong social systems, economic stability, and governance** as key drivers of happiness. Despite their harsh climates, these countries demonstrate how well-being is fostered through social equity, healthcare access, and community trust rather than environmental conditions alone. On the opposite end of the spectrum, **the bottom 10 countries**—including Burundi, Syria, Afghanistan, Rwanda, and Guinea—**face persistent challenges such as conflict, corruption, economic hardship, and limited access to healthcare**. These structural difficulties underscore the importance of political stability, basic rights, and social infrastructure in shaping national happiness levels.

**The case of Somalia** stands out as **an example of resilience**. Despite the lowest GDP index in the dataset, its Happiness Score remains comparable to that of Hong Kong, a country with one of the highest economic outputs and best healthcare systems in the world. This paradox **highlights the power of social bonds, adaptability, and psychological strength in counterbalancing economic adversity**.

# CONCLUSION

The Happiness & Economics Trends 2016 Retrospective provides a comprehensive perspective on the global drivers of happiness, offering valuable insights for policymakers, researchers, and organizations. By addressing economic security, healthcare access, and social cohesion, societies can foster an environment where happiness flourishes—even in the face of adversity.