

# Understanding Global Happiness

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## An exploratory analysis of the 2024 World Happiness Report Dataset

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## **1. Motivation and Significance**

Happiness is one of the most sought-after and desired concepts for humanity, but, is there a way to measure it? The World Happiness Report is dedicated to offering us an overview of happiness in more than 150 countries. It not only determines how happy we are, but also analyzes the different factors that influence our well-being.

In this study, we will focus on data from 2024 and, through different variables, we will discover the countries considered to be the happiest, their common traits, and what the most important factors for happiness are.

During our analysis of the socioeconomic and well-being characteristics of different countries, we will attempt to answer some questions of vital importance:

- What factors determine the happiness of countries?
- Is happiness influenced by geographical region?

There are hundreds of countries with different cultures and characteristics, both social and economic. This study will allow us to discover whether, despite all these differences, there is a global consensus about the causes and factors that give rise to happiness.

## **2. Dataset overview and pre-processing steps**

The dataset used is the *World Happiness Report (WHR) 2024*<sup>1</sup>, which provides country-level information related to life satisfaction (*Ladder Score*), and the contribution made by different explanatory factors, including *GDP per capita*, *Social support*, *Healthy Life expectancy*, *Freedom*, *Generosity*, *Corruption*, and a residual term (*Dystopia + residual*).

To prepare this data for further analysis, we first renamed most of the variables to make them shorter and clearer (e.g, Explained by: Log GDP per capita → GDP). In addition, we created a new variable called *Continent* using the *countrycode* package to classify each country by region. Kosovo was manually assigned to Europe (as some nations do not recognise it as an official country), and any unmatched cases were classified as *Other*.

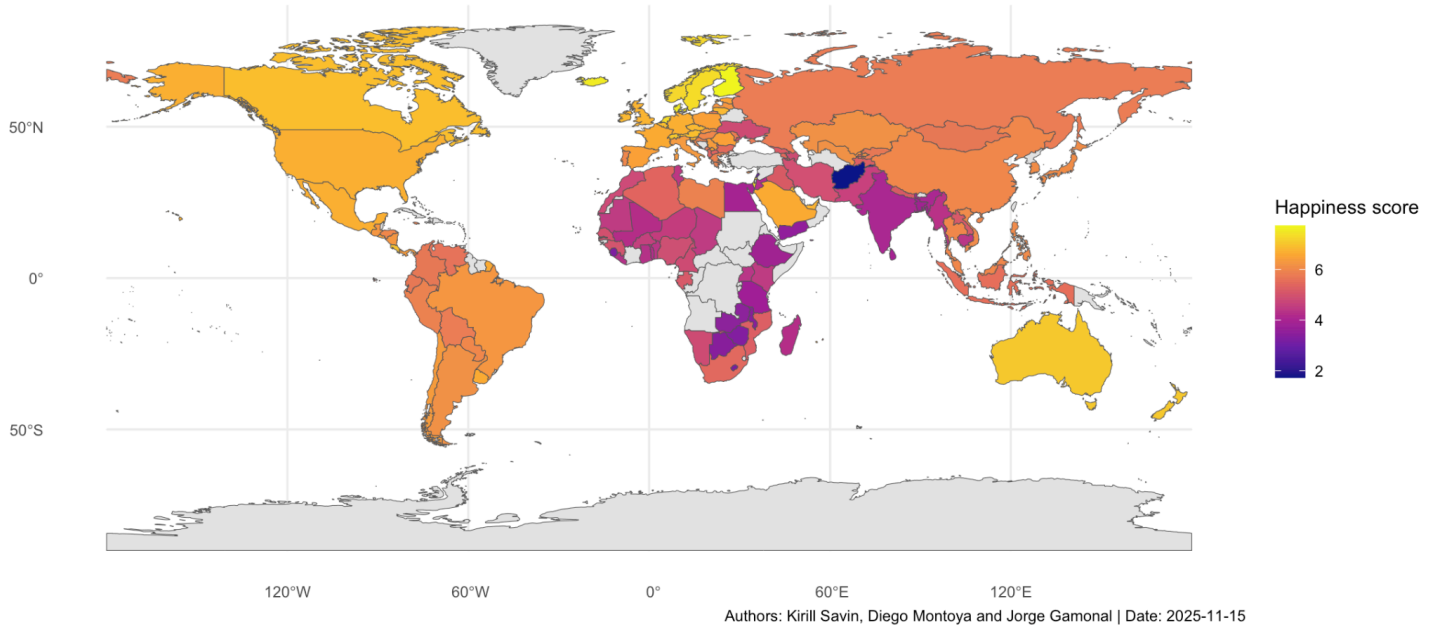
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<sup>1</sup> <https://www.kaggle.com/datasets/ajaypalsinghlo/world-happiness-report-2024>

### 3. Global Overview of Happiness Scores (World Map Plot)

Before, we will provide a general overview of the Happiness Score with a plot of the world. Each country has been coloured according to a palette to represent its *Ladder* score. This plot gives an overview of the *World Happiness Report* study results before moving into other visualizations.

Map of world happiness 2024



The map presents a clear global overview of self-reported well-being in 2024 which allows to make some conclusions:

- ❖ Substantial differences across world regions: Countries in Northern Europe continue to report the highest happiness levels, while much lower scores appear in parts of Sub-Saharan Africa, the Middle East, and South Asia. These **patterns remain broadly consistent** with previous years.
- ❖ Missing value from some countries: Some countries are not in the study because the methodology is based on data collected primarily through surveys (such as Gallup's) and for a country to be included, there must be a sufficient **number of valid surveys conducted**. This can also be caused due to the fault of data in some fields such as GDP

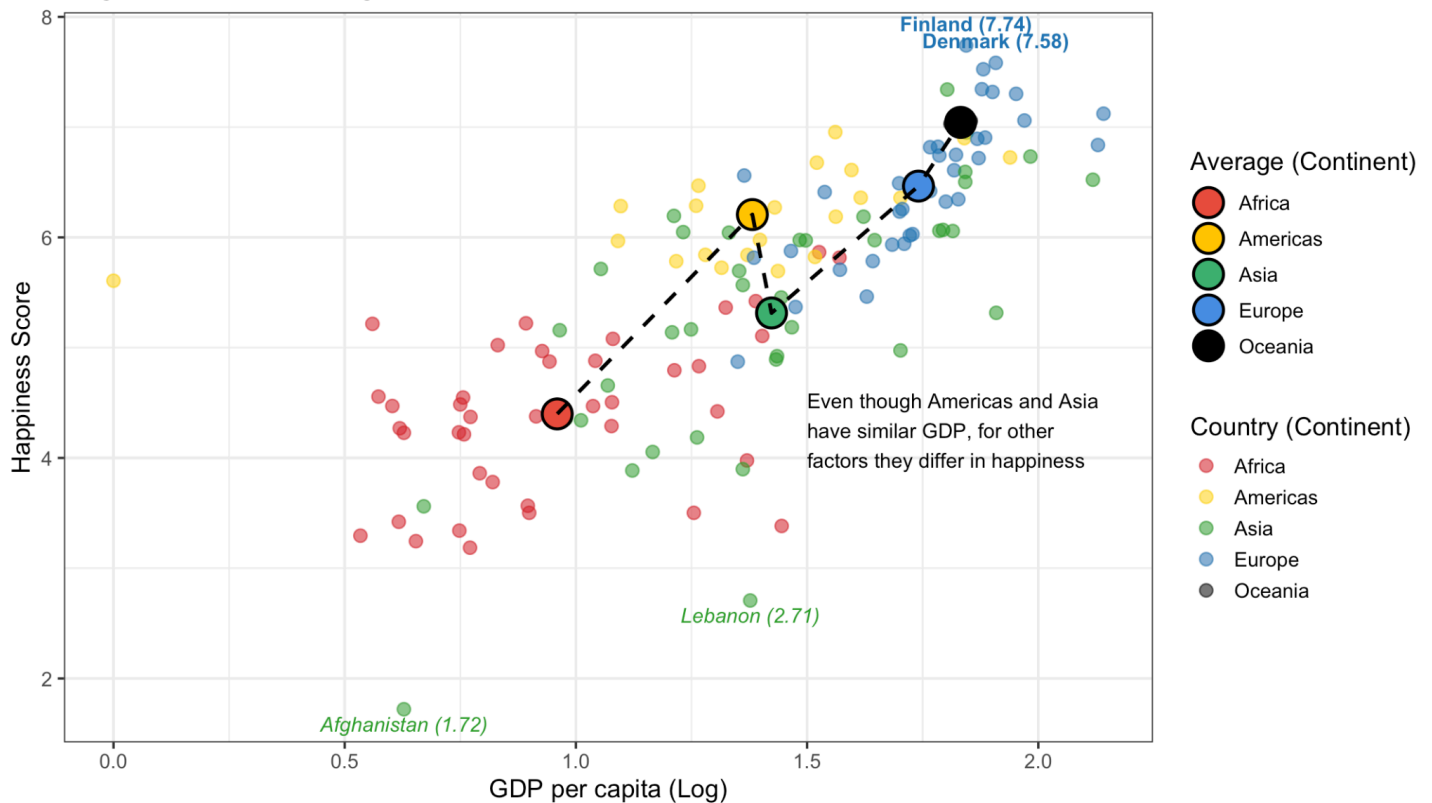
In the end, this visualization provides a concise snapshot of how happiness is unevenly distributed around the world and highlights areas where broader socioeconomic challenges remain most evident.

## 4. The crucial relationship between GDP and Happiness

We already saw how the Happiness Score varies across regions. One of the first reasons we could give for this would be the differences in the *GDP per capita* of these regions (for example between Europe and Africa). To check this we will visualize the **relationship between GDP and Happiness**, grouping the countries by regions.

GDP vs Happiness with each continent average (2024)

Large dots show the average for each continent



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In the graph we can see all the countries in the study, with the name and rate of **Top 2** higher and lower countries. We would like to comment a few things:

- ❖ Difference between average and separate countries: Even though the top countries in *GDP per capita* and *Happiness Score* are from Europe the best continent (probably due to the lack of countries) is Oceania. The same happens in the low rates with Asia and Africa.
- ❖ Lines to join averages: The average of the GDP of the continents are joined through a line to better see the evolution of the variables.
- ❖ Large distribution in Asia: It is true that nearby countries have similar happiness however, **choosing Asia as a whole as a region may not be the best** because there is a notable difference between the North and East (Russia, China, South East Asia), and the South and West (Middle East and India).

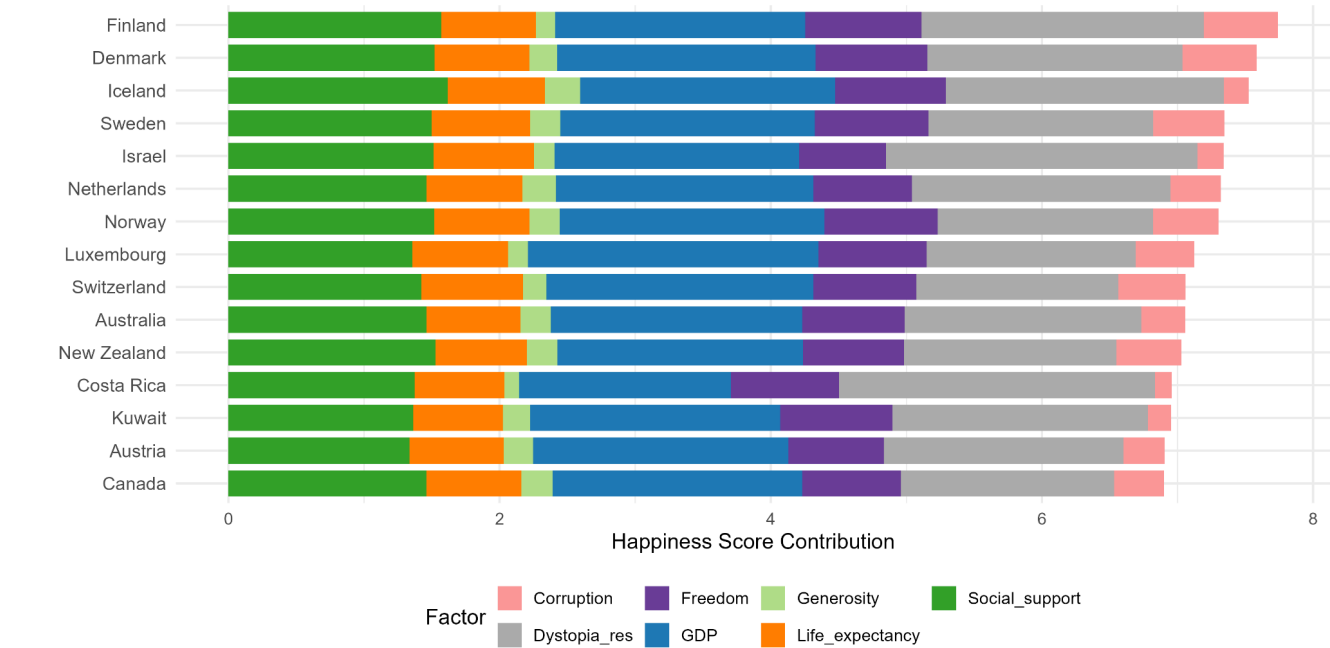
Finally, as it is told in the plot Asia and Americas have similar GDP but Americas have a higher Happiness Score which proves that not only GDP affects happiness (reason why this study is done every year).

5. Determinants of happiness

Understanding why some countries achieve higher levels of happiness is vital, and one of the main objectives of this study. The World Happiness Report decomposes each country’s happiness score (known as the *Ladder Score*) in several factors, each representing key aspects that influence an individual’s life. These are:

*GDP per capita, Social Support, Healthy Life Expectancy, Freedom to make life choices, Generosity, Perceptions of Corruption, and Dystopia Residual.*

Top 15 Happiest Countries (2024)  
Breakdown of the Ladder Score by Contributing Factors



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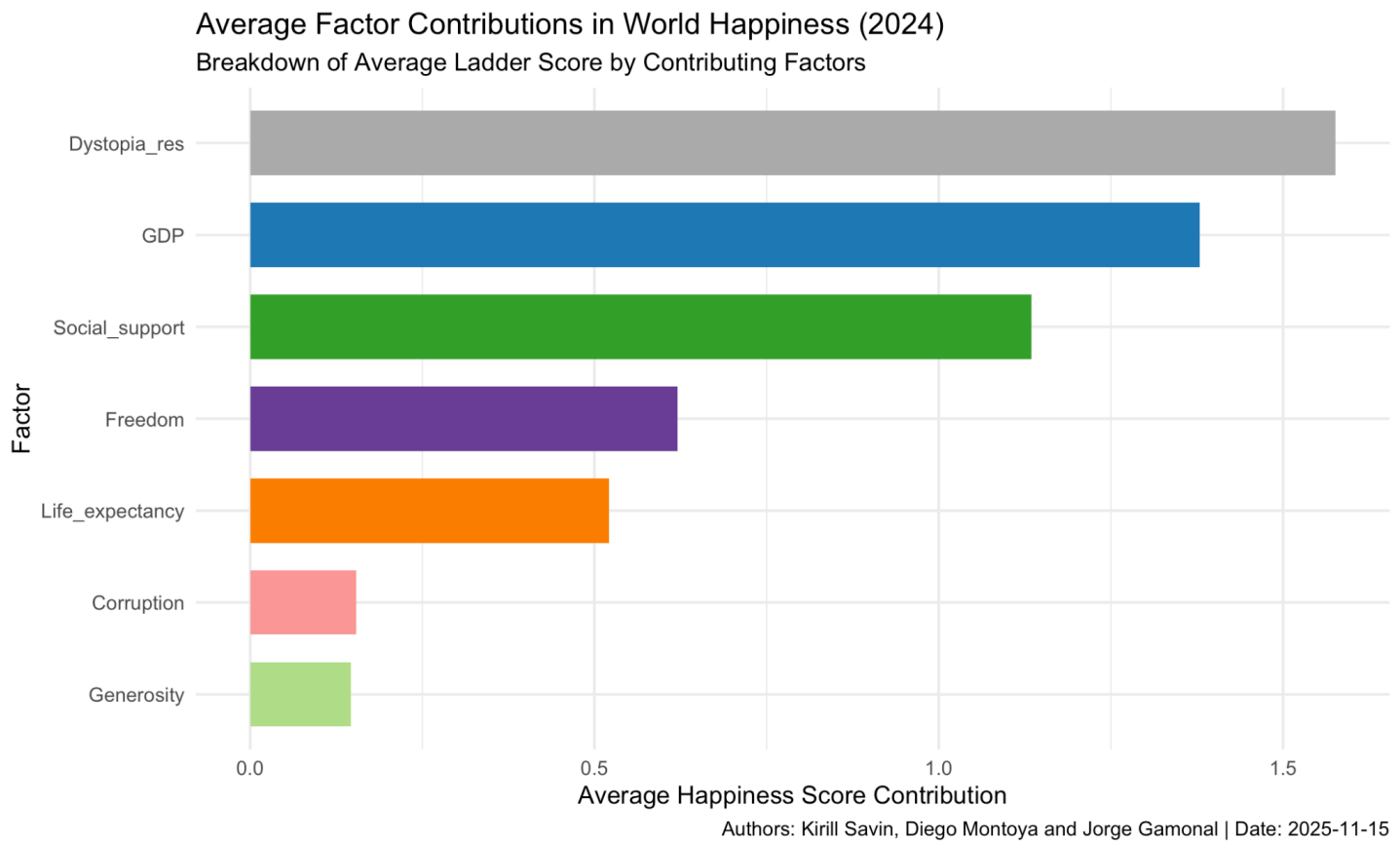
Factor Contributions for the Top 15 Happiest Countries (2024)

All components of the Ladder Score

Country	Ladder_score	GDP	Social_support	Life_expectancy	Freedom	Generosity	Corruption	Dystopia_res
Finland	7.741	1.844	1.572	0.695	0.859	0.142	0.546	2.082
Denmark	7.583	1.908	1.520	0.699	0.823	0.204	0.548	1.881
Iceland	7.525	1.881	1.617	0.718	0.819	0.258	0.182	2.050
Sweden	7.344	1.878	1.501	0.724	0.838	0.221	0.524	1.658
Israel	7.341	1.803	1.513	0.740	0.641	0.153	0.193	2.298
Netherlands	7.319	1.901	1.462	0.706	0.725	0.247	0.372	1.906
Norway	7.302	1.952	1.517	0.704	0.835	0.224	0.484	1.586
Luxembourg	7.122	2.141	1.355	0.708	0.801	0.146	0.432	1.540
Switzerland	7.060	1.970	1.425	0.747	0.759	0.173	0.498	1.488
Australia	7.057	1.854	1.461	0.692	0.756	0.225	0.323	1.745
New Zealand	7.029	1.810	1.527	0.673	0.746	0.226	0.480	1.567
Costa Rica	6.955	1.561	1.373	0.661	0.797	0.109	0.123	2.333
Kuwait	6.951	1.845	1.364	0.661	0.827	0.200	0.172	1.884
Austria	6.905	1.885	1.336	0.696	0.703	0.214	0.305	1.766
Canada	6.900	1.840	1.459	0.701	0.730	0.230	0.368	1.572

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The graph in the previous page represents the **Top 15** happiest countries, and serves as a solid base to analyse how each of these factors contributes to their overall scores. It is represented as a barplot for a simpler and more intuitive representation, using well-differentiated light colours to clearly differentiate the contribution of each factor. This allows us for immediate comparisons across countries, making it easier to identify which components, such as GDP, social support, or life expectancy, play a more dominant role in shaping national well-being.



Moreover, the table and factors breakdown shows a detailed version of the exact contribution from each factor, allowing a more precise comparison. These numerical and graphic summaries show not only the relative importance of each factor within a nation but also more general trends that are common to the top-ranked countries in the world.

After carefully observing both the plot and the table, we achieved some insights:

- ❖ Happiness is based around the same three strongest pillars: Across the Top 15, GDP, Social Support, and Healthy Life Expectancy are consistently the largest contributors. These factors form the structural base of national well-being.
- ❖ When GDP is similar, Freedom and Corruption make the difference: When economic levels are comparable, rankings shift due to higher perceived freedom and lower corruption. Therefore, we can assume government and institutional quality acts as a key differentiator among high-income nations.

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- ❖ Nordic countries lead the rank, why? Finland, Denmark, Iceland, Sweden, and Norway show high and evenly distributed values across all factors. These amazing scores come from strong economies, with strong welfare and support networks, long healthy lives and a keen sense of freedom and low corruption. This balanced profile differentiates them from others.
  - ❖ Dystopia + residual remains the biggest single component: Even in the top performers across the ranking, 1.5 to 2.3 points come from this measure, reflecting cultural, psychological, and unmeasured factors.  
It helps us to understand that happiness is not fully captured by the six measurable predictors, and that cultural and psychological traits, such as strong community bonds, collective trust or national identity play a crucial role in shaping well-being.

Overall, our analysis demonstrates that a balanced mix of social support, institutional trust, economic strength, and healthy living conditions leads to happiness, as shown by the ranking provided in the graphs. While the majority of the difference may be explained by the six quantifiable elements, psychological health, community cohesion, and cultural values are also crucial.

Essentially, the happiest nations thrive not due to a single factor, but rather because they have a balanced system, regularly scoring highly on a variety of human development metrics.