Data Visualisation

Global Happiness Index: A Data Visualization Report

Introduction

The Global Happiness Index is a widely accepted metric for evaluating the well-being of citizens across nations. This report presents a series of data visualizations that explore the underlying factors contributing to happiness scores and their interrelationships, both within and between countries. Our aim is to provide insights into the complex landscape of happiness by addressing the following questions:

1. How do different factors contribute to the overall happiness score of each country?
2. How has happiness changed over time and what factors have influenced these changes?
3. How do regional differences within a country impact happiness levels?
4. What relationships exist between happiness and other indicators, such as GDP, life expectancy, etc.?
5. How does the contribution of GDP to happiness scores vary across different groups of countries?

The visualizations presented in this report are based on the principles of data abstraction, task abstraction, visual encoding, and interaction idiom, in order to provide a comprehensive and engaging exploration of global happiness.

Stacked Bar Chart: Contribution of Factors to Happiness Scores

The interactive chloropleth map reveals the flow of happiness across the globe over time, highlighting how nations have experienced fluctuations in happiness. The map provides a geographic context, allowing users to understand the spatial distribution of happiness scores across countries. The dropdown menu offers interactivity, enabling users to explore the data over time and observe changes in happiness scores throughout the years. A carefully chosen color gradient is used to represent the range of happiness scores, making it easy for users to discern differences between countries.

Chloropleth Map: Changes in Happiness Over Time

The interactive chloropleth map reveals the flow of happiness across the globe over time, highlighting how nations have experienced fluctuations in happiness. The map provides a geographic context, allowing users to understand the spatial distribution of happiness scores across countries. The dropdown menu offers interactivity, enabling users to explore the data over time and observe changes in happiness scores throughout the years. A carefully chosen color gradient is used to represent the range of happiness scores, making it easy for users to discern differences between countries.

Map of India: Indian States Happiness Data

This visualization focuses on the happiness levels across Indian states, highlighting the cultural, social, and economic factors that contribute to diverse happiness levels. The map of India offers a geographic context, allowing users to explore how regional differences, traditions, and priorities shape the unique happiness profiles of each state.

Hexbin Plot: Happiness vs GDP, Life Expectancy, and Other Factors

The interactive hexbin plot allows users to choose any combination of factors and investigate their relationship with happiness scores. By selecting different columns, we can uncover hidden patterns, trends,

and correlations, unraveling the complex web of connections that define happiness across nations. The plot effectively represents the density of data points, enabling users to identify trends, patterns, and correlations between happiness and other factors. The use of color as a third dimension adds depth to the visualization, making it easier to understand and interpret the data.

Sorted Scatter Plot: GDP vs Contribution of GDP to Happiness Scores

This visualization investigates the relationship between GDP per capita and its contribution to happiness scores by examining the 25 happiest, 25 saddest, 25 richest, and 25 poorest countries. The sorted scatter plot effectively depicts the relationship between GDP and its contribution to happiness scores, providing a clear and concise visualization of the data. By placing the different groups of countries (happiest, saddest, richest, and poorest) along the x-axis and their respective GDP contributions to happiness scores on the y-axis, the visualization facilitates comparisons between these groups to reveal insights about the role of wealth in happiness. Color coding is used to distinguish each group of countries, enhancing the visual clarity and making it easier for the audience to understand and explore the data.

Conclusion

This report has presented a series of visualizations that shed light on the multifaceted nature of global happiness. By examining the contributions of various factors, the changes over time, regional differences, relationships between happiness and other indicators, and the role of GDP in happiness scores, we have provided valuable insights into the complex landscape of happiness across nations. The use of data abstraction, task abstraction, visual encoding, and interaction idioms, coupled with creative visualization techniques such as stacked bar charts, chloropleth maps, hexbin plots, and sorted scatter plots, allows for a comprehensive and engaging exploration of global happiness.

All team members contributed equally to this report