GLOBAL LIFE EXPECTANCY REPORT

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Analysis Questions

1. Which countries have the highest average life expectancies?
2. How does GDP affect life expectancy in specific countries?
3. What is the life expectancy trend over the years?
4. What is the correlation between life expectancy and average BMI of countries?

Introduction

The report aims to identify patterns and relationships that offer insights into public health and economic development. The report focuses on global life expectancy and its relationship with GDP, adult mortality, disease cases, BMI as well as other factors as included in the WHO Life Expectancy dataset.

Methodology

- **Data Source:** The analysis is based on open data from the WHO: Life Expectancy Data.
- **Variables:** Key variables include life expectancy, GDP, BMI, adult and infant mortality, population, disease cases, among others.
- **Cleaning:** Duplicate rows were removed using the power query editor. Null values were also filtered out.
- **Analysis:** Descriptive and correlative analysis techniques are employed to examine the relationships between these variables.

Key Findings

1. **Global Life Expectancy:** The global average life expectancy is 59 years, with significant variations across countries and years. The top 10 countries with the highest average life expectancies are Japan, Switzerland, Singapore, Spain, Iceland, Israel, up to Timo-Leste, as per the visual. A further probe into this finding revealed that the high life expectancies of the aforementioned countries can be largely attributed to their diets which are majorly composed of vegetables and seafood. Also considering the trend of life expectancy from 2001 to 2014, we notice a steady upward trend from 51 on average in 2001 to 71 in 2014. This can be attributed to improved healthcare through technology and diets.
2. **GDP and Life Expectancy:** A positive correlation is observed between GDP and average life expectancy, particularly among the top 10 GDP earners. The top 10 countries with the highest GDP include Switzerland, Spain, South Africa, etc. The correlation between GDP and life expectancy is stronger among these countries, indicating that economic development is a key factor in improving life expectancy. All things being equal, if a country is economically developed, citizens are able to live

generally better lives and have access to better healthcare, thus increasing their life expectancy.

3. **BMI and Life Expectancy:** The relationship between average life expectancy and BMI varies among the top 10 countries, suggesting a more complex association. Some of the top countries with the highest averages BMI values include South Africa, Spain, Mongolia, Kiribati, etc. While some of these countries have high life expectancies, others have lower life expectancies, indicating that other factors may be influencing life expectancy in addition to BMI.
4. **Disease Cases:** The report highlights the prevalence of diseases such as HIV/AIDS, measles, hepatitis B, and polio in different countries, indicating potential impacts on life expectancy and public health. The top 10 countries with the highest HIV/AIDS cases include Zimbabwe, Lesotho, Malawi, South Africa, etc. The top 10 countries with the most measles cases include Uganda, Zambia, India, Indonesia, Niger, etc. The top 5 countries with the highest average hepatitis B cases are South Africa, Kyrgyzstan, Tajikistan, Zimbabwe, and Malawi. The top 5 countries with the most polio cases are Sierra Leone, Zimbabwe, Malawi, Tajikistan, and Japan. It is worth noting that most of these countries are also in the top 10 countries with the highest adult mortality rates. These countries include Lesotho, Malawi, Zimbabwe, Sierra Leone, Togo, Namibia, etc. This somehow suggests that countries with high cases of such diseases are bound to have lower life expectancies, although further analysis is needed to establish this.

Recommendations

- **Regional Analysis**

The report can further delve into regional patterns by examining the data for specific continents or income groups, allowing for a more nuanced understanding of the factors influencing life expectancy. Cross-country analyses of the economic impacts of health and other factors can provide a more global picture and help shift the narrative about the multifaceted nature of global life expectancy.

- **Future Research Directions**

Further analysis will be needed to establish a correlation between BMI and life expectancy in countries. No clear pattern was visualized in this exercise, however, there could be some underlying factors linked to BMI and obesity that directly affect life expectancy in countries. Future research in health economics may focus on topics such as inequality, care expenditure, health technologies, racial disposition to certain diseases, and biodiversity.

- **Policy Implications**

The findings of this report have important policy implications for improving public health and well-being on a global scale. The positive correlation between GDP and life expectancy highlights the importance of economic development in improving health outcomes. Policies that promote economic growth and development can have significant

impacts on life expectancy and public health. Additionally, policies that address the prevalence of diseases such as HIV/AIDS, measles, hepatitis B, and polio can help improve public health outcomes and reduce the burden of disease on communities.

Conclusion

The analysis underscores the multifaceted and complex nature of global life expectancy, influenced by economic, health, and social factors. The findings emphasize the importance of targeted policies and interventions to improve public health and well-being on a global scale. Further research can explore the complex relationships between variables and identify additional factors that influence life expectancy. By addressing these factors, policymakers can work towards improving public health outcomes and promoting economic development.