



World Happiness Report Analysis:

Perspectives from South Asian and Middle East Countries

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1. Introduction

Utilizing a range of essential socioeconomic metrics, the World Happiness Report assesses and classifies nations. These indicators encompass GDP per capita, the availability of social support systems, healthy life expectancy, the autonomy to exercise life choices, generosity, and public perceptions regarding corruption. This study scrutinizes patterns of well-being on a global scale while specifically concentrating on the Middle East and South Asia regions.

Research Objectives:

- Objective 1: To explore trends in well-being worldwide and detect any inequalities or uneven distributions present within the dataset.
- Objective 2: To analyze well-being dynamics within South Asia by employing composite happiness ratings and detecting statistical outliers.
- Objective 3: To perform a comparative evaluation of South Asia and the Middle East in order to underscore regional variations and the primary determinants affecting life satisfaction.

2. Problem 1: Global Data Exploration

2.1 Dataset Overview

The dataset provided by the World Happiness Report encompasses data from 160 nations. It is structured around nine specific variables, including the name of the country, the aggregate happiness rating, and seven independent factors used to explain variations in the scores. These factors are GDP per capita, the availability of social support, healthy life expectancy, the freedom to exercise personal choices, generosity, public perception of corruption, and the dystopia residual.

2.2 Descriptive Statistics

Primary Metrics for Happiness Ratings

- Mean (Average): 5.53
- Median: 5.79
- Standard Deviation: 1.17
- Maximum Score: Finland (7.74)
- Minimum Score: Afghanistan (1.72)

The data suggests that the majority of nations are situated within a moderate classification of well-being, with scores generally falling between 5 and 6. Nevertheless, the extensive margin between the highest and lowest ranked nations, combined with a standard deviation larger than 1, highlights significant global inequalities. These disparities are likely attributed to variations in economic stability, social infrastructure, and governance quality.

2.3 Data Quality and Filtering

- Missing Data: The dataset contains very few gaps, ensuring that the subsequent analysis remains robust.
- Elite Scores (> 7.5): A total of 8 nations, predominantly Nordic and other developed countries, achieved scores above this threshold.
- Correlation Observation: A significant positive relationship is evident between GDP and reported happiness levels.

2.4 Happiness Categories

- Low Happiness (less than 4): Comprises 12 countries
- Medium Happiness (between 4 and 6): Comprises 98 countries

- High Happiness (more than 6): Comprises 50 countries

2.5 Key Findings

Economic prosperity displays a strong correlation with reported life satisfaction. While Nordic nations consistently dominate the upper rankings, countries suffering from low income or internal conflict are situated at the bottom of the scale. The distribution of data follows a nearly normal curve, which implies that most nations maintain a moderate standard of well-being.

2.6 Visualizations Needed

Figure 1: Bar Chart - Top 10 Happiest Countries

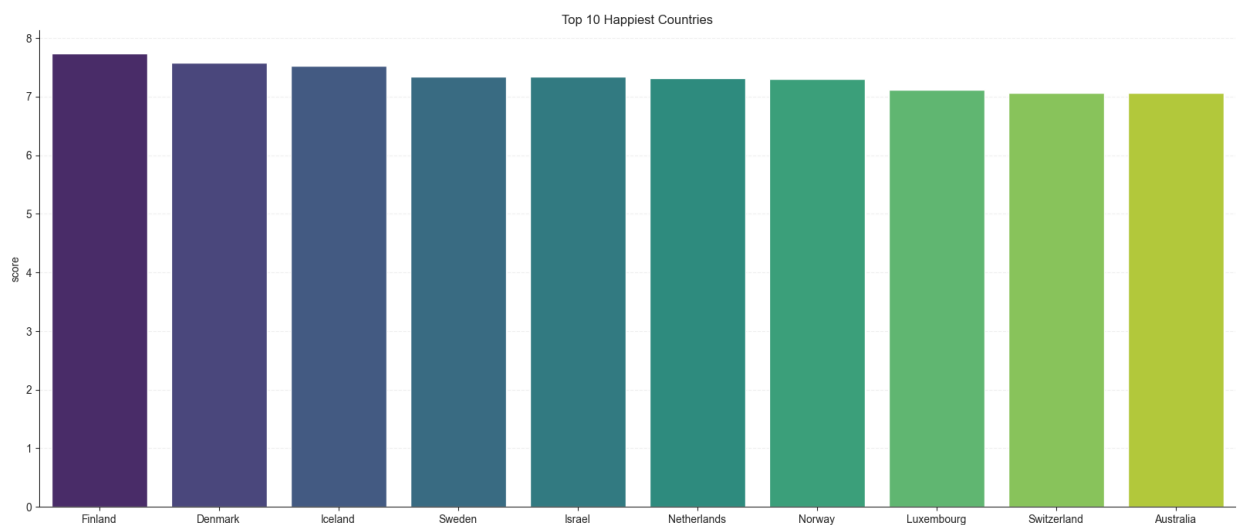


Figure 2: Trend Line - Top 10 Unhappiest Countries

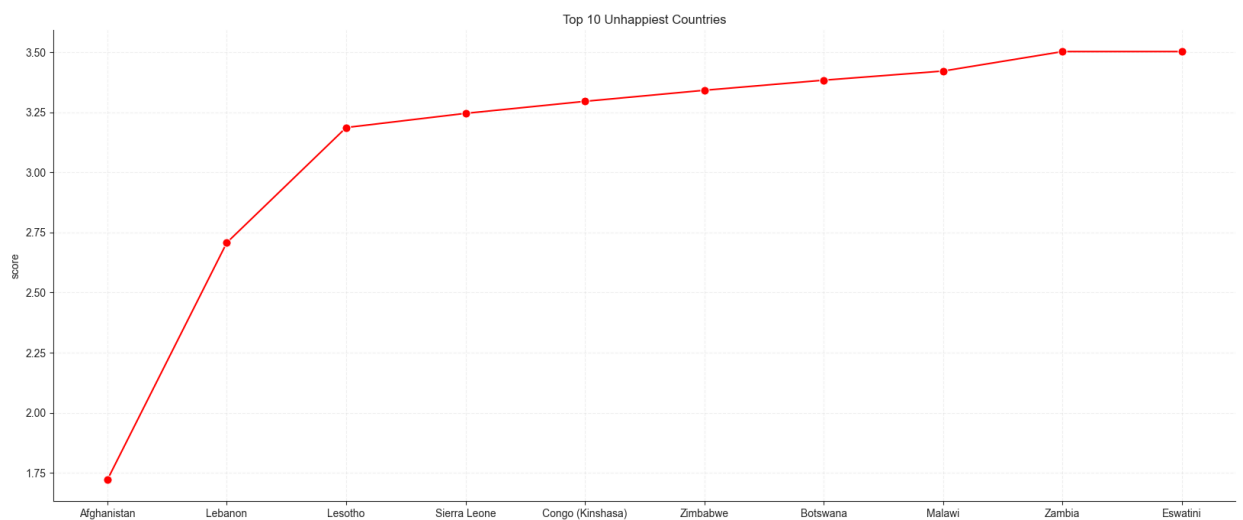


Figure 3: Histogram - Distribution of Happiness Scores

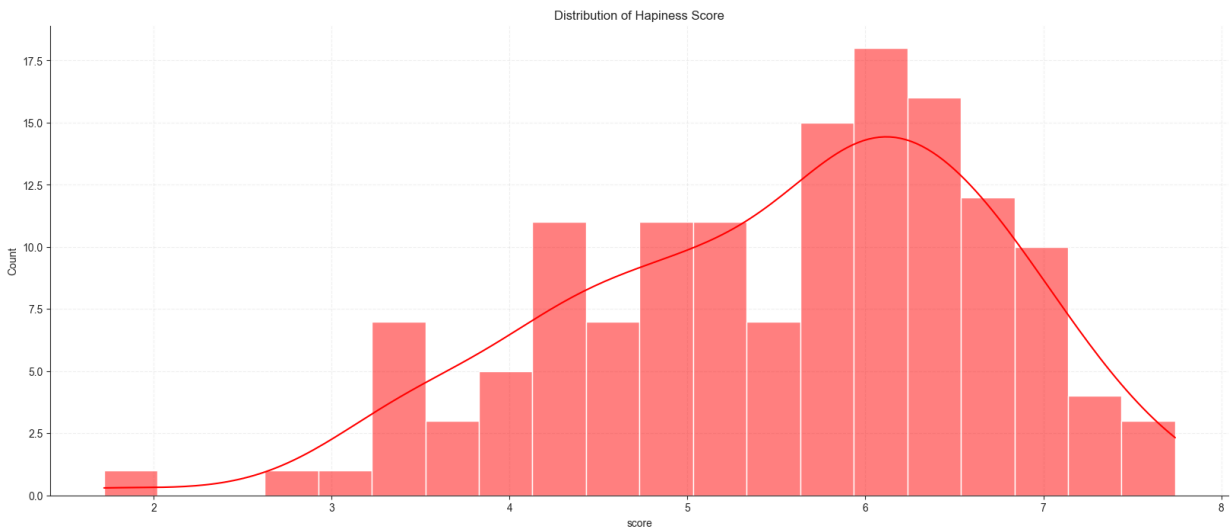
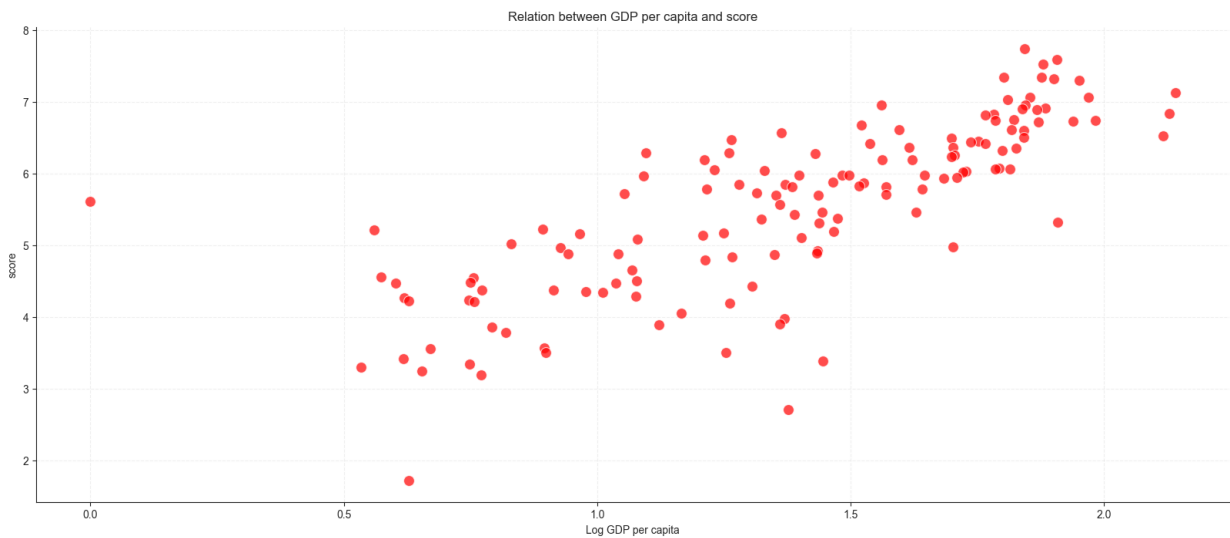


Figure 4: Scatter Plot - GDP vs Happiness Score



3. Problem 2: South Asian Analysis

3.1 Regional Overview

This portion of the study concentrates on eight specific countries within South Asia, comprising Afghanistan, Bangladesh, India, Nepal, Pakistan, and Sri Lanka.

3.2 Composite Score Development

Composite metric was calculated using the following equation:

$$\text{Composite Score} = (0.40 \times \text{GDP per capita}) + (0.30 \times \text{Social Support}) + (0.30 \times \text{Healthy Life Expectancy})$$

Justification for Weighting:

- Economic Factors (40%): A higher weight was assigned to this variable to account for financial security and material standards of living.
- Social Support (30%): This weighting emphasizes the critical role of interpersonal relationships and community networks.
- Health and Life Expectancy (30%): This component reflects physical health and longevity as fundamental elements of life quality.

3.3 Country Rankings

1. Nepal (5.16): This position is largely attributed to exceptionally robust social support systems which compensate for modest economic figures.
2. Pakistan (4.66)
3. India (4.05)
4. Sri Lanka (3.90)
5. Bangladesh (3.89)
6. Afghanistan (1.72): Represents a clear statistical anomaly caused by sustained conflict, economic volatility, and general instability.

3.4 Outlier Detection (IQR Method)

Using the Interquartile Range analysis, Afghanistan was isolated as an extreme outlier. It recorded a score of 1.72, which is 68 percent lower than the regional mean. Additionally, its Log GDP of 0.63 is 41 percent below the average, accompanied by a lack of social support. The significance of this outlier is demonstrated by the fact that excluding Afghanistan causes the regional average to rise from 3.91 to 4.55.

3.5 Metric Correlations

- Freedom to Make Life Choices: 0.8005 (Strong Correlation)
- Generosity: 0.875 (Very Strong Correlation)

The data shows a stronger correlation with generosity compared to freedom. This suggests that cultural values centered on community assistance are pivotal determinants of happiness in South Asia.

3.6 Gap Analysis (GDP-Score Gap)

- Positive Disparities (India, Pakistan, Bangladesh): These nations exhibit a higher GDP relative to their happiness ratings. This discrepancy implies that economic growth in these areas does not fully translate into perceived well-being.
- Negative Disparity (Nepal): The country reports higher happiness levels despite having a lower GDP, indicating that social cohesion and community resilience effectively offset economic deficits.

3.7 Key Insights

Financial prosperity alone does not guarantee happiness, as social support and cultural values play a significant role. The data from Nepal illustrates that strong community bonds can mitigate the effects of economic constraints. In contrast, the situation in Afghanistan indicates a need for specialized humanitarian aid rather than traditional development frameworks.

3.8 Visualizations Needed

Figure 5: Bar Chart - South Asian Countries by Composite Score

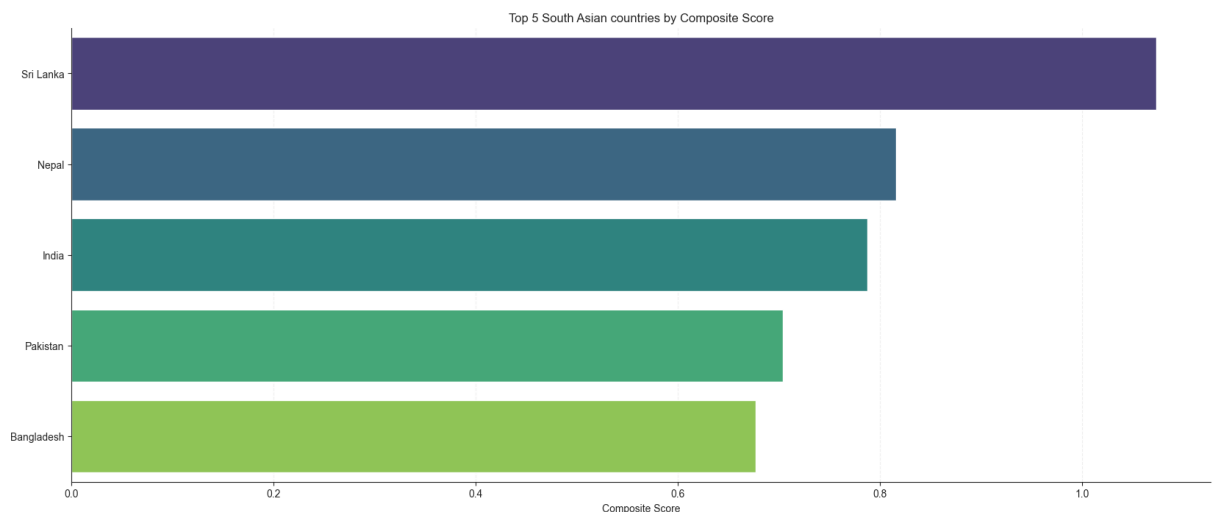


Figure 6: Scatter Plot - Composite vs Original Score Correlation

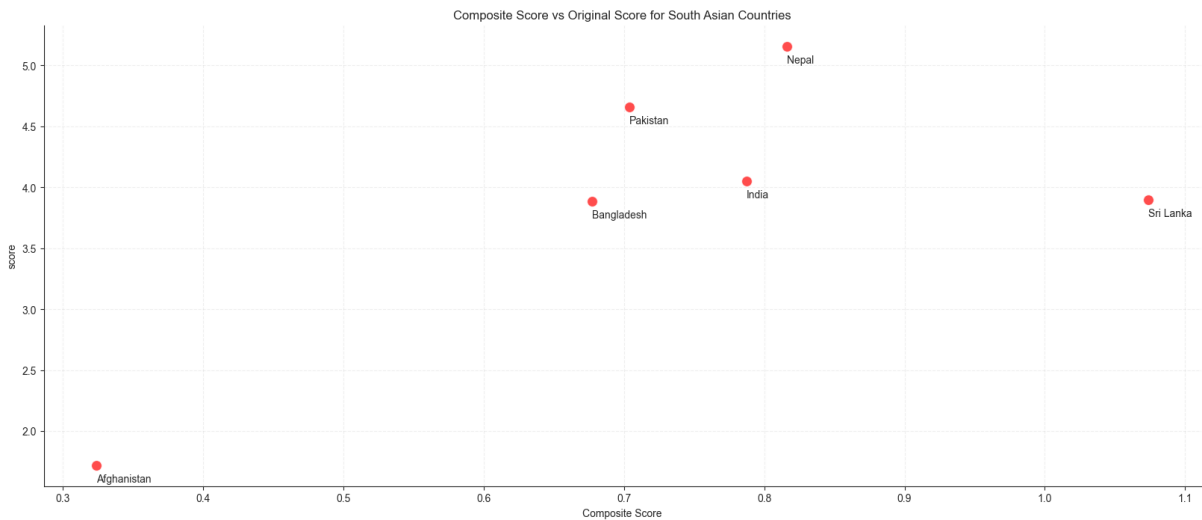


Figure 7: Scatter Plot - Outlier Detection (GDP vs Score)

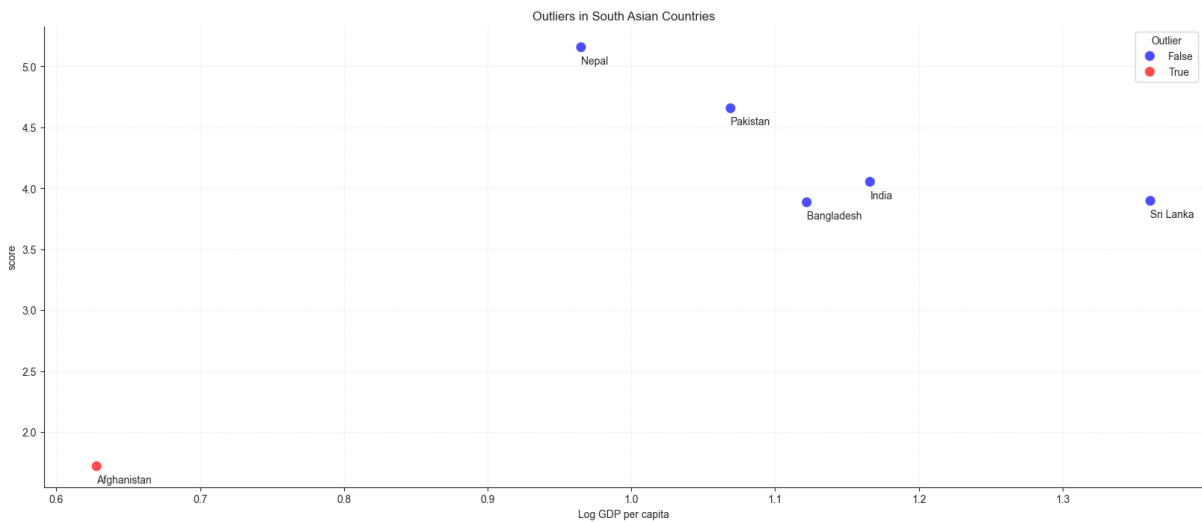


Figure 8: Scatter & Line Plots - Freedom & Generosity Correlations

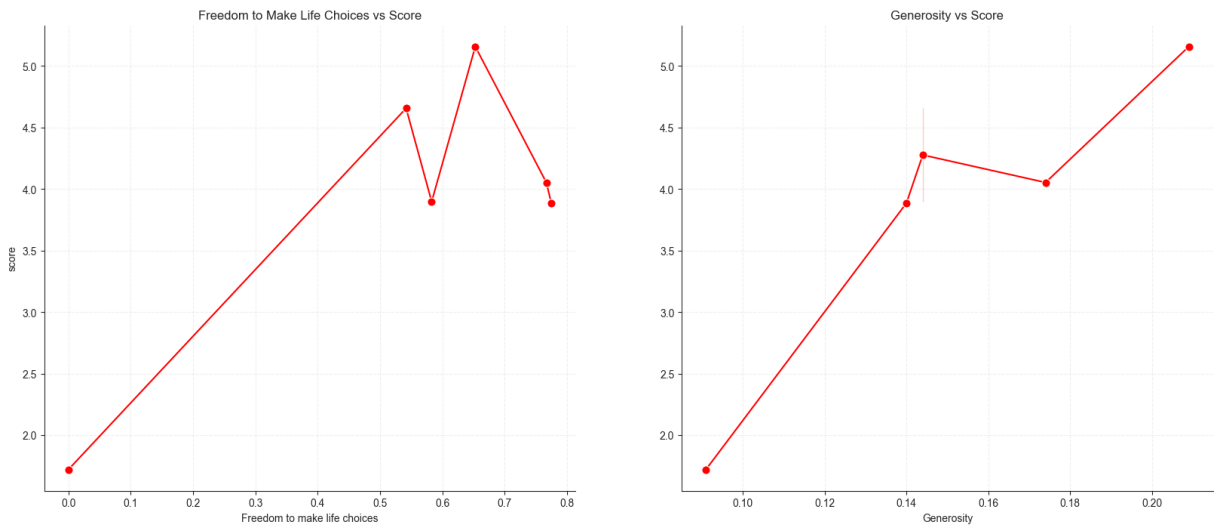
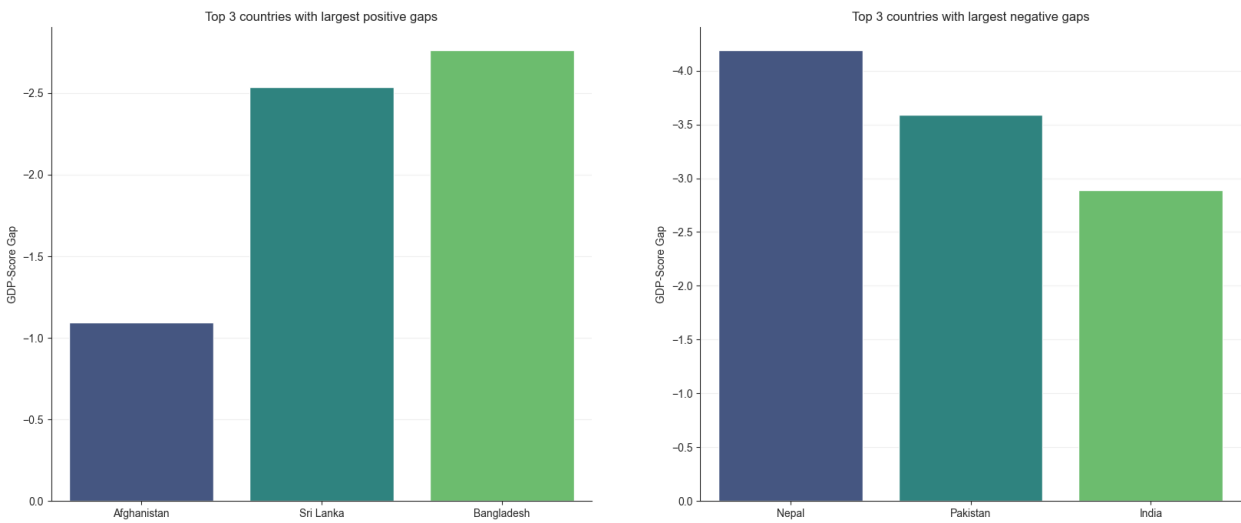


Figure 9: Bar Chart - GDP-Score Gap Analysis



4. Problem 3: South Asia vs Middle East Comparison

4.1 Regional Overview

The Middle East nations incorporated into this comparative study consist of Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, the State of Palestine, Saudi Arabia, the United Arab Emirates, and Yemen.

4.2 Comparative Statistics

| Metrics | South Asia | Middle East |
|--------------------|------------|-------------|
| Mean of Happiness | 3.90 | 5.36 |
| Standard Deviation | 1.177 | 1.494 |

A statistical comparison reveals that the Middle East possesses a distinct advantage regarding overall well-being. The region holds a mean happiness score of 5.36, which is 0.85 points higher than South Asia's average of 3.90. Furthermore, the standard deviation values 1.177 for South Asia and 1.494 for the Middle East, indicate that happiness levels are more consistent across Middle Eastern nations. Conversely, South Asian data exhibits approximately 38 percent greater variability.

4.3 Top and Bottom Performers

- South Asia - Top 3: The highest-ranking nations are Nepal (5.16), Pakistan (4.68), and India (4.05).
- South Asia - Bottom 3: The lowest scores were recorded by Afghanistan (1.72), Bangladesh (3.89), and Sri Lanka (3.90).
- Middle East - Top 3: The leading countries include Israel (7.34), Kuwait (6.95) and United Arab Emirates (6.73).
- Middle East - Bottom 3: The lowest performers are Lebanon (2.71), Yemen (3.56), and Jordan (4.19).

4.4 Key Metric Disparities

- Social Support: Middle East: 1.15 vs South Asia: 0.50(130% difference - LARGEST disparity)
- GDP per Capita: Middle East: 1.56 vs South Asia: 1.06 (47% difference)
- Life Expectancy: Middle East: 0.61 vs South Asia: 0.46 (33% difference)

The strength of social support systems appears to be the primary factor contributing to the Middle East's regional advantage in happiness.

4.5 Happiness Drivers Analysis

- South Asia - Freedom Correlation: 0.802 | Generosity Correlation: 0.877
- Middle East - Freedom Correlation: 0.723 | Generosity Correlation: 0.589

This suggests that individual liberty and communal generosity are vital for happiness in South Asia. In the Middle East, however, these factors appear less critical. This may be due to the presence of greater economic security and robust family or religious institutions, which provide satisfaction independently of these specific metrics.

4.6 Outlier Analysis

- South Asia: Afghanistan extreme outlier (1.72 score, 0.63 GDP) - conflict and humanitarian crisis.
- Middle East: No outliers – no huge effect in overall average.

The presence of such severe instability in Afghanistan substantially lowers the aggregated mean for the South Asian region.

4.7 Distribution and Variability

- South Asia Range: 3.44 | Middle East Range: 4.63 - South Asia has wider spread
- Coefficient of Variation: South Asia 0.30 vs Middle East 0.28 - South Asia 38% more variable

This indicates that the Middle East generally experiences more homogeneous outcomes, whereas South Asia is characterized by stark internal disparities, primarily driven by the outlier status of Afghanistan.

4.8 Key Comparative Insights

- Middle East: Exhibits higher overall happiness levels, stronger social support systems, and greater uniformity in well-being outcomes across countries.
- South Asia: Characterized by wider internal variations, with happiness influenced more heavily by personal freedoms, cultural factors, and significant demographic diversity.

Both regions face a common issue where nations suffering from prolonged conflict significantly reduce regional averages. This highlights the necessity for interventions that are targeted and specific to the context of each country.

4.9 Visualizations Needed

Figure 10: Bar Chart - Top & Bottom Performers Comparison

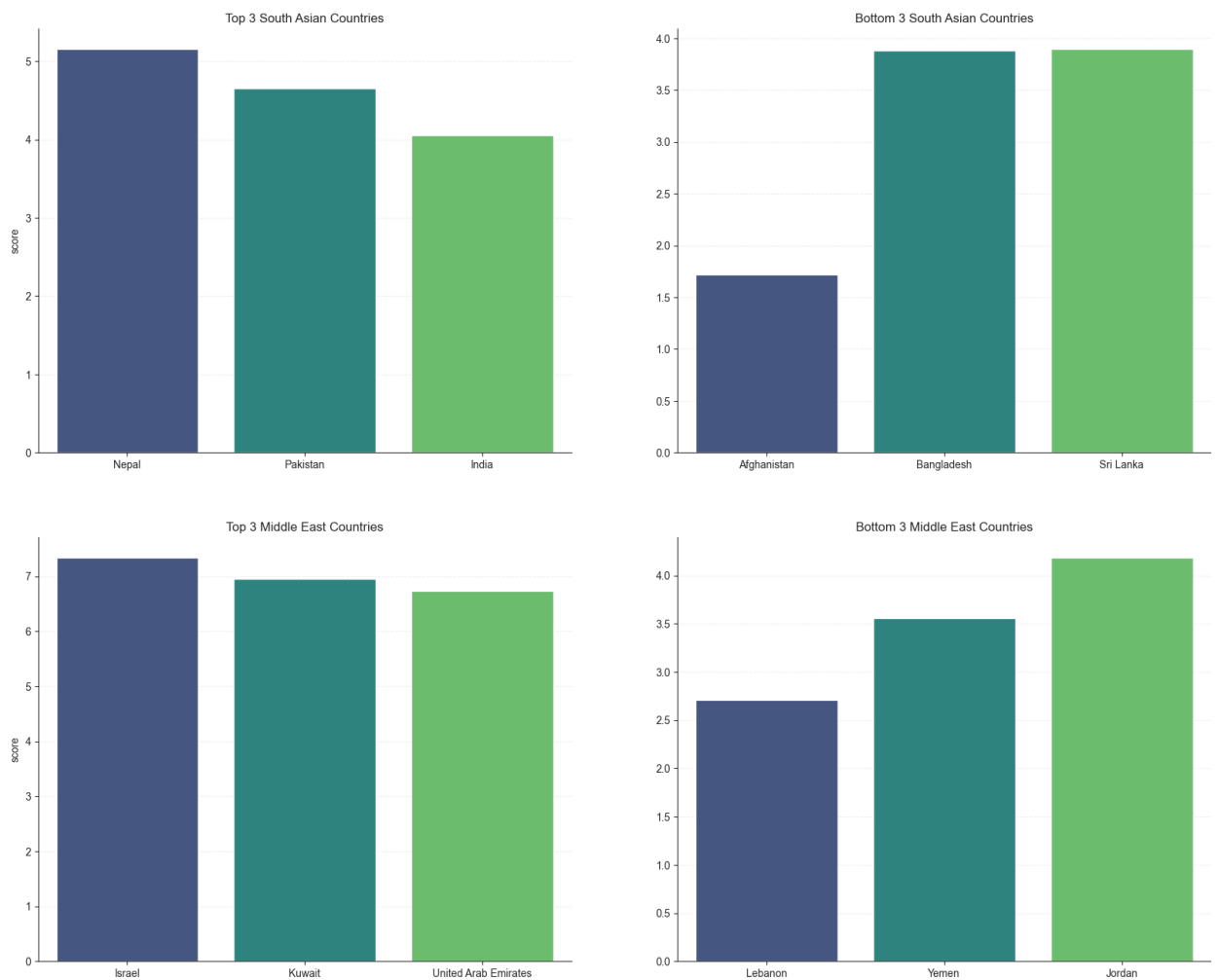


Figure 11: Bar Chart - Key Metrics Comparison (GDP, Social Support, Life Expectancy)

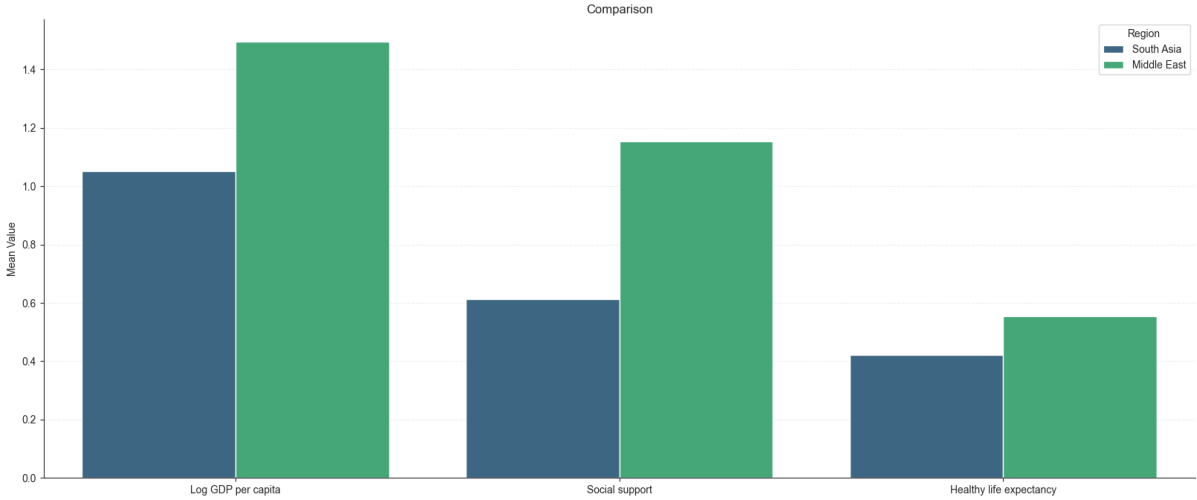


Figure 12: Scatter Plot - Correlations Comparison (Freedom and Generosity with Score)

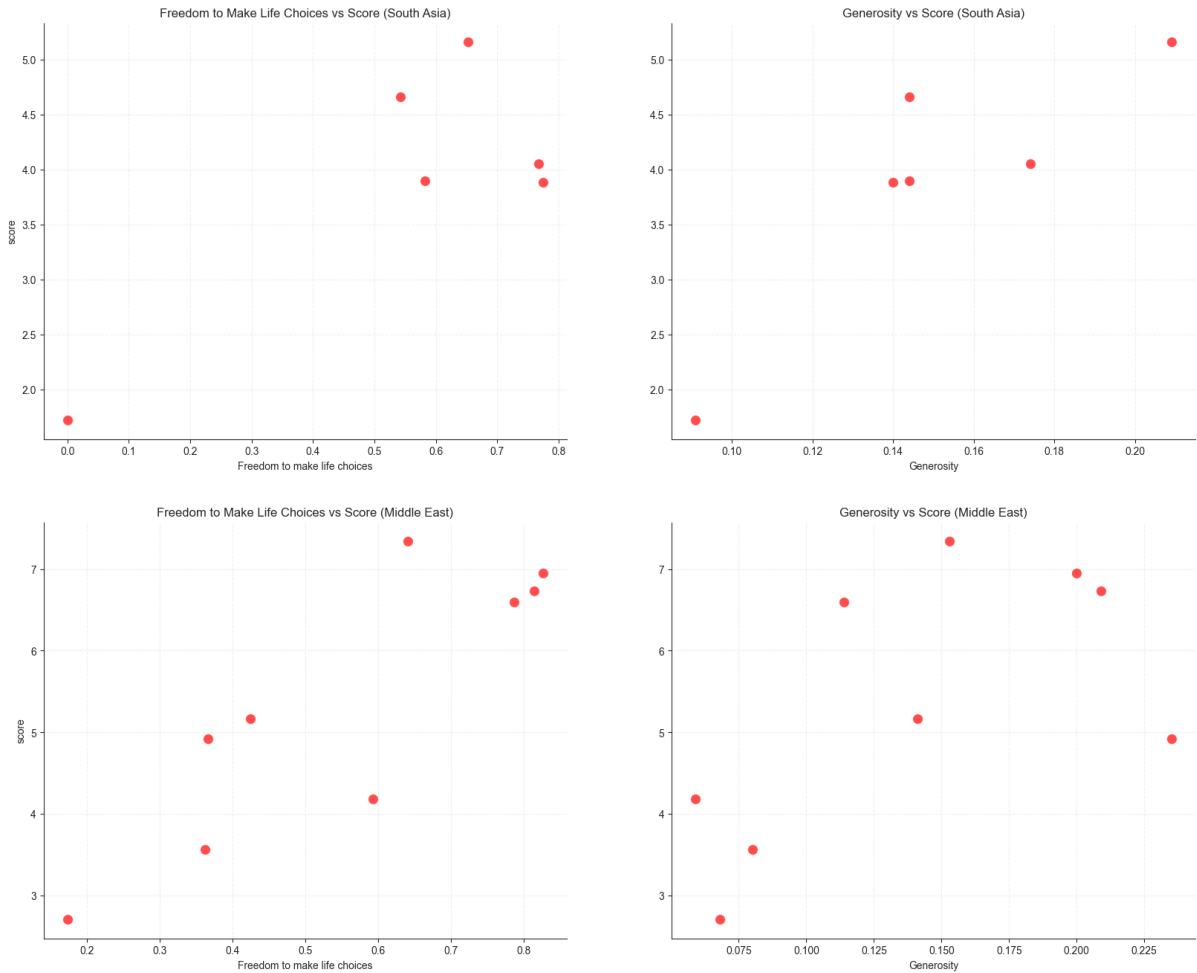


Figure 13: Scatter Plot - Outlier Detection

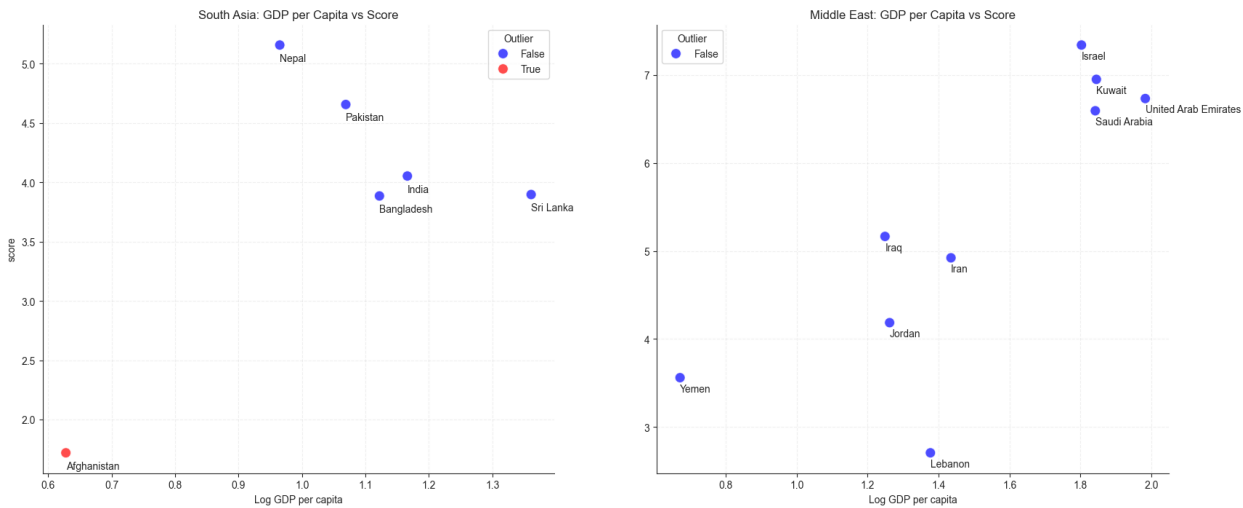
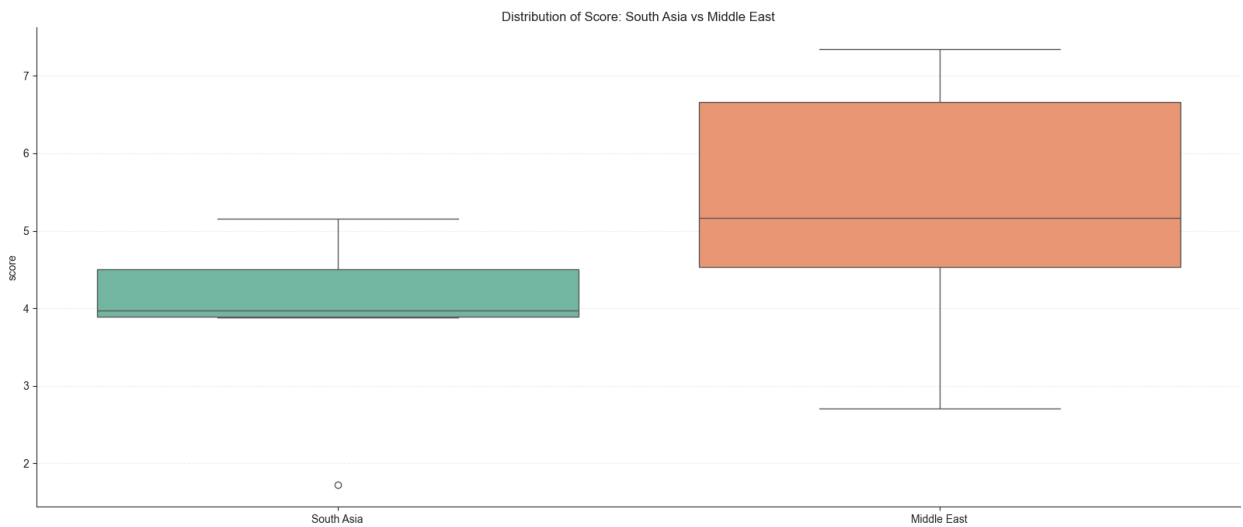


Figure 14: Box Plot - Distribution Comparison (Score)



5. Conclusion

Happiness is complex phenomenon shaped by economic, social, health, and institutional factors operating differently across contexts. While economic development is important, evidence shows that prosperous societies must invest in social cohesion, individual freedom, and healthcare to maximize well-being. South Asia and Middle East face unique challenges and opportunities requiring tailored, context-aware policy approaches accounting for regional happiness drivers to achieve sustainable development and improved quality of life.