

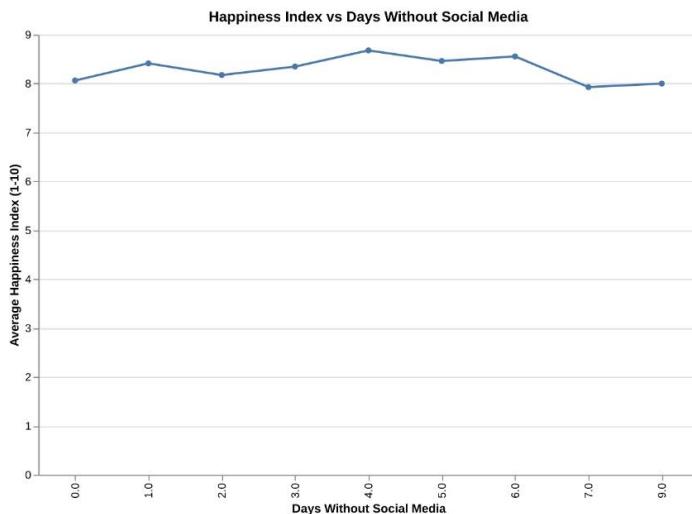
Analysis of Mental Health and Social Media Usage Patterns

About the dataset

Analysis of Mental Health and Social Media Usage Patterns

Relevant Inquiries

Q1. How does the happiness index change with increasing days without social media?



Statistical Summary

- Range of Days:** The data covers from 0 to 9 days without social media.
- Average Happiness Index:** The average happiness index ranges from 7.929 to 8.678.
- Trend:** There is a general increase in the happiness index as the number of days without social media increases, with some fluctuations.

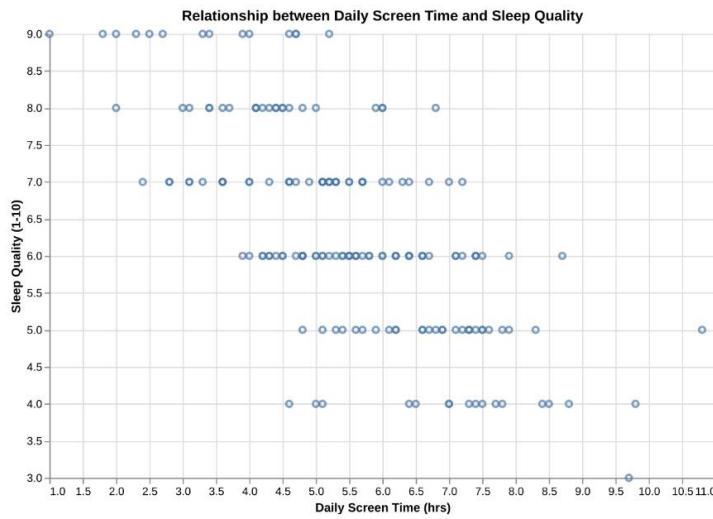
Visualization Insights

- Initial Increase:** The happiness index increases from day 0 to day 1.
- Fluctuations:** There are fluctuations in the happiness index between days 2 and 7, with a peak at day 4.
- Decrease:** A slight decrease is observed after day 6, with the lowest point at day 7.

Conclusion and Insights

- Positive Correlation:** There is a positive correlation between days without social media and the happiness index, suggesting that more days without social media might lead to higher happiness levels.
- Fluctuations:** Despite the overall trend, there are fluctuations indicating that other factors might also influence happiness.

Q2.What is the correlation between daily screen time and sleep quality?



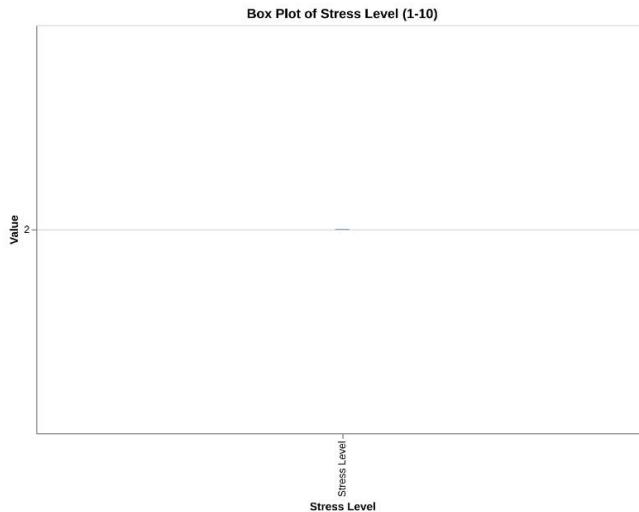
Correlation Coefficient

- **Correlation Value:** The correlation coefficient between 'Daily_Screen_Time(hrs)' and 'Sleep_Quality(1-10)' is **-0.7589**.

Conclusion and Insights

- **Negative Correlation:** The correlation coefficient of **-0.7589** indicates a strong negative correlation, suggesting that as daily screen time increases, sleep quality tends to decrease.
- **Implications:** This strong negative relationship highlights the potential impact of screen time on sleep quality, which may be important for health and lifestyle considerations.

Q3.Are there any outliers in the stress level data?



Identification of Outliers

- **Outlier Detected:** One outlier was identified in the 'Stress_Level(1-10)' column.
- **Details of Outlier:** The outlier has a stress level of 2, which is below the calculated lower bound.

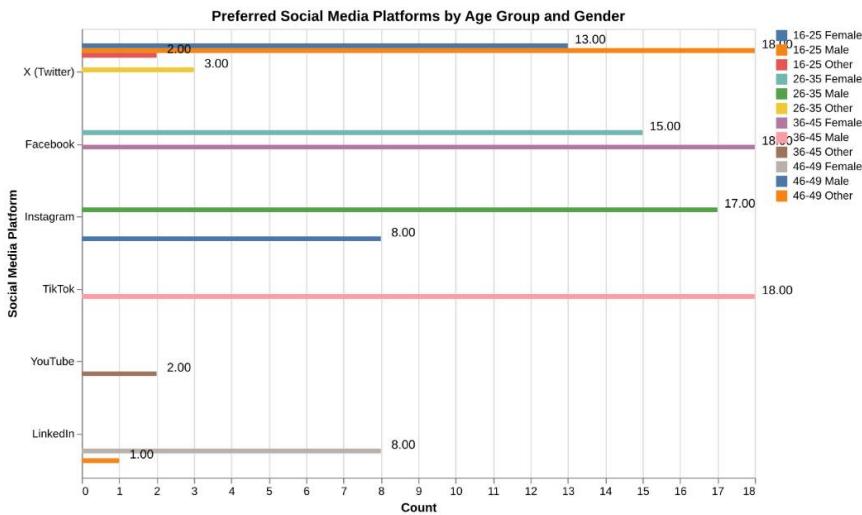
Visualization of Outliers

- **Box Plot Observation:** The box plot highlights the outlier at a stress level of 2, confirming its deviation from the rest of the data.

Conclusion and Insights

- **Presence of Outliers:** Yes, there is an outlier in the stress level data.
- **Significance:** The outlier indicates a significantly lower stress level compared to the rest of the dataset, which may warrant further investigation.

Q4.What are the preferred social media platforms across different age groups and genders?



Age Group and Gender Preferences

- 16-25 Age Group:**
 - Female:** X (Twitter) is preferred with a count of 13.
 - Male:** X (Twitter) is preferred with a count of 18.
 - Other:** X (Twitter) is preferred with a count of 2.

- 26-35 Age Group:**

- Female:** Facebook is preferred with a count of 15.
- Male:** Instagram is preferred with a count of 17.
- Other:** X (Twitter) is preferred with a count of 3.

- 36-45 Age Group:**

- Female:** Facebook is preferred with a count of 18.
- Male:** TikTok is preferred with a count of 18.
- Other:** YouTube is preferred with a count of 2.

- 46-49 Age Group:**

- Female:** LinkedIn is preferred with a count of 8.
- Male:** Instagram is preferred with a count of 8.
- Other:** LinkedIn is preferred with a count of 1.

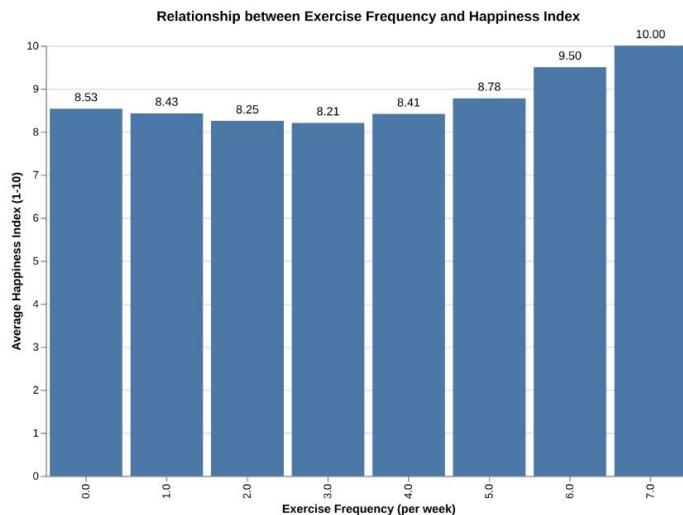
Visualization Insights

- Bar Chart Representation:** The bar chart clearly shows the preferred social media platforms for each age group and gender, with the height of each bar indicating the frequency of preference.

Conclusion and Insights

- X (Twitter) Dominance:** X (Twitter) is the most preferred platform among the 16-25 age group across all genders.
- Diverse Preferences:** Different age groups and genders show varied preferences, with platforms like Facebook, Instagram, TikTok, and LinkedIn being favored by specific demographics.

Q5. How does exercise frequency impact the happiness index?



Average Happiness Index by Exercise Frequency

- **Lowest Happiness Index:** Exercising 3 times per week has the lowest average happiness index of **8.21**.
- **Highest Happiness Index:** Exercising 7 times per week results in the highest average happiness index of **10.0**.
- **General Trend:** There is a noticeable increase in the average happiness index as exercise frequency increases, particularly from 5 to 7 times per week.

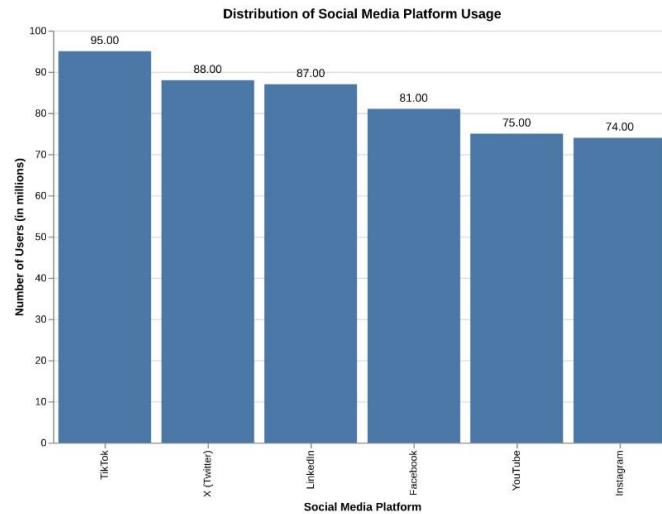
Visualization of Exercise Frequency and Happiness

- **Bar Chart Insights:** The bar chart visually confirms the trend that higher exercise frequency correlates with a higher happiness index.
- **Significant Increase:** A significant increase in happiness is observed when exercise frequency increases from 5 to 7 times per week.

Conclusion and Insights

- **Positive Correlation:** There is a positive correlation between exercise frequency and the happiness index, with more frequent exercise generally leading to higher happiness levels.
- **Optimal Exercise Frequency:** Exercising daily (7 times per week) appears to maximize happiness according to the data.

Q6.What is the distribution of social media platform usage among users?



User Count by Platform

- **TikTok:** 95 users
- **X (Twitter):** 88 users
- **LinkedIn:** 87 users
- **Facebook:** 81 users
- **YouTube:** 75 users
- **Instagram:** 74 users

Visualization of Platform Usage

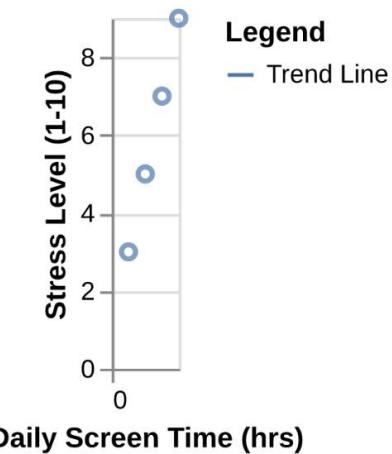
- **Highest Usage:** TikTok has the highest number of users.
- **Lowest Usage:** Instagram has the lowest number of users.
- **Close Competition:** X (Twitter) and LinkedIn have similar user counts, as do YouTube and Instagram.

Conclusion and Insights

- **TikTok Dominance:** TikTok leads in user count, indicating its popularity among users.
- **Balanced Distribution:** The user counts for other platforms are relatively close, suggesting a balanced distribution of platform usage.

Q7. How do trends in daily screen time relate to changes in stress levels?

Scatter Plot showing the relationship between Daily Screen Time and Stress Level



Correlation Analysis

- **Pearson Correlation Coefficient:** The correlation between 'Daily_Screen_Time(hrs)' and 'Stress_Level(1-10)' is **0.7399**. This indicates a **strong positive relationship**, suggesting that as daily screen time increases, stress levels tend to increase as well.

Visualization Insights

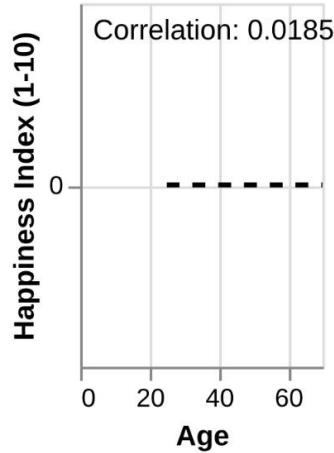
- **Scatter Plot:** The scatter plot visualizes the relationship between daily screen time and stress levels. Each point represents an individual's data, and the trend line shows a positive trend, reinforcing the correlation analysis.
- **Trend Line:** The trend line in the plot highlights the overall positive trend, indicating that higher screen time is associated with higher stress levels.

Conclusion and Insights

- **Strong Positive Correlation:** There is a strong positive correlation between daily screen time and stress levels, suggesting that increased screen time is associated with higher stress.
- **Visual Confirmation:** The scatter plot with a trend line visually confirms the statistical correlation, providing a clear representation of the relationship.

Q8. What is the correlation between age and the happiness index?

Scatter Plot showing the relationship between Age and Happiness Index



Correlation Coefficient

- **Correlation Coefficient:** The correlation coefficient between 'Age' and 'Happiness_Index(1-10)' is **0.0185**.
- **P-Value:** The p-value is **0.6796**, indicating that the correlation is not statistically significant.

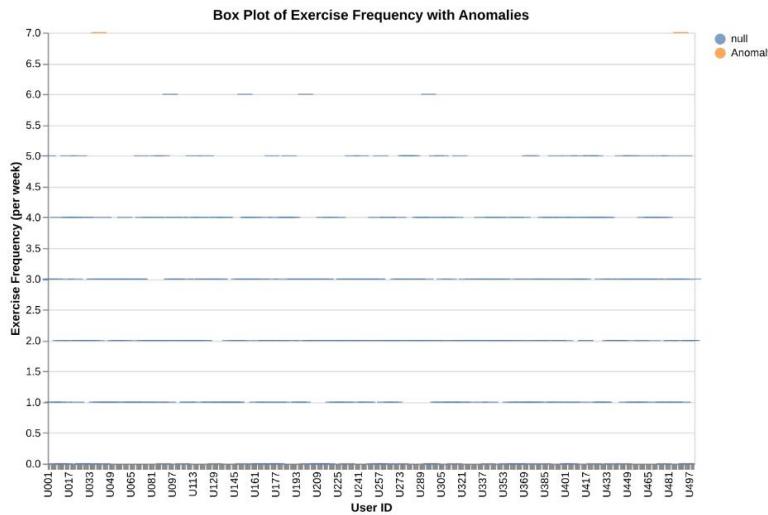
Visualization

- **Scatter Plot:** The scatter plot shows a very weak correlation between 'Age' and 'Happiness_Index(1-10)', as indicated by the flat trend line.

Conclusion and Insights

- **Weak Correlation:** The correlation coefficient of 0.0185 suggests a very weak relationship between age and happiness index.
- **Statistical Significance:** The high p-value (0.6796) indicates that the correlation is not statistically significant, meaning age does not have a meaningful impact on the happiness index in this dataset.

Q9. Are there any anomalies in exercise frequency data?



Statistical Analysis

- **Mean and Standard Deviation:** The mean exercise frequency is 2.448 times per week, with a standard deviation of 1.428.
- **Anomalies Identified:** Using the z-score method, no anomalies were identified in the dataset. All data points have a z-score within the range of -3 to 3.

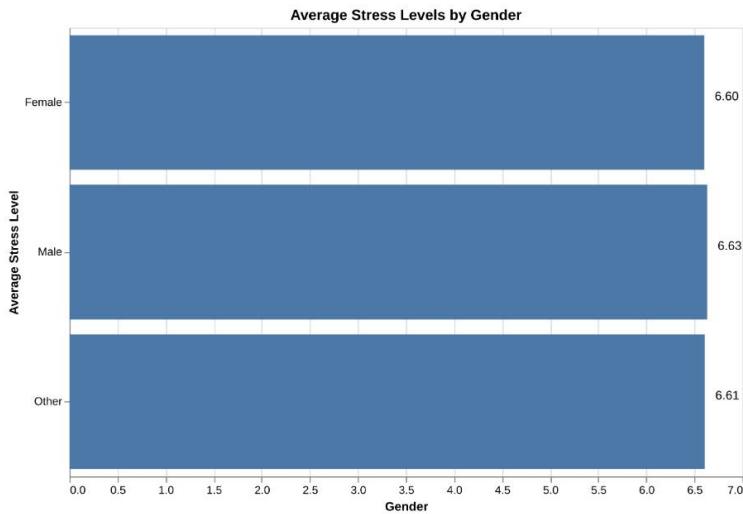
Visualization

- **Box Plot Analysis:** The box plot of exercise frequency shows no visible outliers. The distribution is consistent with the statistical analysis, confirming the absence of anomalies.

Conclusion and Insights

- **No Anomalies Detected:** Both statistical and visual analyses confirm that there are no anomalies in the exercise frequency data.
- **Data Consistency:** The exercise frequency data is consistent and falls within expected ranges, indicating reliable data collection and reporting.

Q10. How do stress levels differ across genders?



Average Stress Levels by Gender

- **Female:** The average stress level is approximately **6.60**.
- **Male:** The average stress level is approximately **6.63**.
- **Other:** The average stress level is approximately **6.61**.

Visualization of Stress Levels

- The bar chart visually represents the average stress levels for each gender, showing slight differences among them.

Conclusion and Insights

- **Male individuals** have the highest average stress level at **6.63**, slightly higher than other genders.
- **Female individuals** have the lowest average stress level at **6.60**.
- The differences in stress levels across genders are minimal, indicating similar stress experiences among the groups.

