Suicide Data Analysis in Bangladesh (May 2020 - May 2021)

Introduction

This project analyzes suicide cases in Bangladesh from May 2020 to May 2021, using a dataset sourced from Kaggle. The analysis aims to uncover key patterns and insights into the causes, methods, demographics, and other factors related to suicide cases. The analysis was conducted using Python, Pandas, Plotly, and Matplotlib.

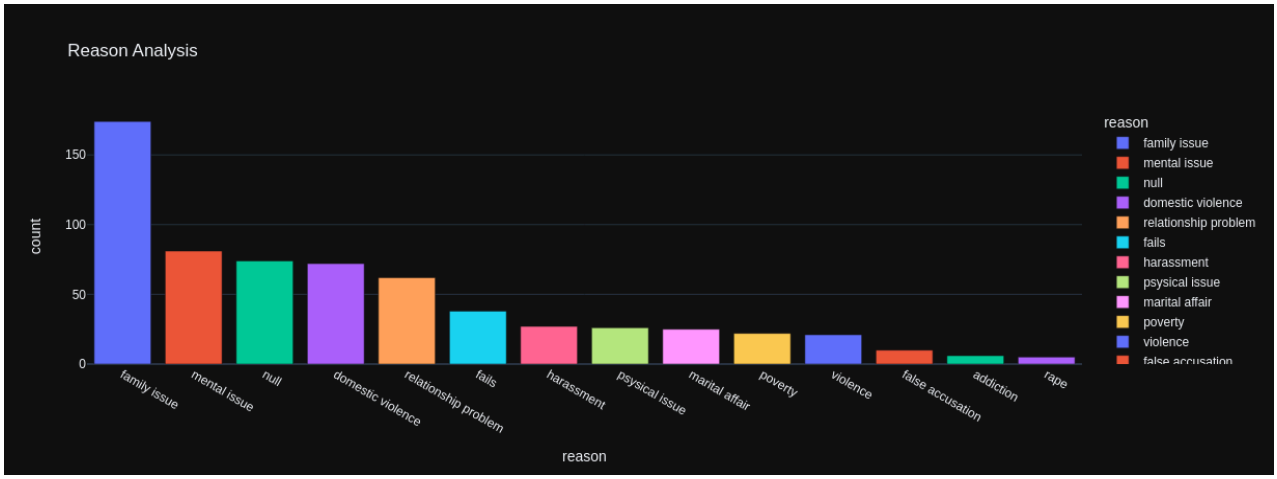
Data Cleaning

Before performing the analysis, the dataset was cleaned to ensure accuracy and consistency:

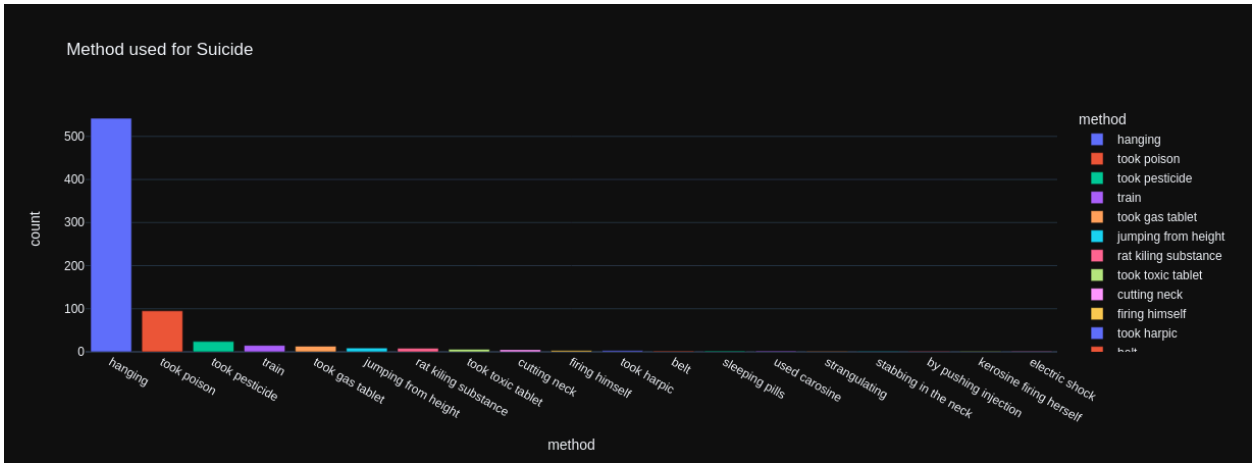
1. **Duplicates Removal**: Removed any duplicate entries to maintain data integrity.
2. **Standardization**: Converted all text values to lowercase for uniformity.
3. **Age Group Creation**: Generated an 'Age Group' column to categorize ages.
4. **Profession Group Cleanup**: Cleaned and standardized values in the 'Profession Group' column.
5. **Date Conversion**: Converted Unix timestamps to a readable date format in the 'Suicide Date' column.
6. **Monthly Trend**: Created a 'Month' column to analyze trends over time.
7. **Location Standardization**: Cleaned the 'Hometown' column to focus on city or main area names.
8. **Method of Suicide**: Consolidated various suicide methods into common categories.
9. **Reason for Suicide**: Similarly, standardized reasons for suicide into broad categories.
10. **Data Frame Management**: Preserved the original dataset and created a new data frame with relevant columns for specific analyses.

Analysis and Insights

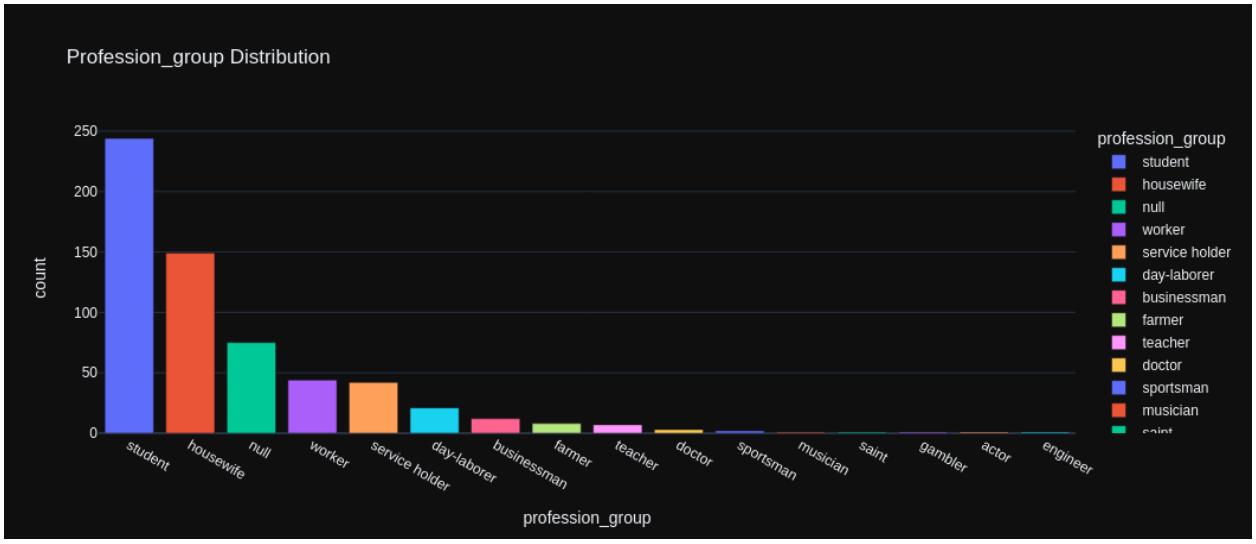
1. Reason for Suicide

- **Key Insight**: The most common reason for suicide was family issues, accounting for 174 cases.
- **Other Reasons**: Mental issues, domestic violence, and relationship problems were also significant factors.
- **Visualization**: Bar chart showing the distribution of reasons.
- 

2. Method of Suicide

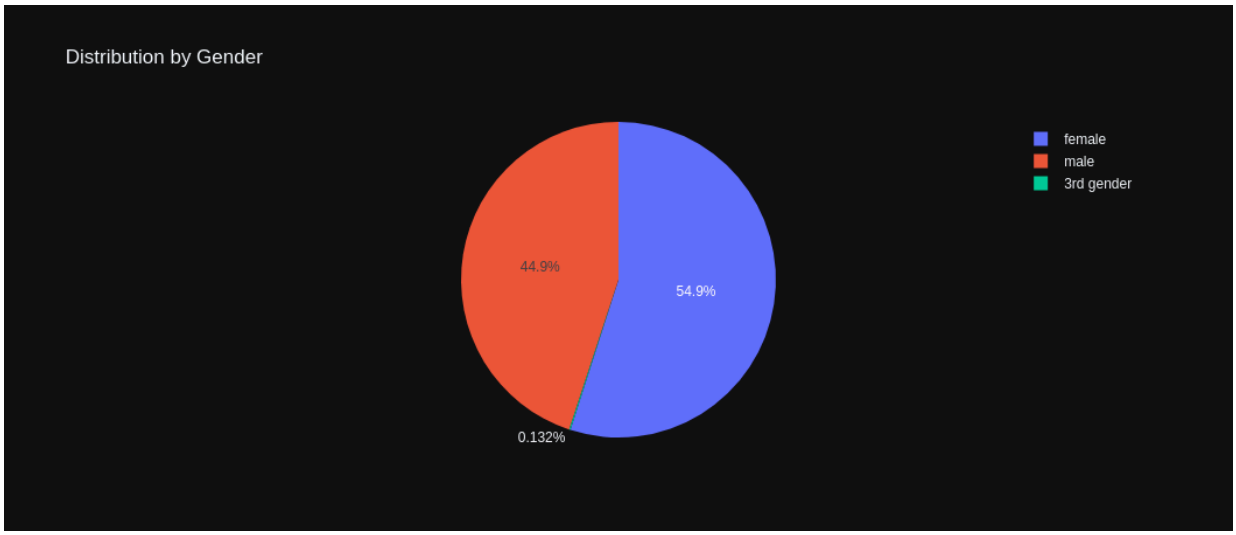
- **Key Insight**: Hanging was the most prevalent method, with 542 cases. Poisoning (95 cases) and pesticide ingestion (24 cases) were also common.
- **Visualization**: Bar chart depicting the frequency of different suicide methods.
- 

3. Profession Analysis

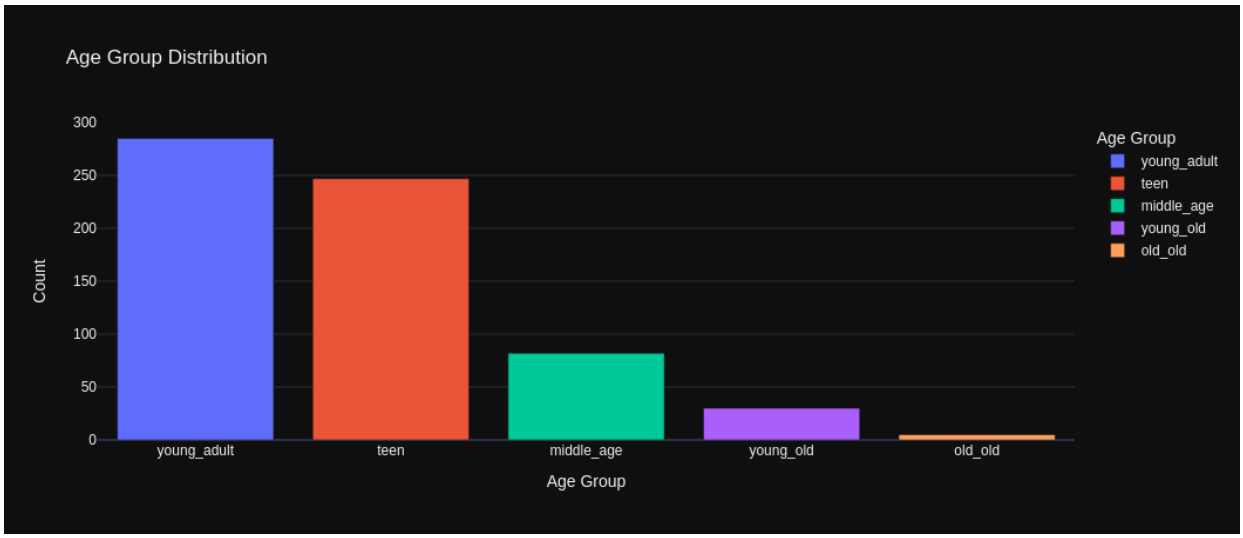
- **Key Insight**: Students had the highest suicide rate, followed by housewives. This suggests specific social pressures on these groups.
- **Visualization**: Bar chart illustrating suicide rates by profession.
- 

4. Gender Distribution

- **Key Insight**: Female suicide rates were higher than male, with 417 cases versus 341. There was 1 case involving a third gender.
- **Visualization**: Pie chart representing gender distribution in suicide cases.

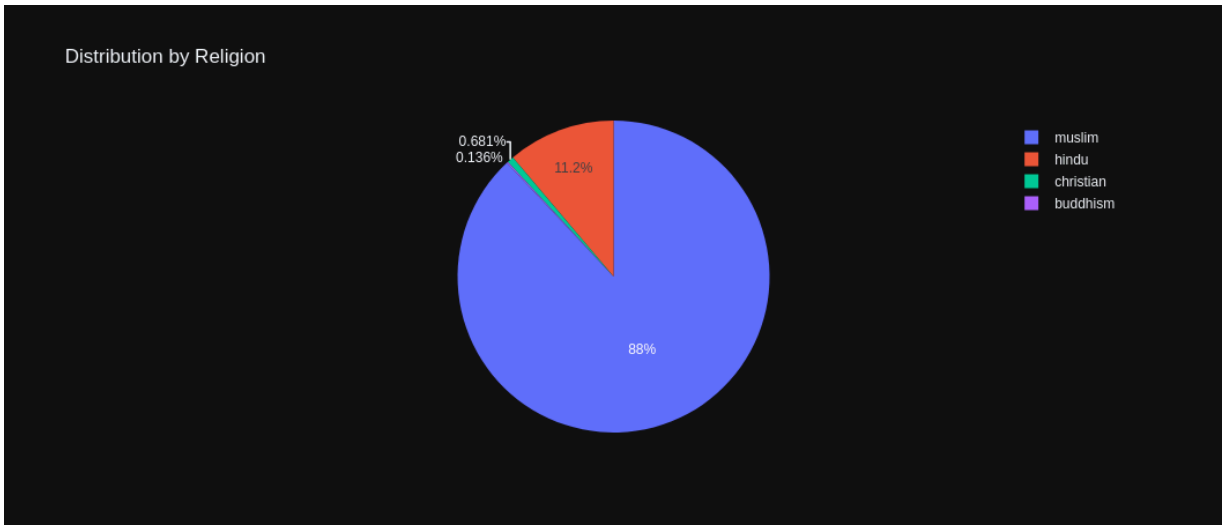
- 

5. Age Group Distribution

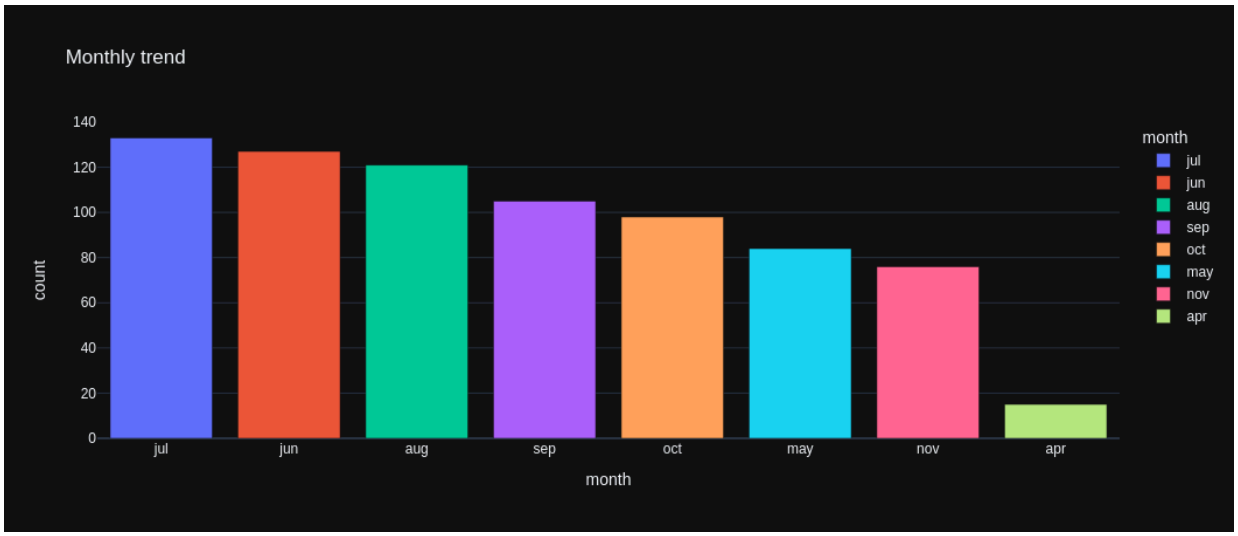
- **Key Insight**: Young adults (ages 20-39) had the highest suicide rates, followed by teenagers. Rates decreased with age.
- **Visualization**: Bar chart showing the distribution of suicides across age groups.
- 

6. Religious Distribution

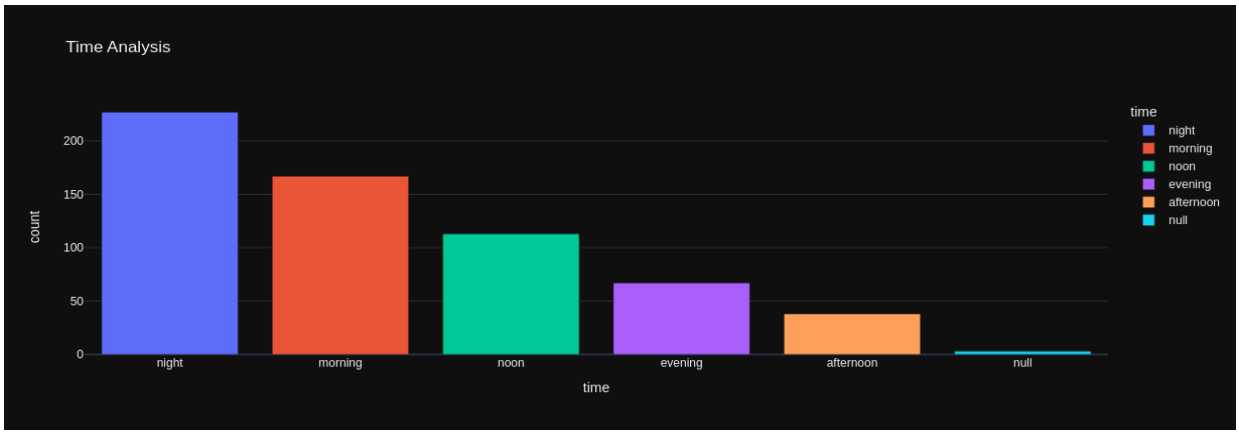
- **Key Insight**: The majority of cases were among Muslims (646), followed by Hindus (82), Christians (5), and Buddhists (1).
- **Visualization**: Pie chart showing the religious distribution of suicide cases.

- 

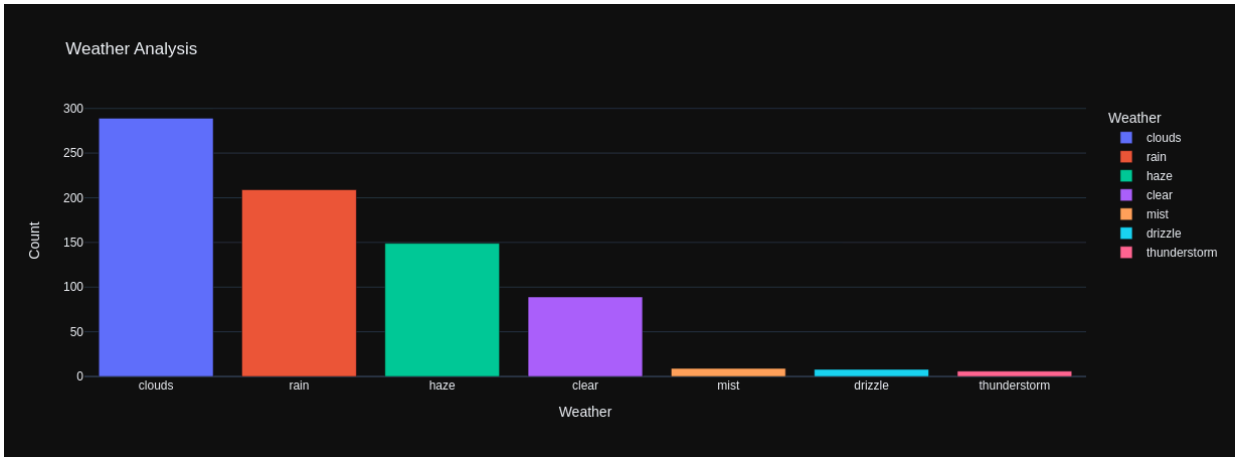
7. Monthly Trend Analysis

- **Key Insight**: The highest number of suicides occurred in July, followed by June and August. This trend may be linked to seasonal factors.
- **Visualization**: Bar chart depicting suicide trends by month.
- 

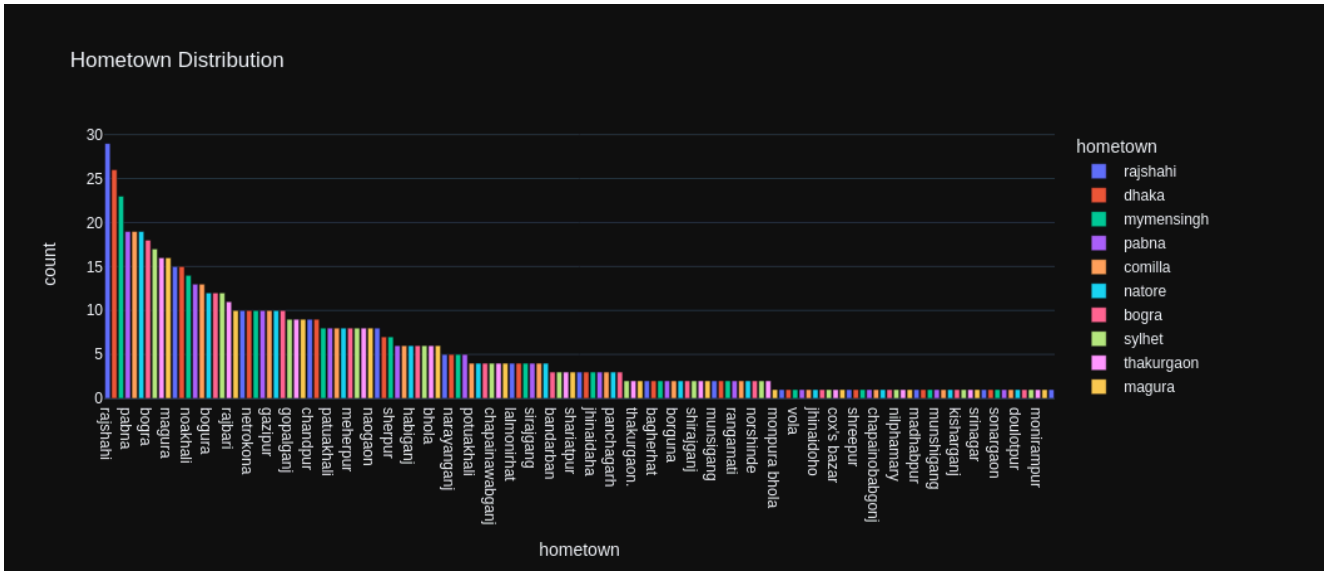
8. Time of Day Analysis

- **Key Insight**: Most suicides occurred at night (227 cases), followed by morning and noon.
- **Visualization**: Bar chart showing the distribution of suicides by time of day.
- 

9. Weather Analysis

- **Key Insight**: The majority of suicides occurred during cloudy (289 cases) and rainy (209 cases) weather, possibly indicating a link between gloomy weather and suicidal tendencies.
- **Visualization**: Bar chart showing the relationship between weather conditions and suicide rates.
- 

10. Geographical Distribution

- **Key Insight**: Rajshahi, Dhaka, and Mymensingh were the cities with the highest suicide rates, highlighting regional disparities.
- **Visualization**: Bar chart illustrating suicide rates by city.
- 

Conclusion

This analysis provides a comprehensive view of the factors contributing to suicides in Bangladesh during the period studied. The insights gained can inform public health strategies and interventions to address and prevent suicides. Further research could explore the impact of socio-economic factors and mental health services on these trends.

References

Data for this analysis was sourced from Kaggle.