

# Titanic Dataset Analysis Report

This report presents a comprehensive analysis of the Titanic dataset, examining various factors that influenced passenger survival during the 1912 disaster.

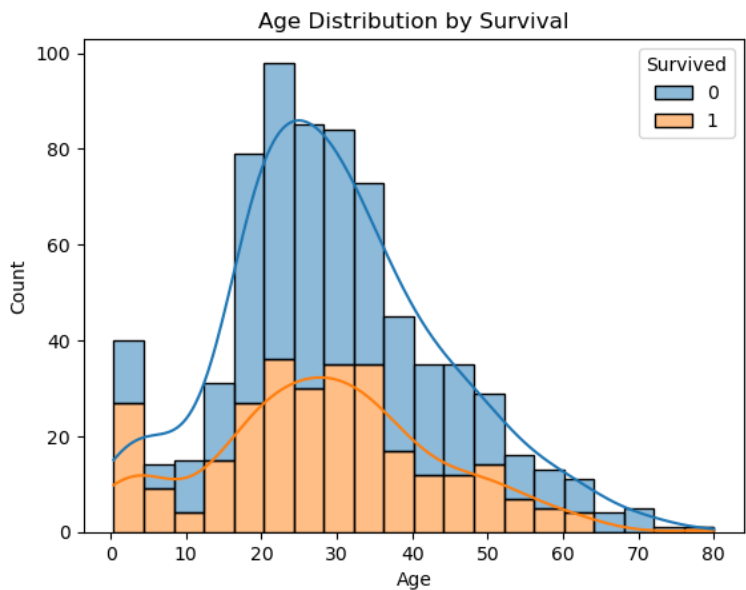
## Dataset Overview

The Titanic dataset contains passenger information including demographics, ticket information, and survival status from the tragic 1912 voyage. The analysis explores various aspects such as age distribution, gender ratios, passenger classes, and their correlation with survival rates.

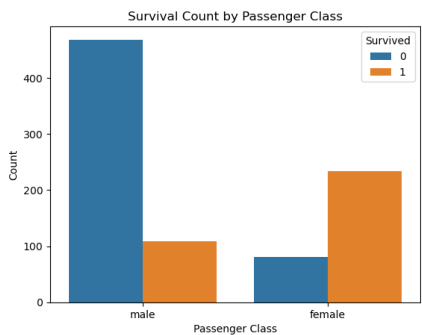
## Key Findings

### 1. Demographic Patterns

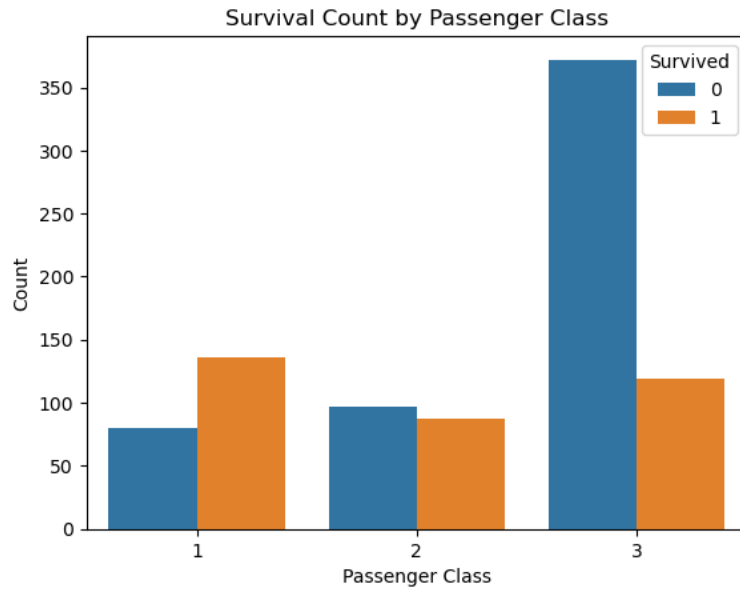
**Age Distribution:** Most passengers were young to middle-aged adults (20-40 years)



**Gender:** More male passengers than female passengers were aboard



**Class Distribution:** Majority of passengers traveled in third class



## 2. Survival Analysis

### Gender Impact

- Women had significantly higher survival rates than men
- This strongly reflects the "women and children first" maritime protocol
- Female survival rate was approximately 75% while male survival rate was below 20%

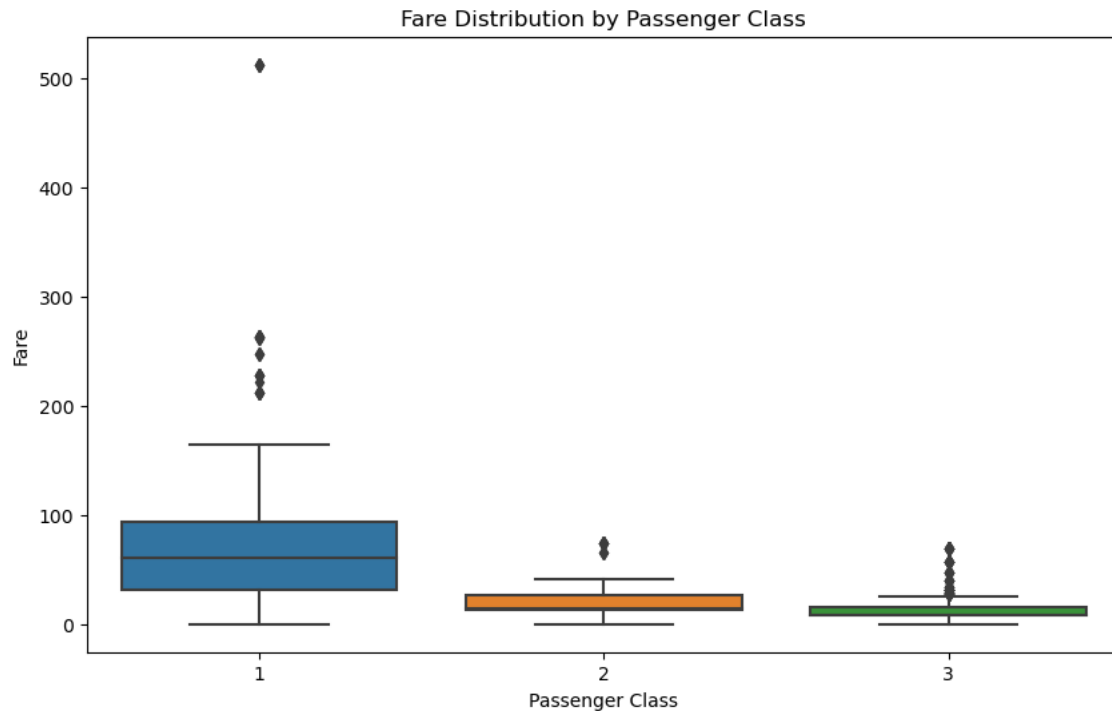
### Passenger Class Influence

- First-class passengers had the highest survival rate
- Third-class passengers had the lowest survival rate
- Clear correlation between ticket price (class) and survival chances

### 3. Economic Factors

#### Fare Distribution

- First-class fares showed the highest variation and several outliers
- Third-class fares were consistently low
- Clear segregation of fare prices between classes



### 4. Correlations and Relationships

- Strong correlation between passenger class and survival
- Ticket fare showed positive correlation with survival chances
- Age alone was not a strong determinant of survival
- Higher fares (first class) generally indicated better survival chances regardless of age

### Statistical Significance

- The gender disparity in survival rates is statistically significant
- Class-based survival differences show clear patterns of social hierarchy influencing survival chances

### Conclusions

- Being female was the strongest predictor of survival
- Passenger class (and by extension, socioeconomic status) significantly influenced survival chances

- The combination of being female and traveling in first class provided the highest probability of survival
- Third-class passengers faced significant disadvantages in survival opportunities

*This analysis reveals both the social dynamics and tragic inequalities that played out during the Titanic disaster, providing insights into how factors like gender, class, and economic status influenced survival chances during this historical event.*

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