# Spread Of Data

## Age vs Gender

The graph indicates that most passengers were between 20 and 30 years old, with a noticeable concentration just above 25. There are more age-related outliers among male passengers compared to females, suggesting that a wider age range of men—particularly older men—were traveling. This might imply that elderly males were more likely to travel than elderly females during this period.

## Fare Range vs Gender

This graph shows that female passengers generally paid higher fares than male passengers. Most men paid fares in the range of 0 to 30, while most women fell into the 30 to 100 range. There are more high-fare outliers among males, indicating that although fewer men paid high fares, some could afford very expensive tickets. This suggests that many women who traveled likely had access to more comfortable accommodations, while most men paid lower fares, with only a few appearing to be wealthier or able to pay more.

## Correlation Between Different Elements

Age vs Survival (Correlation: -0.054)

There is almost no correlation between age and survival, as indicated by the correlation coefficient of **-0.054**. This suggests that a passenger's age **did not significantly affect** their chances of survival overall. While certain age groups (e.g. children) may have had better survival rates, age alone was not a strong predictor across the dataset.

Age vs Fare (Correlation: 0.18)

There is a **weak positive correlation** between age and fare, meaning that older passengers may have paid slightly higher fares on average. However, this relationship is not strong enough to conclude that elderly individuals were generally wealthier or more likely to afford luxury accommodations aboard the Titanic.

Fare vs Survival (Correlation: 0.23)

There is a **moderate positive correlation** between fare and survival. Passengers who paid higher fares had **somewhat better chances** of survival. This makes sense considering that higher fares were often associated with first-class accommodation, which gave passengers better access to lifeboats and assistance during the evacuation

# Insights and Answering Some Questions About Titanic

## How Many Survived More (Male or Female) and How Many Died More

A graph with red and blue bars

AI-generated content may be incorrect.Survival Rates by Gender

* **Women Who Survived:** 82.62%
* **Women Who Did Not Survive:** 17.38%
* **Men Who Survived:** 12.9%
* **Men Who Did Not Survive:** 87.1%

These numbers highlight a **major disparity** in survival rates between men and women. While most women survived, the opposite was true for men. This strongly suggests that **lifeboat access was prioritized for women**, consistent with the “women and children first” policy during the evacuation.

**Conclusion**

Women had a **much higher chance of survival**, likely due to social norms and emergency procedures at the time. Men, particularly those in lower classes, had **significantly lower chances**, reinforcing the idea that survival was not evenly distributed among all passengers.

## A graph with blue and orange dots AI-generated content may be incorrect.Does Age and Fare Affects Survival or Not

* Ages 0–20:  
  Passengers in this age group had a higher survival rate regardless of the fare they paid. This suggests that children and teenagers were prioritized during evacuation, consistent with the “women and children first” policy.
* Ages 20–50:  
  In this range, paying a higher fare correlated with a better chance of survival. Most people who did not survive paid lower fares, likely to indicate they were in third class. However, paying more did not guarantee survival, unless they were in very high-paying tiers — for example, passengers who paid above 500 units of fare nearly always survived, suggesting they were likely influential or traveling in luxury (e.g., businessmen or upper-class individuals).
* Ages 50–60:  
  This group had a relatively good chance of survival, even if they paid less. However, this does not imply all survived, as survival still depended on other factors like class, gender, and physical ability.
* Ages 60+:  
  Passengers over 60 had a lower survival rate, regardless of how much they paid. This may be due to physical limitations, being deprioritized, or slower response during the evacuation process. In this group, age appears to have been a significant limiting factor, more than fare or class.

## A graph of age and fare AI-generated content may be incorrect.Which Age Paid More Fare Range

This graph shows that the majority of passengers paid fares in the 0–10 range, followed by those who paid between 10–30. Most of these passengers were between 20 and 30 years old, indicating that young adults were the largest group among the lower-fare-paying passengers

## A graph of age countWhich Is the Big Portion of People Category on The Ship (Child - Young - Elder)

The graph shows that the majority of passengers were between the ages of 20 and 25, making this the most common age group on board. The second most represented age was around 30 years old, followed by a noticeable number of teenagers aged 15–20, and a significant group of young children aged 0–7 years.

## A graph with a bar and a number of passengers AI-generated content may be incorrect. Who Are the Majority of Passengers From

This bar chart demonstrates that most passengers boarded the Titanic from Southampton, UK, with a total of 914 passengers. The second most common embarkation point was Cherbourg, France, with 270 passengers, followed by Queenstown, Ireland, with 123 passengers.

## A graph of survival status AI-generated content may be incorrect.Did Number of People from A Certain Place Better Chance at Survival

This graph shows that although the UK had the highest number of deaths, this does not necessarily mean that the place of embarkation influenced survival. Factors such as fare, passenger class, and cabin location have a more significant impact on survival outcomes. Therefore, embarkation is not a strong indicator of survival chances.

## A graph of a family AI-generated content may be incorrect.Does Having More Family Members Decreases Survival Probabilities

This graph shows that passengers with a family size of around 4 had the highest survival rate. In contrast, those who traveled alone had a lower chance of survival, and having a very large family also seemed to decrease survival, though not in a strictly linear way.

This suggests that a moderate family size may have contributed to better survival outcomes, possibly due to mutual support and visibility during evacuation. On the other hand, being alone (loneliness) or being in a large group (overcrowding) appears to have negatively impacted survival chances.

## A graph with numbers and a bar AI-generated content may be incorrect.Does Having Parents or Children / Siblings or Husband Number affect survival Rate

Male Survival Rate:

* Decreases as family size increases — whether measured by siblings/spouse or parents/children.
* Males traveling alone or with 1–2 family members had slightly higher chances of survival.
* As the number of accompanying family members grows, male survival drops sharply, in some cases reaching 0% for large family groups.
* A graph of a person and person

  AI-generated content may be incorrect.This suggests that males in larger families may have struggled to escape or were less prioritized during evacuation.

Female Survival Rate:

* Remains consistently high, even as the number of family members (siblings/spouse or parents/children) increases.
* Women with 0 to 2 family members had the highest survival rates, often above 80%.
* While survival slightly dips in larger groups, it stays significantly higher than males overall.
* This reinforces the historical fact that "women and children first" was a key principle during lifeboat loading.

## Does Getting Higher Class (More Money) Increases Odds of Survival?

This graph shows a clear correlation between passenger class and survival rate. Passengers in 1st class had the highest chances of survival, followed by those in 2nd class, while 3rd class passengers had the lowest survival rate.

This trend suggests that:

* A graph of a number of blue bars

  AI-generated content may be incorrect.Wealth and social status played a major role in determining access to lifeboats and early evacuation.
* First-class cabins were closer to the deck, allowing quicker access during the chaos.
* Crew and rescue efforts may have prioritized higher-class passengers, either due to proximity or societal influence.

## Does Having Cabin Increased Survival Rate

A graph of a cabin

AI-generated content may be incorrect.This graph further emphasizes the idea that wealth was closely tied to survival on the Titanic. It shows that passengers who had a cabin assigned, typically those in first or second class, had a significantly higher survival rate than those without a cabin, who were primarily in third class or steerage.

This suggests that:

* Having a cabin likely means proximity to lifeboats, better information, and faster response during evacuation.
* Passengers without cabins were often located in lower decks, making it more difficult to reach safety in time.
* Social and economic status again played a major role, with cabin access acting as a clear indicator of both wealth and survival advantage.

## A graph of blue rectangular bars Does Getting Specific Cabin Level Increased Survival?

This graph illustrates the survival rates across different deck levels on the Titanic. Notably, Deck A had the lowest survival rate, likely because:

* It was closer to the waterline, increasing exposure to flooding.
* It lacked cabin accommodation, possibly housing more third-class or lower-priority passengers.
* It may have been more crowded, making evacuation slower and more chaotic.

In contrast, other decks, especially those with cabins and better facilities, showed consistently higher survival rates, likely due to:

* Easier access to lifeboats
* Faster crew assistance
* Fewer passengers per section, aiding evacuation