

Titanic Hypothesis Testing Scenarios

Request 1

We want to understand if the age of passengers who survived the Titanic disaster differs from those who did not survive. The marketing team suspects there might be a difference in average age, but they're unsure if it's significant or in which direction. Provide statistical evidence for both one-tailed and two-tailed perspectives to determine if there is a difference in the average ages between survivors and non-survivors.

Request 2

The White Star Line's 1910 promotional materials claimed the average passenger age on their transatlantic voyages was 30 years. We want to see if the Titanic's passenger list matches this claim. Test if the mean passenger age from the Titanic dataset matches the historical claim of 30 years.

Request 3

There's a long-standing belief that 65% of first-class passengers survived the Titanic disaster. Company historians want to confirm or challenge this claim using real data. Verify statistically whether the survival proportion for first-class passengers equals 65%.

Request 4

There are debates in documentaries and research articles about whether male and female passengers had different chances of survival. We want to settle this with statistical evidence. Determine if there is a statistically significant difference in survival rates between male and female passengers.