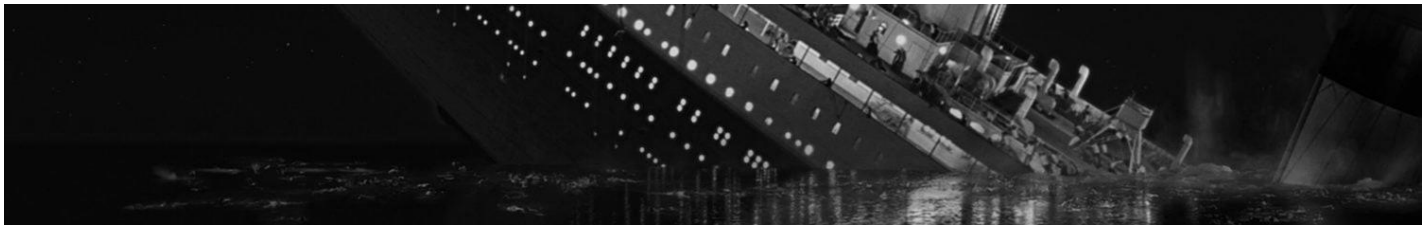
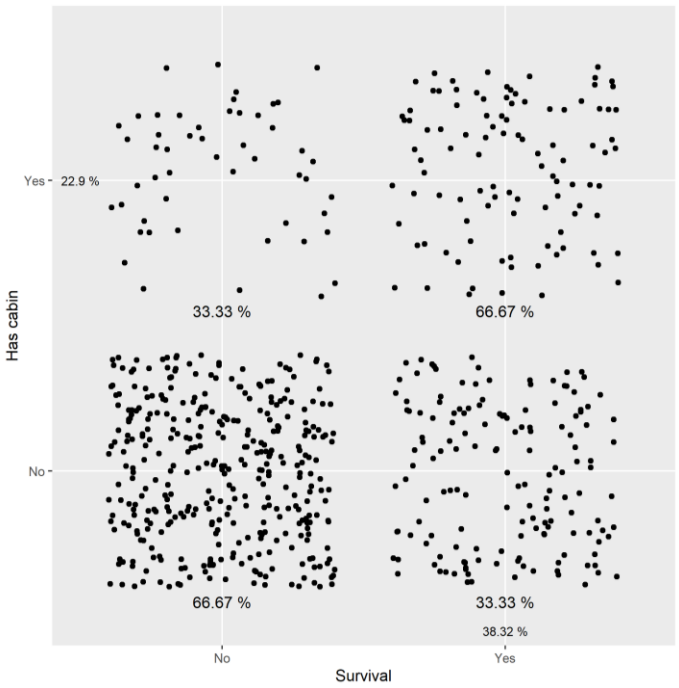
ASSIGNMENT — TITANIC



Contents.

1.- Does having a cabin influence the survival chances?

So, after an initial brief analysis of the data, we noticed that most passengers don't have a cabin so we decided to analyze whether having a cabin mattered in terms of survival.



As can be seen from the graph on the left, the number of passengers who had cabins did have a higher percentage of survival compared to the passengers who didn't. (Each point represents one passenger)

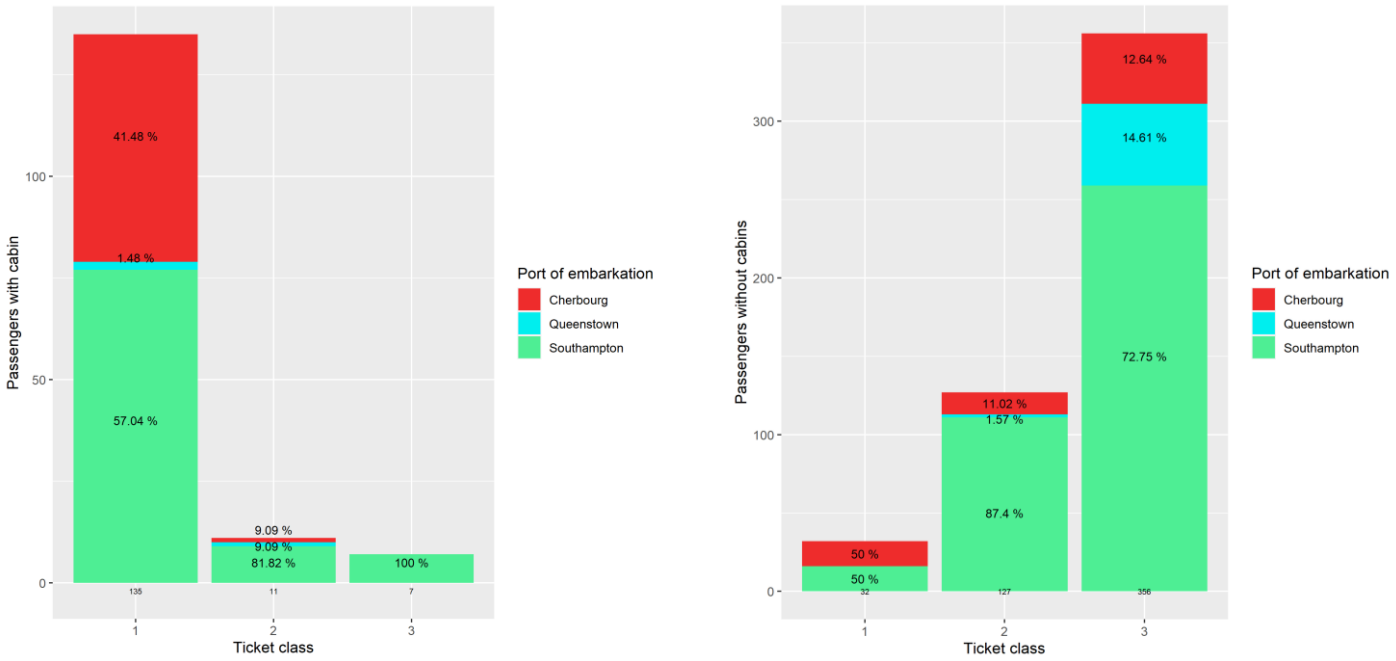
Specifically, the percentage of people who had cabins is 22.9% (153) and, out of those, 66,67% (102) survived, while, on the contrary, those who didn't have a cabin only had a 33,33% of survival rate.

Looking at it from another perspective, from the 38,52% (256) of people who survived the Titanic, 39,84% (102) of them had cabin which, considering the small number of people that had a cabin (153), is a good indicator to conclude that having a cabin definitely helped in surviving the accident.

*The percentages about passengers having cabins may have an error as some has up to 4 cabins attributed to them, which may very well be for their family. However, in this report, those repeated cabins have been treated as a single one.

2.- Where did more people with cabins embark?

After knowing that passengers with cabins were more likely to survive, we were curious to see where did they embark and which ticket class they bought, and compare it with passengers without cabins.



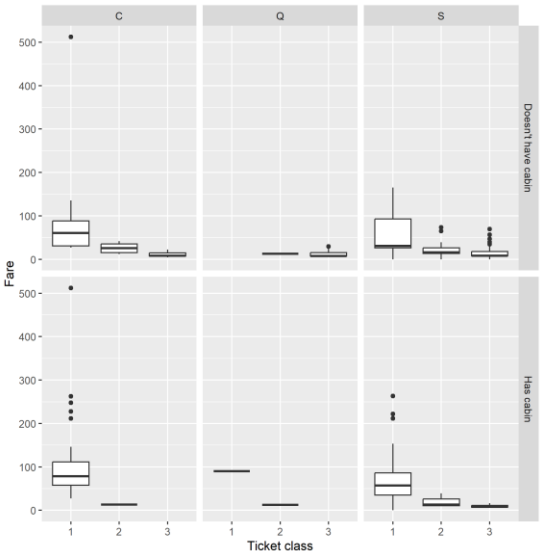
When comparing the two graphs we can get some conclusions. First of all, most of the passengers with cabins were of first ticket class, which isn't really unexpected. Another not-so-surprising fact is the amount of people with second- and third-class tickets without a cabin.

What was a little surprising was to see the number of passengers who embarked in Southampton in both graphs, however, after calculating the number of passengers that embarked in each city (Southampton: 479, Queenstown: 57, Cherbourg: 132) it was clear why there is so much difference.

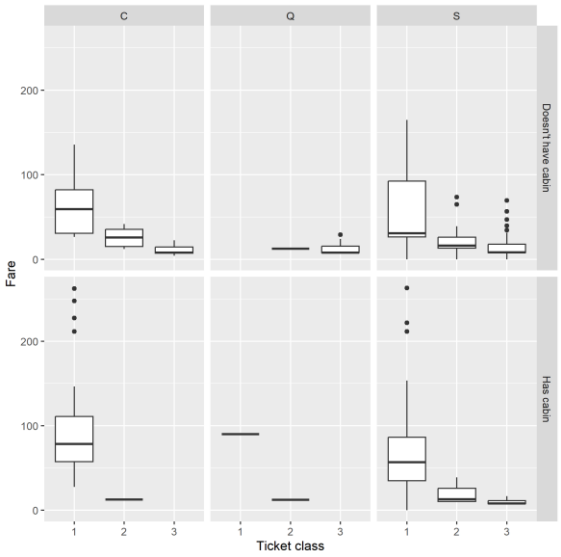
Another difference that should be noted is the fact that ~40% of the passengers that boarded in Cherbourg are first class passengers, most of whom also have a cabin. And, on the same note, most passengers embarked in Queenstown are third class passengers without a cabin. Meanwhile, Southampton has a healthy spread of passengers in first, second and third class.

3.- Are first class tickets more expensive? What about the ones with cabins? Does it depend on the port of embarkation?

Basically, what we were interested in was whether wealthy people were the ones in first class tickets, with or without cabin, or was the fare fairer.

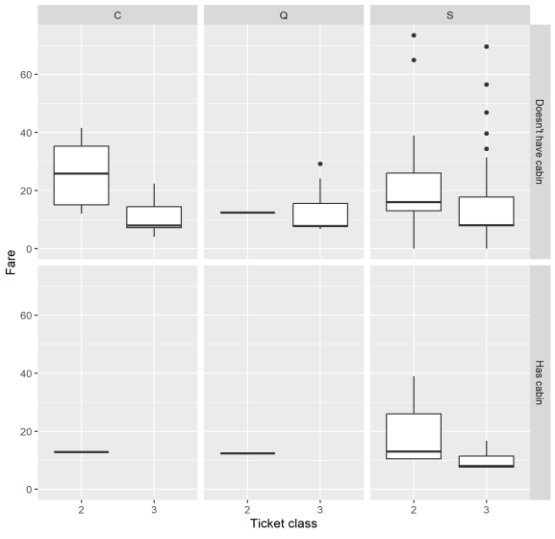


(With 512 outlier)



(Without 512 outlier)

We can see that, no matter in which port or whether they have cabin or not, first class passengers definitely paid more. One, or rather two, curious points are the outliers that had a fare >500. It is interesting because, after inspecting both of them, we can see that they were male and female, aged 36 and 35, respectively, both embarked in Cherbourg, with the same ticket number. This led me to think that they bought the ticket between the two, dividing the price effectively by 2. In which case, it would make more sense than to have a ticket at almost twice the price of the second most expensive one.



Having removed the main outlier, we can see that the prices in Southampton were generally lower than in Cherbourg for tickets of first class, both with cabins and without.

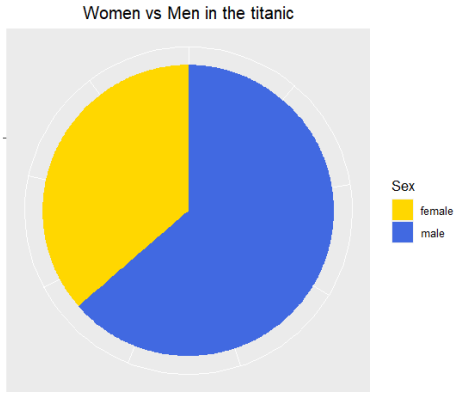
However, it is difficult to compare second and third-class tickets prices as first-class tickets enlarge too much the fare range. That's why we decided to also plot the 2º and 3º class tickets only.

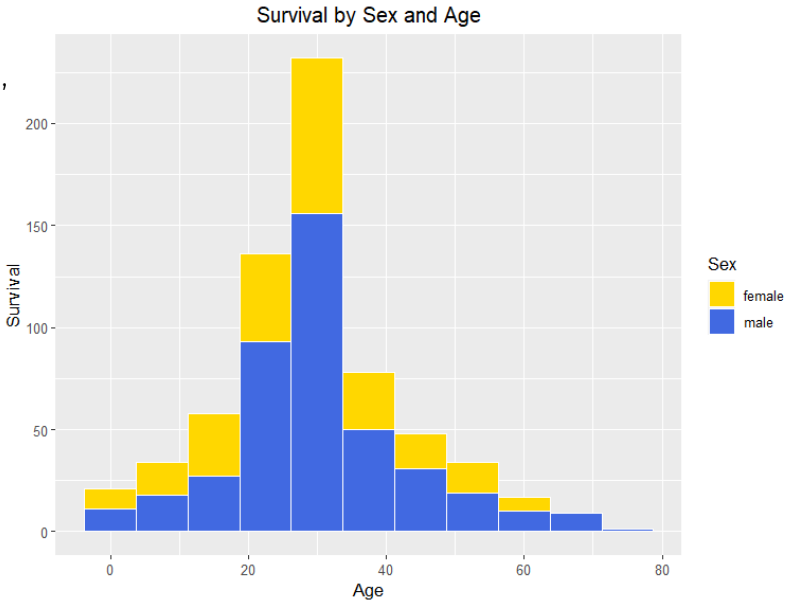
Here we can better compare the prices of both of them. First of all, we can notice that the few who had cabins from 3º class were all from Southampton, and, surprisingly, didn't have to pay significantly more than those in the same class and same port without cabins.

Now, between Cherbourg and Southampton ticket fare, Southampton still comes out being cheaper in general. However, Queensland surprised us with lower prices in 2º class and equivalent in 3º class tickets to Southampton, despite having a lot less passengers embarking from there.

4.- Does age and sex have something to do with surviving?

While we were exploring the data, we realized that there were more men than women, and this relation was almost 2/3 ratio.

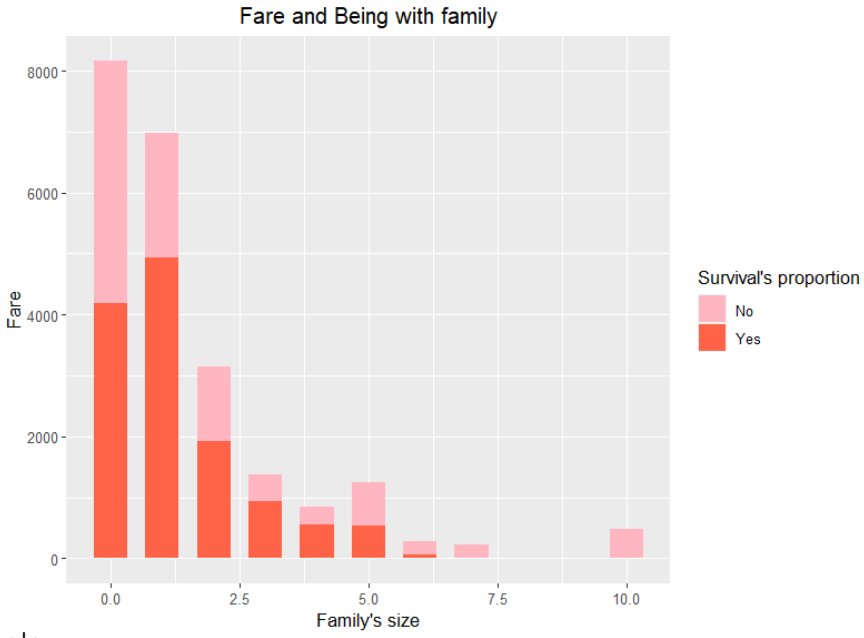




After realizing that there were more male passengers than females, we thought that it would be interesting comparing if more women or more man died. And also, if the age would be related. Therefore, we decided to plot a histogram to see those relations, and we can see that from the people that survived, usually more than 2/3 are men, which makes sense since there were more males than females, as we early mentioned. We can notice as well that the people in the range of age (20-40) were the ones that more survived, while the further they were from that range, the more they died.

5.- Were people that went with family wealthier? Did they survive more?

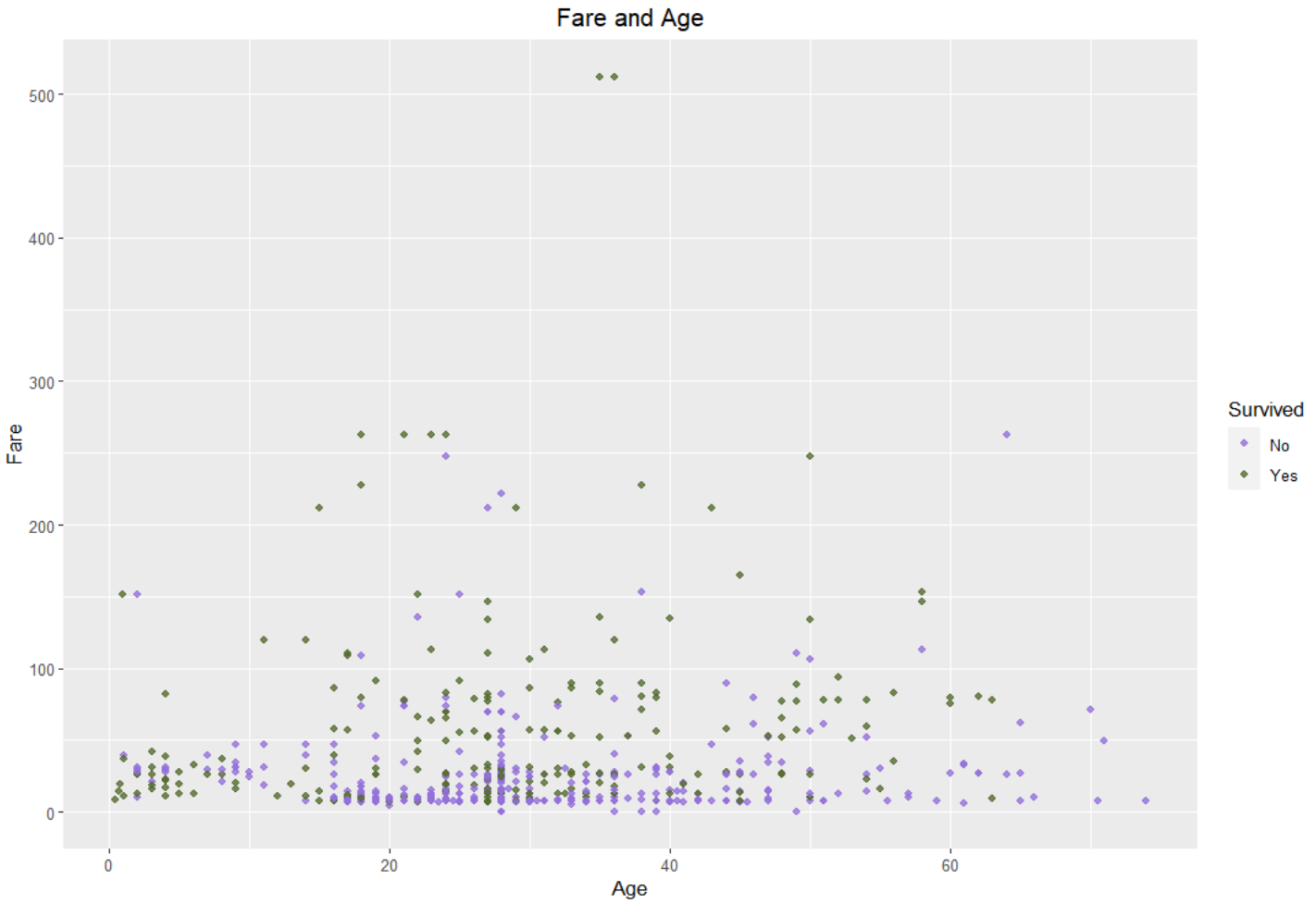
Then, we saw that some people went with their families, siblings, spouses, parents and children. Therefore, we wanted to see if the size of the family that went had something to do with their wealth, and, contrary to our thought, as we can see in this bar chart, people that went alone had more money than people who brought more family.



At the same time, we also wanted to see if bigger families survived more than people that went alone, and here, as prevised, people that went alone had more chances of surviving than people who went their families, being the chance of surviving for the family of 10, zero (0), since all of them died.

6.- Were older people richer? Can these be related with the chances of survival?

Finally, we considered that older people may be richer than youngers, but actually, there isn't really that much relation, and the fare is really distributed, as we see in the scatterplot.



Then, we believed that an interesting matter would be if the wealth had something to do with surviving, and in the graph, first of all, we can mention that as previously noted in the histogram, the older people have more chances of dying, not to say that almost all of them died. And then, arriving to the real question, the wealthier people do survive more, which is related to the fact that they use to have a cabin, as we saw formerly.