

This report is about the association of survival rate in the Titanic tragedy between the class of passenger, the gender, and the age. There are 12 attributes and 891 passengers details in the dataset.

Let's take look into the relations between survival rate and the class of passenger first. The percentage of survival in the upper class is 62.96% which is the highest among the three classes. While the lower class is having the lowest survival rate. By looking into figure 1, the survival rate is going up along with classes.

Figure 1

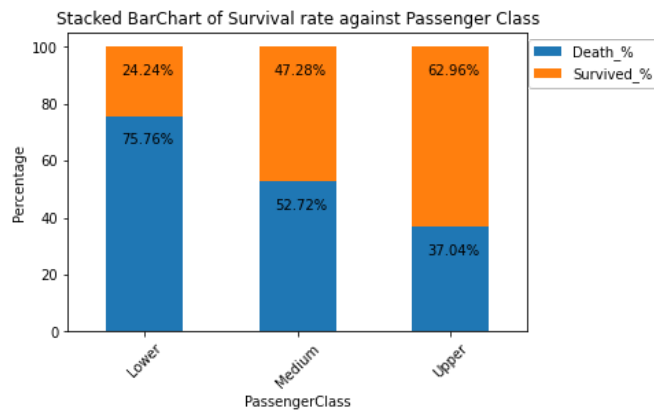
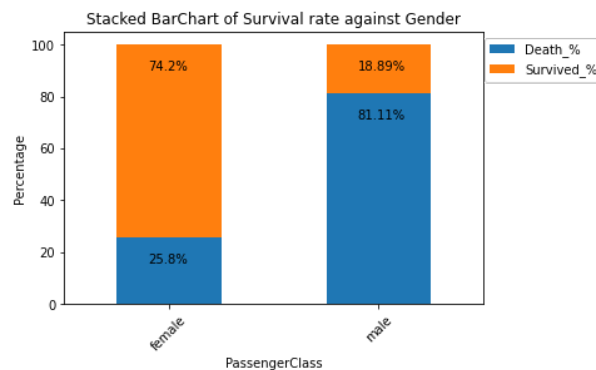


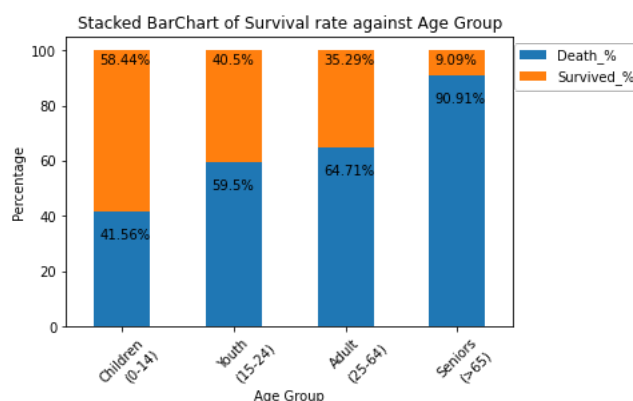
Figure 2



According to figure 2, it is noticeable that survival rate of female much higher than male. The percentage of female survival is 74.2% while only 18.89% of male survived in the accident. Furthermore, chi-square p-value of survival rate and the passenger class is less than 0.05 which means that these 2 categorical variables are not independent to each other.

The survival rate is dropping as the passenger age group goes older. 58.44% of children survived while only 9.09% of seniors can make it through the tragedy.

Figure 3



According to chi-square test statistic and p-value of survival rate against the passenger class, the gender and the age is less than the corresponding critical value and the 0.05 significant which means that these categorical variables are not independent to survival rate. In conclusion, the survival rate is associated to the class of passenger, the gender, and the age.

Figure 4

	chi-square test statistic	p-value	dof	Critical_Value	Result
PassengerClass	174.019331	0.000000	6.000000	12.591587	reject null: Not independent
Gender	335.326497	0.000000	3.000000	7.814728	reject null: Not independent
Age	457.368618	0.000000	9.000000	16.918978	reject null: Not independent