

“Mr. Andrews, forgive me. I did the sum in my head and with the number of lifeboats times the capacity you mentioned, forgive me, but it seems that there are not enough for everyone aboard.” – Kate Winslet as Rose DeWitt Bukater in *Titanic* According to Wikipedia, there were approximately 1,317 passengers and 900 crew members aboard the Titanic when it crashed into an iceberg in the North Atlantic Ocean on its maiden voyage in 1912. The ship was considered under capacity, as inventors estimated it would be able to carry 2,435 passengers and 900 crew members at any given time. As Rose Kate, so modestly pointed out, however, there were only 20 lifeboats on the ship at this time — enough to save approximately 1,178 people. While this was a non-issue for the fictional Mr. Andrews and his unsinkable ship, hindsight is 20/20. Only 705 people survived the horrific event, now considered one of the deadliest commercial peacetime maritime disasters in modern history. Not all survivors are created equal, though — there were some passengers aboard the Titanic who statistically had a higher chance of survival than others. Lucky for you, we analyzed the demographic information of 1,307 of the Titanic's passengers, published by the Vanderbilt University School of Medicine's Department of Biostatistics, to figure out what factors affected the possibility of survival most. If you ever find yourself in a Titanic-like situation, don't say we didn't warn you!

One of the first ways we sliced and diced the data was by class. While in Kate and Leo's version of events the lifeboats were not seated by class, turns out there was a difference in survival rates depending on what class ticket you held. 61.9% of First Class passengers survived while only 43% of Second and 25.5% of Third Class passengers survived. We also broke the data down by class and gender. Turns out, the blockbuster hit was right in terms of women getting on the lifeboats first. Women had a much higher chance of survival — regardless of what class they were in — than men did. Of the 466 women on board, 339 survived. Of the 843 men on board, only 161 survived — a measly 19% compared to the 73% of women who made it safely back to shore.

Next, we wanted to determine how much age played a factor in whether or not someone survived the Titanic. According to our data set, the oldest person aboard the Titanic was 80 years old while the youngest was just a few months. The women on board the ship were generally a bit younger than the men, the average age of the males was 30.6 while the average age of the females was 28.7. As you can see, however, there was more of a discrepancy in terms of the average age of survivors versus the average age of those who perished. For men, the younger you were, the more likely you were to have survived the tragedy. For women, the older you were, the more likely you were to have survived. We already know that overall women had a higher chance of survival, so that's another point for the movie — of the males, looks like the children were sent to the lifeboats first.

Were you alone onboard like Jack or surrounded by family (albeit people you may not want relations with...) like Rose? Would either scenario make you more likely to survive on that fateful night in April? The graph below breaks out not only average number of family members but also the average number of spouses/siblings and parents/children aboard. Take a gander at the results: To no surprise, you had a better chance of survival if you had more family members aboard. It seems the presence of siblings or spouses had little to no bearing on your chances of getting out alive, as the average number is about the same for both those who perished and those who survived. Once again it seems like “women and children first,” as most Hollywood depictions show, may not have just been a trope. Being a parent or child gave you a lifeline - the greater number of parents or children you had accompanying you on the ship, the better your chances of survival.

Not many people realized that Titanic had three ports of call before sailing the high seas across the great Atlantic. The three ports were Quesntown, Ireland (present day Cobh, Ireland), Southampton, U.K., and Cherbourg, France. The highest rate of survival - shown below - was from Cherbourg, France where over half of the passengers departing from this region survived the accident. Those whom called Ireland their port of call had the second-highest survival rate at 35.8% while Southampton, U.K. came in last with a survival rate of only 1/3. When you look at Average Class per passenger, it most certainly makes sense as to why France boasts such a high survival rate with an average of 1.8. As for Ireland coming in second, most likely due to the female:male ratio than the class with 48% female passengers vs. UK's 32%.

As shown in the data, Hollywood's depiction of the Titanic wasn't far from the mark. If you were in fact a late 20-something female, had a parent or child on board and were a first class passenger (optimally from France) on the boat — you had the greatest likelihood of survival. Historically speaking, the 58 men that survived the incident in real life received loads of criticism — mainly from the press — since there were more than 150 women and children who perished instead. Women and children first, indeed. That being said, there was an opportunity to save at least one more male from the wreckage, *cough, cough* ROSE! And while Jack Dawson's survival would not have had a significant effect on our overall analysis, it would have made for a much better ending to the epic blockbuster film.