

SOCIAL CLASS AND SURVIVAL ON THE S.S. *TITANIC*

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Abstract—Passengers' chances of surviving the sinking of the S.S. *Titanic* were related to their sex and their social class: females were more likely to survive than males, and the chances of survival declined with social class as measured by the class in which the passenger travelled. The probable reasons for these differences in rates of survival are discussed as are the reasons accepted by the Mersey Committee of Inquiry into the sinking.

Key words—mortality rates, social class

At 2.20 a.m. on the morning of April 15th 1912 the 'unsinkable' S.S. *Titanic* sank in the North Atlantic Ocean with the loss of nearly 1500 lives. The *Titanic* represented the state of the art in the shipping technology of its day. It was 852 ft long, displaced 52,310 tons, and was equipped with a system of sealed bulkheads which were believed to render the vessel unsinkable. While on its maiden voyage the *Titanic* struck an iceberg producing a 300 ft long gash in its side and flooding five bulkheads. In the three hours after the ship struck the iceberg, the *Titanic*'s bulkheads gradually filled with water and it sank before a rescue ship, the S.S. *Carpathia*, could reach it. Two-thirds of the *Titanic*'s complement of passengers and crew went to the bottom with it [1, 2].

It is well known that the chances of surviving the sinking were not equally distributed between passengers in the first, second and third classes (e.g. [3-5]). The details of sex and class differences in survival and the reasons for them are less well known. This paper has three purposes. First, to provide a complete account of class and sex differences in survival on the S.S. *Titanic*. Second, to submit these data to a formal statistical analysis. Third, to discuss the possible reasons for the social class differential in survival, including the explanations that were advanced at the time. This discussion makes no claim to be definitive; it is offered in the hope of inspiring the research in primary sources which will provide a more complete explanation of the social class differences in mortality on the *Titanic*.

DATA SOURCES

The data on sex and class differences in survival were obtained from the British inquiry into the sinking which was conducted by Lord Mersey in 1912 [1, p. 42]. They have been cross-checked with figures compiled from the White Star Line's final list of lost and saved of 9 May 1912 [2, pp. 161-176] which provides a listing of all passengers classified by sex, point of embarkation, the class in which they travelled and whether or not they survived. The figures from the two sources are in general agreement but there are some minor inconsistencies. These are not sufficiently large to materially affect the conclusions

drawn since both data sets were submitted to statistical analysis with similar results.

STATISTICAL ANALYSES

The numbers and percentages of men and women and children who survived in each of the classes and the crew are shown in Table 1. Relationships between survival and the passenger's class and sex were examined by means of log-linear analysis using the methods of Goodman [6] which provided tests of the significance of differences in rates of survival between males and females, passengers and crew, and the three classes of passenger. These methods also enabled tests to be made of interactions between each of these factors in their effects on survival. A Bonferroni-adjusted critical value was used for each test ($\alpha = 0.007$) to ensure that the type 1 error rate for the set of decisions made in the analysis did not exceed 0.05 [6, p. 638].

The passengers who were in third class or steerage were predominantly emigrants on their way to the United States. The White Star Line passenger list enabled the third class passengers to be classified into three types of emigrant: British, Irish and Non-British. The numbers in each group who survived the sinking of the *Titanic* are shown in Table 2. In this table sex has been classified into two classes: (1) females and children, and (2) males and persons of unknown sex. A log linear analysis was used to test for the effects of sex and type of immigrant, and the interaction between sex and type of immigrant on survival. A Bonferroni-adjusted type 1 error rate of 0.01 was used for each test.

The results of the analysis of the relationships between survival, sex and class travelled indicate: (1) that females were more likely to survive than males ($z = -14.233$, $P < 0.007$); (2) that there was no overall difference between the survival of passengers and crew ($z = -0.674$, NS); (3) that the chances of survival declined linearly from first to third class ($z = 8.588$, $P < 0.007$); (4) but the relationship between class travelled and survival depended upon the passenger's sex: the difference between the rates of survival in first and third classes was more pronounced among women/children than men

Table 1. Survival on the S.S. *Titanic* by sex and class travelled

	First		Second		Third		Crew		All	
	M	W C*	M	W C	M	W C	M	W C	M	W C
Saved										
.N	57	146	14	104	75	103	192	20	338	373
%	32.6	97.3	8.3	88.8	16.2	42.2	22.3	86.9	20.3	69.8
Died										
.N	118	4	154	13	387	141	670	3	1329	161
%	67.4	2.7	91.7	11.2	83.8	57.8	77.7	13.1	79.7	30.2
.N	175	150	168	117	462	244	862	23	1667	534

*W, C—women and children; M—men.

($z = -5.337$, $P < 0.007$) and fewer men survived in second than in first or third class ($z = 3.348$, $P < 0.007$).

The analysis of differences in survival between types of immigrant in third class revealed that more women and children survived than did men and persons of unknown sex ($z = 6.623$, $P < 0.01$). There was no difference between the three types of emigrants in overall survival (British vs Irish, $z = 0.967$, NS; British and Irish vs Non-British, $z = -0.497$, NS) and no differences between the three groups in the differential rate of survival between men and women and children (Sex \times British vs Irish, $z = 0.069$, NS; Sex \times British and Irish vs Non-British, $z = 1.514$, NS).

Why were there so few survivors?

The answer to this question comes in several parts. The major factor was the lack of provision for lifeboats on the *Titanic*. Under the British Board of Trade regulations, the *Titanic* was not required to carry enough lifeboat accommodation for every passenger. Rather the number of lifeboat places was determined by a formula that specified a given number of places for ships up to 10,000 tons in displacement [7]. The *Titanic* carried 20 boats which provided places for 1178 passengers, 52% of the passenger complement she carried on her maiden voyage and 30% of the number of passengers she could carry when fully laden [2, p. 94].

Second, fewer passengers survived than there were places in the lifeboats because many passengers were reluctant to leave the ship. The reasons for their reluctance were outlined by Beesley [8] who survived the sinking. These included: the passengers' disbelief that they were in danger on the 'unsinkable' *Titanic*; the 60-ft drop from the boat deck to the water; the reluctance of the women to be separated from their husbands; and the apparent presence of a ship nearby which inclined some to prefer to await rescue on the *Titanic*.

Third, the boats that were lowered without their full complement did not make any effort to pick up

passengers from the water. In some cases this occurred because passengers and crew would not risk having their boats overturned. Consequently, only a small number of persons were saved from the water.

Fourth, the chances of surviving in the water were effectively zero because the ship sank in the North Atlantic in mid winter with an air temperature of 28°F [9]. The rescue ship, the S.S. *Carpathia*, did not arrive at the scene of the sinking for some four hours after the *Titanic* sank and it did not complete the rescue of survivors until six hours after the *Titanic* foundered [2, p. 151]. Many of those who survived the foundering died of exposure in the water, probably within 40 minutes of the sinking [8, p. 48].

Why were women and children more likely to survive?

The sex difference in overall survival was the result of policy. Because of the known scarcity of positions in the lifeboat women and children were given preference in selecting persons for the limited number of positions available. According to the Mersey inquiry this policy was generally followed: "... although the stewards and crew were marshalled to keep the line and prevent the male passengers from getting into the boats, the evidence is that they had nothing to do..." [10]. There was some variation in enforcement of the policy between the port and starboard sides of the boat deck. The crew on the port side strictly enforced the rule and would let no male passengers into the boats while the crew on the starboard side allowed male passengers a place when no more women could be found [11]. The latter policy led to several first class male passengers being saved [2, p. 96]. Allegations of special treatment were dealt with by the British inquiry which exonerated the men concerned [1, p. 40]. Towards the end of the evacuation there were two incidents of men trying to rush the boats. Both attempts were prevented by members of the crew who were armed for that purpose [2, pp. 71-72].

Why were there social class differences in rates of survival?

This question is as difficult to answer as the broader question of why there are enduring social class differentials in mortality [3, 4, 12]. The Mersey inquiry restricted its attention to considering three possible explanations of the class differences in survival: (1) that the third class passengers were deliberately excluded from the lifeboats; (2) that the conditions of the ship operated to the disadvantage of the passengers; and (3) that the third class passengers reduced their chances of survival by their own behaviour.

Table 2. Survival for each of three types of immigrant in third class (Source: Lord, Appendix 1)

	Third class passengers					
	British		Non-British		Irish	
	M, U*	W, C	M, U	W, C	M, U	W, C
Saved	17	22	60	48	8	32
Died	114	30	240	68	41	32
	131	52	300	116	49	64

*M, U—men and unknown sex; W, C—women and children.

The inquiry rejected the first explanation largely on the authority of a statement made by Mr Harbisson who appeared before the inquiry to represent the interests of the third class passengers. Harbisson claimed that there was not "one atom or tittle of evidence" that "any attempt was made to keep back the third class passengers" nor that "there was any discrimination practised either by the officers or the sailors putting them into the boats..." [13].

Harbisson's assertion could not have been based on the evidence of any third class passengers because none gave any evidence before the inquiry. The claim that there was not an 'atom' of evidence that discrimination occurred, does not withstand critical examination. Beesley gives examples of second class passengers being denied entry to boats on the first class deck [8, p. 36], Lord [2, p. 95] and Padfield [10, p. 75] both provide instances of third class passengers and crew being denied access to the first class deck; and Lord [2, p. 96] reports that many of the men in the third class were kept below decks until the last boats were leaving the ship.

The Mersey inquiry also rejected the second possibility, that the third class passengers were disadvantaged by the layout of the ship [1, p. 71]. This conclusion was reached despite the following evidence to the contrary which emerged during the inquiry. First, the boat deck which was in the first and second class areas of the ship, was separated from the third class area, which was below decks, by a maze of ladders and passageways. The number of passageways and stairways that had to be used to get to the boat deck progressively increased for each of the three classes [1, p. 15]. Second, the ship's passageways were so complicated that the First Officer, Lightoller, reported that it took him two weeks to find his way around the ship with any confidence [14]. Third, the unfavourable location of the third class passengers was conceded by the Attorney General during the inquiry but he opined that it was 'not an important' reason [10, p. 73] for the differences in the rates of survival.

The explanations of the class difference in survival preferred by the Mersey inquiry were that the emigrants had been reluctant to leave their belongings, and that their lack of English prevented them from following the crew's instructions [1, pp. 40, 70]. The evidence for the former was a conjecture by the Attorney General that emigrants would be loth to leave the ship because they "would certainly be carrying all they possessed with them... more loth probably than a person whose property was not all in the vessel..." [13, p. 73]. The evidence for the latter explanation was that many of the third class passengers were 'foreigners' and thus did not understand what was required of them [1, p. 70]. The warrant for this assertion was the supposedly greater rate of survival among the Irish third-class passengers; a claim which is refuted by the results of the statistical analysis reported here.

Why was there a sex difference in the social class differential?

The sex difference in the social class differential in survival was a consequence of a lower proportion of men among survivors in the second class and of a

lower proportion of women among survivors in the third class (see Table 1). These differences were not discussed by the Mersey inquiry which was much more concerned with explaining the poor overall rate of survival and the differential survival between the three classes. I can only conjecture that the poorer survival of the third class women was a consequence of the lack of attention paid to third class passengers by the crew. If no special effort was made to get third class women to the boat deck, then the chances of men and women in the third class being considered for a place in the life boats would have been more nearly equal than for men and women in the first class. Beesley who was a second class male passenger offered the following explanation for the low rate of survival among men who travelled in his class. He observed that "if the second-class ladies were not expected to enter a boat from the first class deck, while steerage passengers were allowed access to the second-class deck, it would seem to press rather hardly on the second-class men..." [8, p. 36].

Was the Mersey Inquiry a whitewash?

Padfield [10] has suggested that the Mersey inquiry was a 'whitewash'. So too did the *Titanic's* first officer Lightoller who observed that: "The Board of Trade had passed that ship as in all respects fit for sea, in every sense of the word, with sufficient margin of safety for everyone on board. Now the Board of Trade was holding an enquiry into the loss of the ship—hence the whitewash brush..." [14, p. 305]. According to Padfield, the Mersey inquiry used two scapegoats: the *Titanic's* captain, Captain Smith, who was dead; and Captain Stanley Lord [15], the captain of the S.S. *Californian*, which was found by the inquiry to have stood within 5 miles of the *Titanic*. Captain Smith was found to have travelled at excessive speed under conditions of pack ice although there were extenuating circumstances, namely, that the practice had been widely followed by ships' captains on the trans-Atlantic passenger route for many years without loss of life. Captain Lord was found to be guilty of negligence that cost lives in that the *Californian* "could have pushed through the ice to open water without any serious risk and so have come to the assistance of the *Titanic*. Had she done so she might have saved many if not all of the lives that were lost" [16]. However appealing the allegation of a whitewash might be, it is not entirely accurate. The Mersey inquiry may have had an incentive to cover up the inefficiency of the Board of Trade but it did not refrain from criticising its regulations or recommending that all ocean-going ships should thereafter carry sufficient lifeboat accommodation for their passengers and crew.

The explanation for the superficiality of the investigation of class differences in survival is perhaps much simpler as Lord [2, p. 96] has suggested. So little attention was paid to them because before the First World War social class was so much taken for granted that the reduced survival among third class passengers was unremarkable. It was just assumed that the price of a first class passage included an increased chance of surviving a sinking. Provided there was no evidence of explicit discrimination between the classes in the allocation of positions in the

lifeboats the class differences in survival were regarded as a reflection of the natural order.

CONCLUSIONS

There were marked sex and social class differences in survival among passengers on the *Titanic*. The former were the result of policy. The factors that seem to be of relevance in explaining the social class differences in survival were: (1) the positioning of the lifeboats on the deck where first and second class passengers were located; (2) a policy of looking after the first and second class passengers first; (3) neglect of third class passengers who were left to fend for themselves, and who could only find their way to the boat deck by trial and error; and (4) some unsystematic exclusion of third class passengers from the boat deck by members of the crew. The Mersey inquiry gave only brief attention to the social class differential. Having satisfied itself that the social class differences in survival were not the outcome of conscious policy, the inquiry concluded that they derived in large part from the behaviour of the passengers.

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