

18 | Time it took the
 RMS *Lusitania*
 to sink
 minutes

160 | Time it took the
 RMS *Titanic* to
 sink
 minutes

194 | Running time of
 the 1997 movie
Titanic
 minutes

'Women and children first' holds only if a ship is sinking slowly

Comparison of disasters suggests chivalry takes time

By Laura Sanders

Gallantry ruled on the day the *Titanic* went down in 1912. As the vessel's orchestra played soothing music to calm the passengers, women and children were escorted to the limited supply of lifeboats, leaving healthy young men to go down with the sinking ship.

Three years later, the sinking of the *Lusitania* by a German torpedo was an altogether different affair. As the civilian passenger ship keeled over in a matter of minutes, young healthy men scrambled to the lifeboats, leaving women and children to drown.

These dramatic differences in behavior aboard a sinking ship may all come down to time, a new study suggests. The *Titanic* took 2 hours and 40 minutes to sink beneath the waves. The *Lusitania*, in contrast, went down in 18 minutes. The new results, appearing in a paper published online March 1 in the *Proceedings of the National Academy of Sciences*, suggest that in extreme situations social norms — codified here as women and children first — require time to appear.

"The key is time. This is really a crucial finding," says economist Benno Torgler of Queensland University of Technology in Brisbane, Australia. He and his colleagues examined the ships' survival records to see how humans act in extreme situations.

In the melee of rapid, stressful situations, an "every man for himself" mentality may have prevailed. That would explain why young men on the *Lusitania* saved themselves without regard for fellow passengers. "People had only a couple of minutes. So very instinctive behavior — survival of the fittest — emerged," Torgler says.

Records from the life-or-death

situations on board the two ships provide a natural experiment that could never be done in a lab, comments behavioral economist Colin Camerer of Caltech. "Some of these dramatic experiments we can't do, so we look for historical analogs," he says. "Occasionally you stumble upon these gold mines of historical data, and that's what they've got here."

Although the ships sank under different circumstances, the vessels had key similarities that allowed Torgler and colleagues to compare who made it to the lifeboats. The *Titanic* and the *Lusitania* carried comparable numbers and types of passengers, making the two ships "similar to a field experiment," Torgler says.

Most data on social behavior under stressful conditions are from self-reported survey answers or watered-down lab simulations, Torgler says. "The strength of analyzing people in real situations is that their true preferences are revealed," he says.

The researchers combed through historical accounts and records from the *Titanic* and *Lusitania* and compared the survival of different groups, using passengers who were over 35, childless or traveling third class as a reference population.

Women aboard the *Titanic* were more than 50 percent more likely to survive than men, but women had no edge on the fast-sinking *Lusitania*, the team found.

On the *Titanic*, men between the ages of 16 and 35 were almost 7 percent less likely to survive than people in the reference population, but on the *Lusitania*, young men were almost 8 percent more likely to survive. On the *Titanic*, children were 31 percent more likely to make it into a lifeboat, but aboard the *Lusitania*, children fared slightly worse than the reference population, the team found.



This illustration depicting a lifeboat full of women being lowered from the *Titanic* was created to demonstrate that "the chivalry of the sea was observed."

What's more, on the *Titanic*, first-class passengers were about 44 percent more likely than to survive than members of the reference population. But on the *Lusitania*, a first-class ticket didn't confer any advantages, the team reports. Wealthy passengers apparently had more time to exert their influence as the *Titanic* sank, Torgler hypothesizes, and thus they bargained their way into lifeboats to save themselves.

Longer time frames such as the nearly three hours it took for the *Titanic* to sink allow social norms and order to emerge, the researchers hypothesize.

The team is now studying records from other historical episodes, such as mountaineering accidents and the September 11 attacks, to test the influence of time on social behavior.

The study's findings are persuasive, Camerer says.

"Under extreme time pressures, it's everybody for themselves. Coordinating and respecting norms takes time," he says. "When people have time to deliberate, you see pro-social behavior." ■