Avoiding the Death Risk of Avoiding a Dread Risk
The Aftermath of March 11 in Spain
Alejandro López-Rousseau
Madrid, Spain

ABSTRACT—After the airplane attacks of September 11, 2001, in the United States, many Americans drove instead of flying, to avoid the risk of terrorism. As a result, there were extra car accidents in which many people died. This study tested whether a similar effect occurred in Spain after the train bombings of March 11, 2004, in Madrid. Data on train travel, highway traffic, and fatal highway accidents were analyzed for the months immediately following March 11. Results show that, like Americans, Spaniards avoided the dread risk of terror attacks, but unlike Americans, they did not confront the death risk of fatal accidents instead. A sociopolitical interpretation for these findings is offered.

On September 11 of 2001, about 250 people died on four airplanes downed by terrorists in the United States, and another 3,000 people died on the ground. Alarmed, Americans immediately reduced their flying, to escape airborne terrorism. This was a natural reaction, but a risky one as well, as flying is safer than driving, according to Myers (2001). He hypothesized that if Americans substituted driving for flying, the number of car passengers and pedestrians killed as a result of the added traffic after September 11 would be greater than the number of airline passengers and crew who were killed by the terrorists that day.

Recently, Gigerenzer (2004) tested this hypothesis by analyzing data on U.S. air travel, highway traffic, and fatal traffic accidents for the 3 months following September 11. His analysis shows that air travel decreased, highway traffic increased, and fatal traffic accidents significantly increased after the terrorist attacks. Assuming a causal link among these variations, he suggested that an excess of about 350 people died in additional traffic accidents during these 3 months, thus confirming Myers’s (2001) hypothesis: After September 11, Americans avoided the smaller dread risk of terror attacks, but fatally confronted the bigger death risk of traffic accidents instead. And they did so acting out of fear and unaware of the relative dangers, according to Gigerenzer and Myers.

Exactly two and a half years later, on March 11 of 2004 (henceforth, M-11), about 200 people died on four trains bombed by terrorists in Spain. The present study tested whether after M-11, Spaniards also avoided the risk of terror attacks but fatally confronted the risk of traffic accidents instead. If so, they were acting out of fear and were unaware of the relative dangers, as Spain has the safest trains in the European Union, and dying as a passenger on a train is 20 times less likely than dying as a passenger in a car, according to a European Union report (European Transport Safety Council, 2003). This study replicated Gigerenzer’s (2004) test, which required that three conditions be met conjointly: After M-11, (a) train travel had to decrease, (b) highway traffic had to increase, and (c) fatal highway accidents had to increase.

To facilitate comparison, the study used the same frequency measure and significance test for all three conditions. For example, the observed numbers of train travelers in the 3 months following M-11 were each compared with the numbers expected on the basis of trends in interannual variation. (Interannual variation is the percentage difference between a measure in a given period and the same period a year earlier.) The study accounted for present yearly trends by comparing the observed numbers of train travelers in March, April, and May 2004 with the numbers expected on the basis of the average interannual variation in the 12 months before March 2004. And past monthly trends were accounted for by comparing the observed numbers of train travelers in March, April, and May 2004 with the numbers expected on the basis of the respective average interannual variations in March, April, and May of the pre-
probably unaware of the extra risk they thereby avoided. Therefore, fatal highway accidents should not have increased in March and April either.

In fact, data from the traffic authorities (Dirección General de Tráfico, 1998, 1999, 2000, 2001, 2002, 2003, 2004) show that the third condition of Gigerenzer’s (2004) test was not met: Fatal highway accidents did not increase after M-11, but rather decreased. The interannual variation in the total number of fatal accidents on the highway showed an average increase of 0.3% for the 12 months preceding M-11, but a decrease of 8% in March 2004 and 11% in April 2004. Moreover, in the previous 5 years, the interannual variation showed an average decrease of 4% in March, 4% in April, and 3% in May. The observed number of train travelers in March and April after M-11 was significantly lower than expected on the basis of the average increase of the preceding 12 months, \( \chi^2(1, N = 81,767,000) = 530,855, p < .01 \), and on the basis of the average increase in March and April of the previous 5 years, \( \chi^2(1, N = 81,767,000) = 729,177, p < .01 \). Independently, the railway operators reported losses of travelers and revenues in March and April 2004. For example, a 9% deficit in revenue (€4.5 million) was reported for the long-distance trains (“Efectos del 11 M.” 2004).

This analysis suggests that Spaniards avoided the risk of terror attacks by reducing their train travel after M-11. But this reduction was smaller and shorter than the Americans’ reduction in air travel. In fact, the effect was found in March and April only. If a side effect of the reduction in train travel was an increase in car travel, this increase should have shown up in March and April, too. This would indicate that Spaniards confronted the risk of additional traffic accidents.

However, data from the highway authorities (Dirección General de Carreteras, 2004a, 2004b) show that this second condition of Gigerenzer’s (2004) test was not met: Highway traffic did not increase after M-11, but in fact decreased. The interannual variation in the mean number of vehicles per day on the highways showed an average decrease of 1% for the 12 months preceding M-11, as well as a decrease after M-11—1% in March and 3% in April. Furthermore, in the previous 5 years, the interannual variation showed an average increase of 7% in March and 6% in April. The observed number of highway vehicles in March and April 2004 was significantly lower than expected on the basis of the average decrease of the preceding 12 months, \( \chi^2(1, N = 43,348) = 11.49, p < .01 \), and the average increase in March and April of the previous 5 years, \( \chi^2(1, N = 43,348) = 313, p < .01 \).

These tests suggest that Spaniards did not replace train riding with car driving after M-11, and hence did not confront the risk of additional traffic accidents. Thus, the data fail Gigerenzer’s (2004) test of Myers’s (2001) hypothesis. Spaniards may have reduced their train travel by carpooling, riding buses, or staying home, and they may have reduced travel overall as well. But clearly, they also reduced their car travel in March and April, probably unaware of the extra risk they thereby avoided. Therefore, fatal highway accidents should not have increased in March and April either.

In sum, the Spanish data fail Gigerenzer’s (2004) test of Myers’s (2001) hypothesis, as only the first of the three conjoint conditions was met: After M-11, (a) train travel did decrease, but (b) highway traffic did not increase, and (c) fatal highway accidents did not increase either. Actually, highway traffic and fatal highway accidents both decreased. Figure 1 illustrates these findings, showing that the average interannual variations in the number of train travelers, highway vehicles, and fatal highway accidents were all positive for March and April of 1999 through 2003, but all negative in March and April 2004.

**DISCUSSION**

Like Americans, Spaniards avoided the risk of terror attacks after M-11. This result suggests that avoiding a dread risk is a universal effect. But unlike Americans, Spaniards did not fatally confront the risk of traffic accidents instead, suggesting that the increase in U.S. traffic accidents after September 11 was a cultural side effect. Although Spaniards briefly reduced their train riding, they also reduced their car driving, hence preventing extra highway fatalities from adding to the M-11 toll. So probably unknowingly, Spaniards avoided the death risk of avoiding a dread risk.

Finally, there surely are many reasons why Spaniards showed a lesser reaction to terrorism than Americans did, and particularly why they did not substitute cars for trains. These reasons may range from psychological to cultural. For example, M-11 probably had smaller psychological impact than September 11, which had more than 10 times as many fatalities. In addition, there is less of a car culture in Spain than in the United States.
But another sociopolitical reason stems from the fact that even though people may never be personally prepared for terror attacks, they might be socially and politically prepared: Decades of terrorism in Spain may explain why Spaniards showed a smaller and shorter alarm reaction than Americans. For instance, whereas planes were grounded for days after September 11 in the United States, trains kept running on time after M-11 in Spain. In fact, the day after M-11, there were four times as many train travelers as usual, as Spaniards attended the massive demonstrations against terrorism across the country. For better or for worse, terror attacks may represent less of a dread risk for Spaniards now and more of a calculated risk instead.

REFERENCES


(Received 10/11/04; Revision accepted 11/11/04)