Fear in the Wake of Terror

Apart from their immediate consequences, terrorist attacks also have an indirect impact, as they arouse uncertainty and fears in the minds of many people – and thus trigger behaviors that often amplify the damage. For Gerd Gigerenzer and Wolfgang Gaissmaier, these fears are rooted in both the evolutionary history of humans and a lack of information, as well as in the incorrect assessment of risks. They conclude that improving education about these psychological factors could help people gain more control over fears resulting from a terrorist attack and reduce the indirect damage they cause.

In this world nothing is certain, except death and taxes,” wrote Benjamin Franklin in a letter in November 1789, on the eve of the French Revolution. What Franklin meant was that everything in life is uncertain and laden with risks, and we are constantly at the mercy of such uncertainty. However, the human mind is not fond of dealing with uncertainty, but instead always strives for certainty, even if it means influencing our perception.

This becomes apparent when we look at optical illusions, whose aim is to trick our perception: although we know we are looking at an optical illusion, the mind leads us to believe there is no ambiguity. Even when we are explicitly told that two lines are parallel, the mind can fool us into believing that they are not. And even when two objects are measured and clearly shown to be equal in size, as long as they are arranged in a particular way, our perception clings to its belief.

Our brain sells our consciousness the most probable conjecture as the definitive result. Even insight into how the error was created can’t eradicate it. This illusion of certainty is by no means limited to elementary perceptual experiences. In fact, illusory certainty is part and parcel of our emotional and cultural heritage. The esoteric sections of bookstores provide clear evidence of this desire, offering certitudes that can no longer be found in many areas of life. Such belief systems have existed throughout human history. People continue to seek solace in religion, astrology and divination – all the more so in difficult times.
The illusion of certainty

It soon became clear just how deceptive this certainty was when extensive tests also found BSE in German cattle herds. But it in turn was replaced by another illusion – this phrase was steadfastly repeated, both by the reigning government. “German beef is safe” – this phrase was steadfastly repeated, both by the president of the German Farmers’ Union and by the minister of agriculture. Germans were only too happy to be reassured. Meat imports from the United Kingdom were banned, and it was suggested that people would be on the safe side if they asked their butcher for meat from cattle raised in Germany.

The fields of medicine, business and politics also cater to this yearning for certainty. Doctors, for example, often feel forced to convey their patients a sense of security where there is none: they communicate the results of a medical test as the absolute truth, even though errors do, of course, happen. In many cases, this is less a matter of ignorance than an attempt to prevent patients from worrying needlessly. At the same time, doctors try to avoid having their patients simply seek out another physician who will offer them security and reassurance.

In 2000, BSE raged in many European countries, such as the United Kingdom, Ireland, Portugal, France and Switzerland. Germany, on the other hand, was declared BSE-free by its reigning government. “German beef is safe” – this phrase was steadfastly repeated, both by the president of the German Farmers’ Union and by the minister of agriculture. Germans were only too happy to be reassured. Meat imports from the United Kingdom were banned, and it was suggested that people would be on the safe side if they asked their butcher for meat from cattle raised in Germany.

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Insurance sales representatives persuade us that life insurance is a moral obligation and a necessity in the event of a tragedy. Political parties try to capitalize on this yearning, as well: in Germany’s 1989 Bundestag elections, the Christian Democratic Party promised “Certainty, not risk,” and other parties used similar campaign slogans. If they want to succeed, politicians must respond to the fears of the populace. Frequently, however, people are most afraid of things that are barely a threat to them. One example of this is BSE – bovine spongiform encephalopathy – popularly called “mad cow disease.” This disorder causes sponge-like degeneration of cows’ brain tissue.

This does not mean that these risks deserve no attention or should not be investigated. Nor is it about portraying people’s fears as absurd and irrational. It is far more a matter of understanding these fears and recognizing why people just happen to be more afraid of certain risks than of others. Only such knowledge will make it possible to help people deal properly with their fears. After all, fear itself can become a security risk. The unexpected consequences of the September 11, 2001 terrorist attacks in the United States illustrate this well – consequences that reached far beyond the direct damages of the attacks. These consequences can be explained by the fear in people’s minds, aroused by the attacks. And they may have been avoidable if people’s fears had been better understood and given greater consideration.

Everyone likely still has the horrifying images in mind: the burning twin towers of the World Trade Center collapsing from the impact of passenger airplanes. These images were literally burned into collective memory. Some 3,000 people lost their lives in these attacks, including the 256 passengers of the hijacked planes. The material damage reached into the billions. The world will never be the same – this was heard again and again following the attacks. And indeed, the world has changed: for one, the feeling of vulnerability led to the so-called war against terror.

The Bush administration focused on direct damage from September 11 and established a commission to investigate the failure of the intelligence agencies to detect the attack, and to develop the necessary security measures to prevent such attacks in the future. New laws were enacted and stricter controls implemented. And, as any visitor to an airport can confirm, it’s clear that something has changed in Europe, as well.

Terrorist attacks, however, also cause indirect damage beyond the terrorists’ control. This damage results from people’s thoughts and behaviors in reaction to such attacks. In the case of September 11, 2001, it led primarily to heavy losses in the aviation and airline industries. A few years later, there were not only fewer airplanes, but the number of passengers per flight dropped as well: the 7 percent fewer domestic flights than before, and an estimated 1.6 million jobs were lost, most of which were in the tourism industry. Such indirect damage is by no means inevitable. The causes are of a psychological nature and could, in principle, be prevented. To do so, however, it must be understood that terrorist attacks are not directed solely at the body, but also at the mind. Events like the attacks on the World Trade Center are called dread risks. These are very improbable and rare events that, however, cause devastating damage to many at one point in time. People frequently react to such risks with avoidance behavior – and much differently than they do to risks in which many people die unexpectedly, as it were, over a relatively long period. For example, the annual number of airplane accidents is much lower than the annual number of road accidents. Nevertheless, few patients would avoid hospitals, even if they were aware of these figures.

The avoidance behavior triggered by horrific events could have deep-seated evolutionary roots. In primaeval times, people lived in small groups. Threats that affected an entire group at once were thus far more dangerous than the constant threat to individuals, even if the threat to individuals ultimately resulted in the deaths of just as many people. In addition to this evolutionary explanation, avoidance behavior can presumably be explained in part by a simple lack of information and, frequently, inaccurate assessment of risks.

When asked to estimate how many kilometers one would have to drive a car in order to have the same accident risk as a non-stop flight from Boston to Los Angeles, many people will answer that they would have to drive tens or even hundreds of thousands of kilometers. In reality, however, such a non-stop flight is only as dangerous as 20 kilometers on the road. Arriving safely at the airport means having already survived the most dangerous part of the journey. In response to these figures, people often argue that airplane passengers are at the mercy of the pilot, and many believe that driving a car gives them complete control. Surprisingly, however, they often feel safer even as a passenger in a car than in an airplane.

So what might avoidance behavior arising from September 11 look like? And even more importantly, what are the consequences of such behavior? Answers to these questions are outlined in the following.

First, Americans might severely limit air travel following September 11. In this case, it is a plausible assumption that many will opt to reach their destination by car. People who tried to avoid the risk of a terrorist attack or a related hijacking after September 11 may then have lost their lives on America’s highways.

The aviation industry did, in fact, see a drastic decline after the attacks. In the months October, November and December 2001, the number of miles flown dropped 20, 17 and 12 percent, respectively, year on year. Of course, this does not necessarily mean that all of these air miles were instead traveled by car. Furthermore, such a shift is very difficult to observe directly. However, facts support the idea that many people chose to forgo airplanes and travel (presumably more safely) by car. In the months following the attacks, vehicle miles traveled increased by approximately 3 percent compared with the previous year.
deviations of 115 accidents, averaged across these months. In fact, August 2001, the month before the attacks, was a particularly normal month with just 9 accidents above average.

This consistency observed over the course of five years saw a dramatic change after the terrorist attacks. For a period of twelve months (from October 2001 to September 2002), there were more crashes each month than would have been expected based on the average of the preceding five years. In many months, the number of registered accidents exceeded even the highest values observed in the preceding five years. This increase in fatal traffic accidents coincides exactly with the period in which an increase in traffic was observed.

Parallel to the miles logged, after almost precisely one year, the number of fatal accidents also leveled off at the average value of the preceding years. This consistent pattern supports the hypothesis that the terrorist attacks caused additional deaths through the fear they created in people’s minds.

In total, from October 2001 to September 2002, there were approximately 1,500 additional crashes involving fatalities on America’s roads. As each of these accidents resulted in slightly more than one death, a total of some 1,600 people lost their lives in attempting to escape the risk of flying – or around six times as many as the 256 passengers who died in the aircraft on September 11.

Spaniards react very differently

This inevitably raises the question of the extent to which these findings illustrate an isolated case or whether similar phenomena can also be observed in other cultures. On March 11, 2004, two and a half years after the terrorist attacks in New York, bombs exploded in four local trains in Madrid during rush hour. The death toll was 200, with 1,460 people wounded. If these attacks had triggered similar avoidance behavior, it should have been reflected in a decrease in train passengers.

Spain’s railways did, indeed, see a drop in passenger numbers following the attacks, although the effect was not as pronounced and was noticeably briefer (only two months instead of twelve). However, it did not result in a simultaneous increase in highway traffic; on the contrary, Spaniards appeared to travel less in general after the attacks, so road traffic declined slightly, and with it, the number of traffic deaths. Thus, the Madrid attacks did not result in additional traffic deaths that could be explained by fear in people’s minds.

Unlike Americans, Spaniards did not turn to their cars out of fear of the presumably increased risk of traveling by train. But why were the reactions to the terror so different in Spain than in the United States? For one, there may be a more pronounced car driving culture in the US that made the switch to cars more likely from the outset. For another, the public transportation system in Spain is more developed and offered more alternatives. Finally, after decades of terror by the ETA, Spaniards may consider a terrorist attack more a calculated risk than a dread risk.

The 9/11 Commission report called for all elements of national power to be used to defeat global terrorism: diplomacy, intelligence, better law enforcement, economic policy and foreign aid. However, a closer look at the indirect damage resulting from a higher number of victims in road traffic shows that there should also be a second goal: namely, to fight the effects of terrorism in people’s minds. But people first need to be made aware of these effects.

Educating and informing people might not cause everyone to immediately change their behavior, but it might help many better comprehend their only too understandable fears in the wake of such terrible events. In this way, they could also learn to control and analyze these fears, which, in an event such as 9/11, would save lives. Otherwise, history threatens to repeat itself after every new terrorist attack.

The example makes it clear how important it is for a modern society to deal with risks in an informed manner. German chancellor Angela Merkel agrees with this assessment, as her words in the magazine CICERO clearly indicate: “Our society must learn to better assess risks, generally speaking. Living with chance and risk is a big problem. In a world that is becoming increasingly complex, I also think it is important to introduce children at an early age to such issues that will constantly demand their attention in later life.”

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