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No cause for alarm

28 September 1996 by [Claire Marris and Ian Langford](#)
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THE British government knew there was a public health risk attached to BSE, but tried to hide it. That was the resounding conclusion of almost three-quarters of people

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polled on 30 March this year by ICM, one of Britain's biggest polling organisations. And more than 80 per cent also believed that the government had only taken action when forced to do so. Back then, at the height of the BSE-CJD scare, 80 per cent of people said that ministers were more concerned with party politics than the wellbeing of consumers. Most of the people polled also said that they did not trust the objectivity of the scientific advice given to government.

Aaron Wildawsky, one of the leading modern thinkers on the culture of risk perception, would probably have seen the recent BSE scare as a classic example of a problem arising out of irrational fears. In a typically provocative book, *But Is It True? A Citizen's Guide to Environmental Health and Safety*, published after his death in 1994, Wildawsky claimed that fears about environmental risks are always exaggerated. A sober look at the scientific evidence, he argued, normally reveals that there is little cause for alarm.

But if policy makers are to deal with issues such as BSE effectively, they need more than scientific analysis. They need to know how ordinary people perceive risks and cope with them. Long-standing research reveals that risks are assessed according to factors such as whether they are voluntarily taken, whether the potential harm is immediate or long-term, how much information is available about the particular risk, and whether there are regulations and safeguards in place.

With all that in mind, earlier this year we set out to find out more about why and how individuals respond to various risks.

We interviewed 210 people in Norwich, selected according to where they lived, so that the group contained people with various incomes, occupations, ages and standards of education.

First, we wanted to re-examine the idea, proposed more than 10 years ago, that some dangers are almost universally feared, whereas others are not. We also aimed to test the established notion that people interpret risks in coherent but very different ways depending on how they look at the world.

We chose to investigate 13 common risks (sunbathing, food colouring, genetic engineering, nuclear power, mugging, home accidents, ozone depletion, car driving, microwave ovens, AIDS, war, terrorism and alcoholic drinks) because they can all be fitted into a particular "psychological space". In other words, it is possible to categorise these risks according to two variables. The first concerns to what extent possible harmful effects are delayed and have catastrophic potential. And the second, whether the risk is imposed fairly or not: whether it is unavoidable or voluntary, whether victims are informed about the possible dangers to which they are exposed, and whether there are mechanisms in place to monitor their health and compensate them or their relatives if they become ill, or die (see ['Psychological space'](#)).

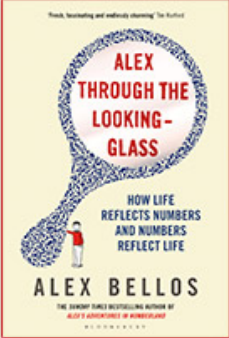
Previous studies suggest that the most acceptable risks are those deemed to be self-imposed or with immediate impact. This is exactly what we found. Microwave ovens, food colouring and alcohol were all seen as not particularly risky. "Catastrophic" themes such as war, genetic engineering, ozone loss and nuclear power, however, were rated as highly risky (see ['Perceived risk'](#)).

Sense of dread

We also found that people most fear risks that they perceive as unacceptable to society and harmful to the environment as a whole. The people in our study were particularly concerned about risks, such as ozone depletion, that they considered to be harmful to future generations. They also often used the term "dread" to describe risks that they considered involuntary, unfair or highly likely to kill or permanently injure people.

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Other studies have found that people are less concerned about a risk if they are well informed. So we were surprised when our respondents said that people are particularly afraid of risks of which they are well informed but still exposed to. Detailed follow-up interviews helped us to reconcile the findings. The participants in our study did demand more information because they said that knowledge gave them choice and more control over their exposure to risks. However, they also had an extraordinary lack of trust in official sources of information. A common view was that information is withheld deliberately and that when it is given out, this is done in a limited way and with a view to manipulating people rather than giving them control. The dramatic reduction in beef consumption in the weeks following March's BSE-CJD scare despite official assurances that it was safe to eat powerfully reflected this feeling.

So who do people turn to for reassurance under such circumstances? We came up with some interesting findings. Whatever the risk, they were more likely to trust the opinions of their nearest and dearest than the views of officials. Family and friends were seen as the most reliable sources of information, followed closely by environmental groups, which people see as independent of government and commercial biases. Doctors and scientists were also considered quite trustworthy, but trade unions, religious organisations, the media, companies and government all scored badly (see [`Who we trust'`](#)).

McDonald's was smart when it stopped using British beef in the weeks following the BSE-CJD scare. It could see that customers were influenced by their families and friends, not by government announcements or scientific assurances, and that it could win public trust by taking action to reduce the perceived risk. But organisations and officials hoping to ride the tide of public opinion should beware. In detailed interviews, we found that people are conscious that there is bias inherent in all sources of information, and that they interpret it according to the characteristics of the source.

World view

Another difficulty facing policy makers is that the general patterns of how people perceive and deal with risk reflect a complex set of individual world views and social reference points. In 1994, Richard Eiser, professor of psychology at the University of Exeter, coined the term "attitudinal certainties" to identify packages of beliefs that are reinforced by society to the extent that they become collective convictions. From time to time, he argued, disturbing or unexpected events lead to a rethink and new "certainties" emerge. This kind of study is part of culture theory, a branch of sociology which says that people's outlooks on all sorts of issues, including risk, are shaped by the society in which they live.

Using the framework of culture theory, people can be categorised into four groups: fatalists, individualists, hierarchists and egalitarians all of whom perceive risk in different but predictable ways (see [`Cultural dispositions'`](#)). Their various views of nature seem to play an important role in shaping these perceptions.

According to research done in the late 1980s by Wildavsky and former colleagues at the University of California at Berkeley, fatalists tend to see nature as a lottery, individualists as inherently resilient, hierarchists as essentially robust but vulnerable if abused, and egalitarians perceive it as very fragile.

In theory, we should have been able to predict the responses of individuals in our survey once we knew their particular cultural dispositions. In practice, the results were more complex. Although we found a general trend towards the four distinct patterns of risk perception, only 20 per cent of people fitted clearly into the categories of fatalist, individualist, hierarchist and egalitarian.

Having identified these "extreme" respondents using a series of specially designed agree/disagree statements such as "I have often been treated unfairly", we were, however, surprised at just how closely their perceptions of risk fitted our predictions. We invited small groups to discuss their views in detail and found a remarkable consistency of ideas expressed by people of the same cultural disposition and distinct differences between each of the four groups.

People with high "fatalist" scores tended to have a great sense of dread about a whole range of social and environmental threats, but felt powerless to influence society in any way.

Those with high "egalitarian" scores despised war, feared genetic engineering, wanted to save the ozone layer and scrap nuclear power. They also disliked authoritarian structures, distrusted expertise, and were strongly in favour of decision procedures which relied on participation by members of the public.

People with high "hierarchy" scores were most concerned about social issues such as mugging and terrorism and felt that environmental problems could be left to experts. They preferred the "soft law" of guidance, advice, education and training, so long as they perceived the risks as clear and fair. Otherwise they looked for tough regulatory measures.

The "individualists" were not much bothered about the environment and felt that issues such as nuclear power and ozone depletion had been blown right out of proportion. They thought that a system based on financial incentives and compensation could deal adequately with environmental and health risks.

Acceptable risk

Both individualists and hierarchyists were prepared to tolerate risks provided that they were dealt with in the ways that they deemed appropriate. But they joined the egalitarians in condemning risks where regulatory mechanisms and evaluative principles were not in place.

Egalitarians, hierarchyists and fatalists were all influenced by their perception about the degree of "unnaturalness" of a given risk. Hierarchyists, for example, despite their predisposition to trust experts, were worried about genetic engineering, microwaves and food colourings even though these technologies have been sanctioned by scientists. This reflects their opposition to "tampering" with the food chain or with the genetic make-up of living beings, especially of humans.

So, risk is a multidimensional concept. The statistical probability of harm as determined by an "expert" is but one element used by the public to evaluate potential dangers. Risk perception is a sophisticated, complex process which makes sense in relation to an individual's experience and view of the world. The public does not always know best but nor do scientists or politicians.

Additional reporting by Tim O'Riordan, Associate Director, Centre for Social and Economic Research on the Global Environment, University of East Anglia (CSERGE). Claire Marris was formerly a Senior Research Associate at the University's School of Environmental Sciences. She now works as a risk management consultant in Paris. Ian Langford is a senior research associate in CSERGE. The study was funded by the ESRC.

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