

How framing the covid numbers changes individual's risk perception

Policy makers should take into account risk perception pitfalls, reduce their susceptibility to biases and base their decisions on objective and rational risk considerations.



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In a classic experiment done almost 50 years ago, one of two groups of participants was told that they would receive a small electric shock, while the other group was told that there was a 50 per cent chance that they would receive the same shock. The anxiety the participants felt just before the shock was measured using physiological markers such as heart rate and sweating. The surprising result was that both groups were found to be equally stressed.

The probability of getting the electric shock was then reduced to 20 per cent, then 10 per cent, then to 5 per cent and so on. Again, there was no difference in the stress levels. However, when the participants were told that the magnitude of the expected shock would be increased, there was a uniform increase in the stress levels in both groups. This

experiment demonstrated that the probability of an event plays a very limited role in our psychological response to it. Known as “probability neglect”, evidence shows that we do not have an adequate intuitive grasp of the probabilities of uncertain events. Indeed, in the aforesaid experiment, the stress levels between the two groups diverged only when the chance of shock in the second group went down to zero.

Other research has shown that a 99 per cent versus a 1 per cent chance of contamination by toxic chemicals evokes similar degrees of fear. In a more recent experiment, people were willing to pay \$10 to avoid a 99 per cent chance of an unpleasant event (like an electric shock) and \$7 to avoid a 1 per cent chance of the same. This lack of an intuitive grasp of probabilities compromises our risk perception and can severely affect our ability to distinguish between different threat levels. People tend to focus on the badness or goodness of the outcome, and discard the probability of the outcome from their evaluations. This tendency is exacerbated when strong emotions are involved or when we are faced with novel and poorly understood circumstances. The [COVID-19 pandemic](#) strongly satisfies both these conditions.

There are still other psychological biases that can deeply influence our risk perceptions that can potentially lead to disastrous consequences. For example, we often judge the probability of an outcome by how easily we can recall specific instances of the same from our memory. This tendency, called the “availability heuristic” is related to the “saliency bias” in which outcomes or events which are salient and capture our attention (possibly due to their recent occurrence or due to constant media attention) are perceived to be more risky than they actually are. For example, immediately following a flood, demand for flood insurance goes up and then reverts back to its previous levels over time.

We also know from research on “framing effects” in behavioural economics, that the way risk is presented can influence our risk perception. For example, research in various contexts suggest that “100,000 people have contracted the virus in country X” vs “20 out of a million people have contracted the virus in country X” are likely to result in very different perceptions of the severity of the epidemic in country X. This is because people are easily influenced by the large absolute number in the first case, ignoring the size of the overall population. The second case makes this denominator salient and creates a different perspective.

Why is this important? Good decision-making is about making the right trade-offs between risks and rewards, pros and cons, and costs and benefits. An accurate assessment of both risks and benefits is critical to this process. Decisions can go horribly wrong if risks or rewards are over or underestimated. This is exemplified in the current COVID crisis where policy makers have to grapple with the trade-off between lives and livelihoods. How severe is the risk? The answer to this question is required to inform a whole host of decisions related to lockdown relaxations and the way forward. But the answer cannot be reliably found simply in the number of positive cases or the number of deaths independent of the Indian context. For a stuntman, who does dangerous stunts for a living, a virus with a less than 1 per cent fatality rate may not pose a great threat, but to someone else, it could be a different story. Since we did not really step into the COVID world from a riskless and

disease-free utopia, a quick reminder of the cause-wise distribution of death data in India may help us in thinking about the pandemic.

The latest estimates put the overall yearly death rate in India at 7.3 per 1,000 population (pre-corona virus era). With the population hovering around 1.37 billion, there are about 10 million (1 crore) deaths in India every year. Every year we lose 33 out of every 1,000 kids below 5 years of age. Only about 22 per cent of all deaths in India are medically certified. In other words, a vast majority of deaths do not have any cause assigned. [Coronavirus](#) is a communicable disease, the likes of which kills almost 18 lakh people in India every year. The number of yearly motor accident deaths is almost 300 times that of corona virus fatalities as of end April. Understandably, we have not seen the end of the pandemic, but the hope is that these comparisons will help put things in perspective as we move forward in our war against COVID-19.

The pandemic is no doubt scary, especially given our fears of the unknown. It was probably best to act on the side of caution and lock down the entire country. However, it is imperative that our policy makers become aware of the risk perception pitfalls, reduce their susceptibility to biases and base their decisions on objective and rational risk considerations. We must remember that for the poor there is a thin line between livelihood and life itself.

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