


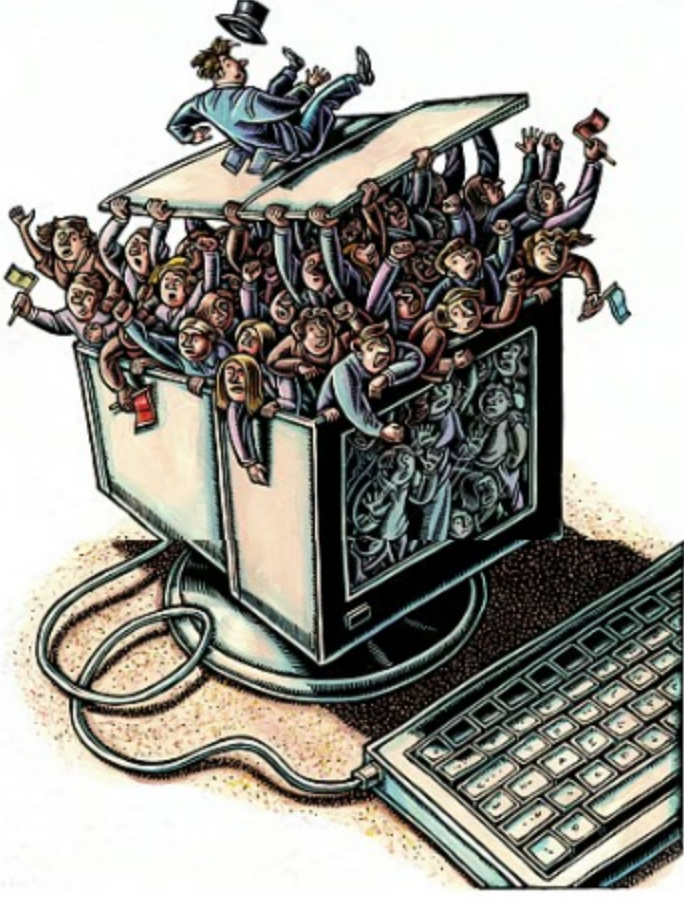
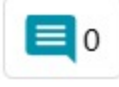
From Kumbh Mela to concerts: Crowd safety rules everyone must know

In reality, Dr Mehta says panic impedes the ability to act rationally in chaotic moments.

 **Barkha Kumari**

Last Updated : 04 November 2025, 18:37 IST

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Call it crowd crush, not stampede, experts advise. Credit: Special arrangement

Whether it is taking a holy dip or entering a concert ground, never hold crowds back from what they have set out to do. For Prof Ashish Verma of the Indian Institute of Science (IISc), Bengaluru, this is the first golden rule of crowd management. Leaving people stuck and uncertain builds up both psychological and physical pressure, which can trigger a crowd crush.

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Instead of allowing choke points to form, he suggests creating buffer or holding zones where people can be gathered in smaller, manageable batches. Add a layer of positive engagement there: play bhajans at spiritual events, or make announcements like ‘Your turn in 10 minutes’ or ‘Buses will run until 11 pm’. This technique, called priming, turns simmering restlessness into a psychological cushion.

Outside, the focus should be on localising and containing friction. One way is to create single-file, one-way routes using barricades or temporary railings. In contrast, leaving people in a wide, directionless space can spur confusion and then a ripple of panic.

Kumbh Mela study

Verma has authored more than 50 research papers on pedestrian and crowd dynamics.

In 2016, he led a study of the Kumbh Mela, one of the world’s largest spiritual gatherings. The aim was to develop crowd management guidelines and a model to predict the likelihood of stampedes. For over a month in Ujjain, his team worked on-site in 40°C heat to track the flow of pilgrims and understand their motivations. They gathered data using GoPro cameras, CCTV footage, wearable sensors, drones, and on-ground surveys. The fieldwork, he explains, is crucial; not optional. Models to predict crowd risk, built on lab simulations, tend to flatten the chaos and complexity of real human behaviour. A fire drill in a closed room might show how people exit, but not why they gather, how fast they surge, or what instincts take over when danger strikes. “We have argued this in our papers,” he says.

Yet, lab studies dominate the field because on-ground research gets tangled in layers of security and red tape.

Cultural context vital

Verma notes that crowd management in India is currently handled by the police. And they rely on a kinetic force approach, treating it as a matter of numbers rather than a behavioural system. In Germany, for example, people are sensitive about their personal space even in dense crowds. In India, close physical contact, like someone brushing against your shoulder, is far more acceptable. Spacing strategies, thus, need to be tailored to the cultural context.

Then there’s motivation. From the Ujjain experiment, his team observed that pilgrims walked longer distances and moved faster even as the crowd thickened around them. The drive for “spiritual gains” fuels their stride.

Another striking pattern was serpentine behaviour. Groups travelling together often displayed competitive tendencies to overtake the crowd. They moved forward in snake-like chains, linking hands or resting them on each other’s shoulders, because moving in circles or parabolas was impossible amid the pressing sea of people. Verma notes that as these chains slice through the crowd, even minor brushes and bumps can set off waves of pushing.

Bring on the SOP

Verma argues that crowd management needs evidence-based Standard Operating Procedures (SOPs). Crowd dynamics are complex systems, but not inherently unpredictable. Yet, India has neither recognised it as a scientific discipline nor established academic training to groom experts. And the needle hasn’t yet moved on the recommendations his team sent to top authorities following the Kumbh Mela study.

But he says India needs SOPs more than ever. From pilgrimages to concerts and political rallies, we have entered an era of overpublicity and are flaunting the huge numbers they draw. Ancient holy cities such as Varanasi, with their narrow alleys, were never built to handle today’s influx of tourists. Designing crowd safety protocols here means navigating the constraints of its historic built environment. Proactive planning holds the key to crowd safety, he emphasises.

Call it crowd crush

According to Verma, there’s a growing push in the research community to replace the word stampede with crowd crush. Stampede refers to a herd of animals suddenly running in one direction out of fear or excitement, “an action that begins from within”. In contrast, crowd crushes result from “turbulence on the ground”.

Crowd behaviour expert Prof Edwin Galea weighed in on the use of stampede in a Guardian report on the 2022 Seoul Halloween tragedy, where a crowd surge killed more than 150 people. “... it apportions blame to the victims for behaving in an irrational, self-destructive, unthinking and uncaring manner,” he said. In reality, he noted, the failures lie with the authorities, in their poor planning, lack of control, and weak policing.

The pulmonologist’s perspective

1. What’s at risk?

Dr Ravindra Mehta points out that the lungs and heart are unforgiving organs. In a crush, if someone falls and is trampled, “the lungs can give way within minutes.” This isn’t a normal emergency where help can reach quickly, he reminds. Dr Sachin Kumar adds that damage to vital organs sharply reduces the chance of survival. “The only silver lining is when someone is suffocating but otherwise uninjured. In those cases, prompt CPR or oxygen can be lifesaving,” he says.

2. What about survival hacks?

Dr Kumar says during a crush, raise your head or turn sideways to find air pockets and keep breathing. Look for an exit that leads outward, steering clear of moving deeper into the crowd’s epicentre. Stay on your feet if possible. If you fall, curl into a foetal position with arms over your chest and head tucked in to protect vital organs. Bystanders can help by clearing airways or administering CPR. Organisers, he adds, should run survival drills or screen them on-site.

3. Read the mood. Always!

In reality, Dr Mehta says panic impedes the ability to act rationally in chaotic moments. However, if people remain collectively calm, lives can be saved. His counsel is simple: read the crowd’s mood, and leave the moment something feels off.

The internet has some general crowd safety tips from event organisers. Wear bright clothes to stay visible, avoid flowy outfits or loose jewellery that can snag, tie your laces tight, carry water, avoid standing near barricades, and stand on firm ground. And if the crowd moves, go with the flow and match its pace.