

Earthquake risk perception: A picture is worth a thousand stats

December 2 2019, by Erik Rolfsen



An image of a Vancouver elementary school (top), and an artist's rendering of what the same school would look like after a major earthquake. Credit: UBC Media Relations

Realistic images can be more effective than statistical data for persuading people to take action in support of seismic upgrades to schools, new University of British Columbia research suggests.

Seismic engineers and psychologists from UBC teamed up with a visual artist to create an image showing what a Vancouver [elementary school](#) would look like after a [major earthquake](#). Then, the researchers used two groups of study participants to test the effectiveness of imagery versus statistics in conveying the risk posed by earthquakes. They presented their findings, recently published in the journal *Collabra: Psychology*, on Friday at the Behavioural Insights in Canada conference in Vancouver.

When presented with the opportunity to sign a petition in support of accelerating seismic upgrading of local schools, people who had seen the image were more likely to sign. They signed up at a rate of 77.3 per cent, compared to just 68 per cent of the group who saw only statistics.

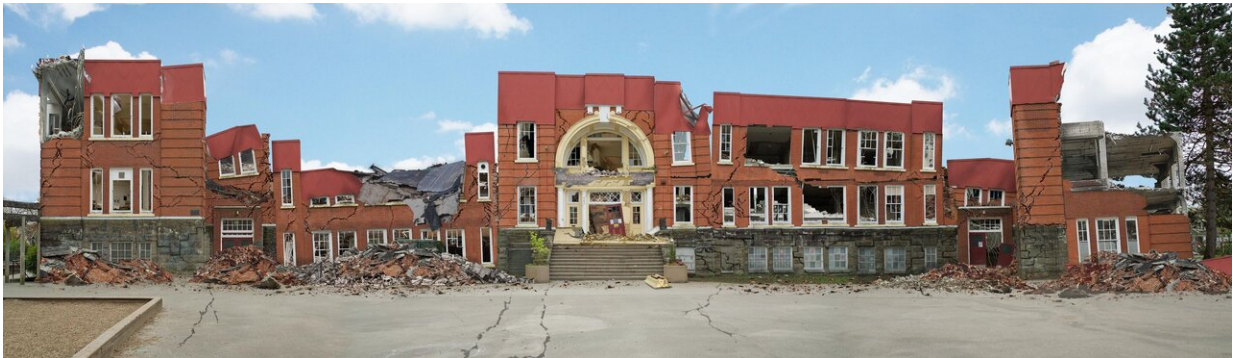
"Using vivid images to convey [scientific information](#) can motivate the public to take action," said Iris Lok, a UBC Ph.D. student in social psychology and the study's lead author. "If we want people to take the risk seriously, it may be valuable to show them what familiar public buildings—or even their own homes—might look like after a major earthquake. We see this approach as a valuable part of a broader strategy for motivating people to prepare for earthquakes."



An image of a Vancouver elementary school that was modified for the study.
Credit: UBC Media Relations

Vancouver, where the study was conducted, sits near the Cascadia Subduction Zone where the Juan de Fuca tectonic plate and the North American plate meet. The region is vulnerable to a megathrust earthquake.

The researchers selected a high-risk [school](#) in Vancouver that had yet to receive seismic upgrades, and obtained information about the school. Using this information, the team's engineers envisioned what would happen to the school during a major earthquake. The artist brought their vision to life by creating a vivid representation of what the school would look like, based on the best available science.



An artist's rendering of what the same school would look like after a major earthquake. Credit: UBC Media Relations

The experiment aimed to see whether people would be more motivated to take action after seeing this vivid image compared to the statistics typically provided by government.

The researchers also surveyed participants about their own intentions to prepare for an earthquake, and their support for city-level risk-mitigation initiatives. While the image did prompt increased endorsement of the petition, it had little effect on people's self-reported intention to prepare for an [earthquake](#) or to support city initiatives.

"People often make decisions about risks by relying primarily on their gut feelings. This study suggests that people might be more likely to care about earthquakes if dry, abstract information were translated into vivid imagery that would affect people on a more emotional level," Lok said.

More information: Iris Lok et al, Can We Apply the Psychology of Risk Perception to Increase Earthquake Preparation?, *Collabra: Psychology* (2019). [DOI: 10.1525/collabra.238](https://doi.org/10.1525/collabra.238)

Provided by University of British Columbia

Citation: Earthquake risk perception: A picture is worth a thousand stats (2019, December 2) retrieved 15 May 2024 from <https://medicalxpress.com/news/2019-12-earthquake-perception-picture-worth-thousand.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--