



Press Release

Risk Perception: Social Exchange Can Amplify Subjective Fears

"Pass the message" experiment investigates how people perceive and communicate the risks of a widely used chemical

The world is a risky place. But our subjective fears and anxieties are often at odds with the evidence. New findings by scientists at the Max Planck Institute for Human Development and the University of Constance show that subjective fears about potential risks may be amplified in social exchange. Their findings have now been published in the journal *Proceedings of the National Academy of Sciences of the USA* (PNAS).

In our information society, information about risks such as Ebola and measles can spread like wildfire – be it through traditional and social media or through direct person-to-person contact. In many cases, social exchanges detailing risks are not objective and unemotional, but carry subjective perceptions of risk. What happens when these messages are transmitted from one person to another? How is this information communicated and what influence does it have on other people's assessment of potentially risky situations?

To answer these questions, scientists at the Max Planck Institute for Human Development and the University of Constance studied 10-person communication chains in the laboratory. In an experiment based on a "pass the message" game, they examined how risk information is transmitted from one person to the next, and how this process influences risk perception. The results show not only that information is often gradually lost or distorted, but that new information can be spontaneously created. "The participants' messages became shorter, less accurate, and increasingly dissimilar," says Mehdi Moussaïd, lead author of the study and researcher at the Max Planck Institute for Human Development in Berlin.

In the laboratory experiment, the first participant in a communication chain read a collection of six media articles on the benefits and harms of triclosan, an antibacterial agent contained in many everyday products, such as toothpaste and cosmetics. The articles presented alternative views, from objective scientific evaluations of the potential risk to very personal opinions. The first participant was then asked to communicate this information to a second participant, who in turn communicated it to a third participant, and so on. Finally, all participants completed questionnaires assessing their perception of the risks surrounding triclosan.

The authors of the study found that participants' preconceptions affected the information transmitted, and in turn influenced the perceptions of those receiving the information. The subjective view of the communicator was thus amplified. "People tend to single out the information that fits their preconceptions, and communicates primarily that information to the next person," says Henry Brighton, co-author of the study and researcher at the Max Planck Institute for Human Development. This can lead to preconceptions being reinforced, so that the original message eventually has a negligible impact on the receiver's judgments, and leads to an increasingly alarmist perception of potential risks.



The results of this study provide insights into the public response to risk and the formation of often unnecessary fears and anxieties. The researchers emphasize the socio-political importance of the realistic assessment of potential dangers. To combat the social amplification of risk, they call for the open, transparent communication of scientific evidence. "Without scaremongering, but also without giving people a false sense of security or an illusion of certainty," says co-author Wolfgang Gaissmaier, Professor of Social Psychology and Decision Sciences at the University of Constance.

Original Publication

Moussaïd, M., Brighton, H., & Gaissmaier, W. (2015). The amplification of risk in experimental diffusion chains. *Proceedings of the National Academy of Sciences of the USA*.
[doi: 10.1073/pnas.1421883112](https://doi.org/10.1073/pnas.1421883112)

Max Planck Institute for Human Development

The Max Planck Institute for Human Development in Berlin was founded in 1963. It is an interdisciplinary research institution dedicated to the study of human development and education. The Institute belongs to the Max Planck Society for the Advancement of Science, one of the leading organizations for basic research in Europe.

Contact:

Max Planck Institute for Human
Development
Public Relations Department
Kerstin Skork
Phone: 030-82406-211
E-Mail: skork@mpib-berlin.mpg.de

Further Information:

www.mpib-berlin.mpg.de
www.mpg.de

Nicole Siller
Phone: 030-82406-284
E-Mail: siller@mpib-berlin.mpg.de