

---

# Risk Communication

Instructor: Yasmina Okan  
E-mail: yasmina.okan@upf.edu

---

## Course description

Management and communication of health, financial, environmental and other risks is critical for both public and private sector organizations. Ineffective risk communication can have detrimental consequences for organizations and for the public, including the generation of confusion, negative health or environmental impacts, and reputational damage. Effective risk communication can help to avoid unintended outcomes and support informed decision making. Yet, public risk perceptions are shaped by different factors, including cognitive and emotional biases. It is difficult to communicate risk information effectively without a good understanding of how the public perceive risks and of the impact of different risk communication formats.

This course aims to provide students with an in-depth understanding of the different factors that shape public risk perceptions, including individual, social, and cultural factors. The course also aims to help students understand the impact of different risk communication strategies on public risk perceptions and decision making, as well as to equip students with the necessary skills to design effective risk communications that can reach diverse audiences.

## ECTS Credits

4 ECTS Credits

## Specific competences

On successful completion of the course, students will be able to...

- Understand how the public makes judgments of risk and how risk perceptions affect decision making
- Identify different individual, social, and cultural factors affecting public risk perceptions
- Understand existing evidence on the effectiveness of different formats to support understanding of quantitative risk information
- Critically evaluate risk communications in different contexts and identify potential issues
- Apply knowledge on evidence-based principles of effective risk communication to design better communications

- Apply methods for evaluating the effectiveness of risk communication efforts
- Critically assess scientific articles in the field of risk perception and communication

## Learning outcomes

On successful completion of the course, students...

- › Will have an understanding of the different psychological, social, and cultural factors affecting public risk perceptions and associated decisions
- › Will have knowledge of the existing evidence on the effectiveness of different formats for communicating quantitative risk
- › Will be able to critically evaluate risk communication efforts in different contexts and identify potential issues
- › Will be ready to identify effective risk communication strategies, develop a risk communication plan, and evaluate its effectiveness

## Content

Indicative content:

- Psychology of risk perception
- Heuristics and biases in processing risk information
- Individual differences in risk perception
- Social and cultural factors affecting risk perception
- Verbal, numerical and graphical formats for the communication of quantitative risk
- Principles of effective risk communication design
- Methods for the development and evaluation of risk communications
- Using nudge interventions to reduce risks

## Method of presentation

The course will combine different teaching methodologies, including lectures, case studies, readings, debates, class discussion, and presentations.

## Course assessment

Assessment of this course consists of three different elements:

- Attendance and participation in sessions (20%): Students are expected to participate in different activities in class, including discussions of concepts explained and their applications, discussions of course readings, and providing feedback to other students

- Class assignments (30%): Students will be given assignments for some sessions (individually or in small groups) to help them consolidate their knowledge and prepare for the final assignment. Class assignments might include short written activities, quizzes, or preparing brief presentations
- Final assignment (50%): Students will need to write an assignment and present it orally in class (individually or in small groups). The assignment will involve focusing on a specific risk communication challenge, analysing factors affecting risk perception in this context and developing a detailed risk communication plan, including sample communication materials

## Course schedule

3<sup>rd</sup> term. Tuesdays 14.00 – 17.00

## Suggested readings\*

Budescu, D.V., Broomell, S., & Por, H.H. (2009). Improving communication of uncertainty in the reports of the Intergovernmental Panel on Climate Change, *Psychological Science*, 20, 299-308. doi: 10.1111/j.1467-9280.2009.02284.x

Cho H., Reimer T., & McComas K.A. (2014). *The Sage handbook of risk communication*. Thousand Oaks, CA: SAGE Publications.

Fischhoff, B., Brewer, N. T., & Downs, J. S. (2011). *Communicating risks and benefits: An evidence-based user's guide*. New Hampshire, MD: U.S. Department of Health and Human Services, Food and Drug Administration.

Gigerenzer, G. (2004). Dread risk, September 11, and fatal traffic accidents. *Psychological Science*, 15, 286-287. doi: 10.1111/j.0956-7976.2004.00668.x

Gigerenzer, G., & Edwards, A. (2003). Simple tools for understanding risks: From innumeracy to insight. *British Medical Journal*, 327, 741–744. doi: 10.1136/bmj.327.7417.741

Johnson, E.J., & Goldstein, D. (2003). Do defaults save lives? *Science*, 302, 1338-1339. doi: 10.1126/science.1091721

Lipkus, I. M. (2007). Numeric, verbal, and visual formats of conveying health risks: Suggested best practices and future recommendations. *Medical Decision Making*, 27, 696–713. doi: 10.1177/0272989X07307271

Maule, A. J. (2008) Risk communication and organizations. In G. P. Hodgkinson & W. H. Starbuck (Eds.) *The Oxford handbook of organizational decision making*. Oxford: Oxford University Press.

McComas, K. (2006) Defining moments in risk communication research: 1996–2005.

*Journal of Health Communication*, 11, 75–91.

Morgan, M. G., Fischhoff, B., Bostrom, A., & Atman, C. (2001). *Risk communication: A mental models approach*. New York: Cambridge University Press

Slovic et al. (2004). Risk as analysis and risk as feelings: Some thoughts about affect, reason, risk, and rationality, *Risk Analysis*, 24, 311–322. doi: 10.1111/j.0272-4332.2004.00433.x

Spiegelhalter, D., Person, M., & Short, I. (2011). Visualizing uncertainty about the future. *Science*, 333, 1393–1400. doi:10.1126/science.1191181

Tversky A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124-1131.

Waters, E. A., Fagerlin, A., & Zikmund-Fisher, B. J. (2016). Overcoming the many pitfalls of communicating risk. In M. A. Diefenbach, S. Miller-Halegoua, & D. Bowen (Eds.), *Handbook of health decision science* (pp. 265–277). New York, NY: Springer.

\* Other required reading materials will be provided throughout the course.