Conclusions of the first European Conference on Risk Perception, Behaviour, Management and Response

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BEHAVIOUR, MANAGEMENT AND RESPONSE

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The European conference in March 2019 in Paris and Cergy, France, has gathered 46 researchers, experts and practitioners from 15 different countries (Algeria, Austria, Belgium, Czech Republic, France, Germany, Hungary, Italy, Netherlands, Poland, Romania, Spain, Sweden, Switzerland, United Kingdom) and 4 international organisations (European Union, OECD, UNESCO, United Nations University) for 7 panels, 3 workshops and a concluding boat-trip on the River Seine. The panels crossed disciplines (complexity science, economics, engineering, geography, history, life science, psychology, sociology, among others), including fields from all the Disaster Risk Reduction cycle phases (from early warning to insurance through perception, vulnerability, behaviour, management, resilience, etc.), and using diverse case studies to build a panoramic European view of the on-going research and practice. The workshops deepened debates and brought out the critical issues, further research needs, emerging themes to consider, and resulted in recommendations. The boat-trip was an opportunity to continue the exchanges in a sociable atmosphere that enabled an exchange of views on waterways with the local practitioners, insurers and hear UNESCO's perspective on Paris and the Seine.

Decision-making during a major crisis or disaster is difficult even for experts or experienced decision-makers and leaders, even more so for laymen and normal citizens. Disasters are characterised by their unusual and extreme appearance, often coming as a shock or surprise effect, overwhelming resources and previous experiences. The actual behaviour of individuals and government entities before, during, and immediately after a disaster can dramatically affect the impact, vulnerability, recovery time and resilience. Despite decades of research on disaster risk and perception, studies on actual damages and responses after disasters, and even decision-making tools, mainly for decision-makers and risk management, predicting the actual behaviour of normal citizens is still a major challenge. Whilst recent studies have found that exposure and socioeconomic characteristics alone are not sufficient to explain the outcomes of disasters, social vulnerability, evacuation behaviour, coping strategies, recovery time, public involvement, management achievements, as well as resilience, existing risk-assessment methods rarely include risk perception and behaviour. Those critical factors are too often overlooked because linking risk perception and actual behaviour remains a major challenge, as is disentangling the connections of risk perception with the underlying demographic, social environment and place of residence backgrounds. And existing big data analyses are still immature in understanding this major knowledge gap between risk perception and response behaviour. Uncertainty derives from lack of information, lack of trust, alternatives, previous experience, but also segregation, oppression, etc. Innovations in risk, vulnerability, recovery and resilience assessments that integrate perception, segregation and behavioural adaptation dynamics may lead to more accurate characterisation of risks and improved evaluation of the effectiveness of risk communication, management strategies and investments. Improved decision-making in uncertainty conditions, especially in extreme crisis situations, may help citizens to better decide about whether to stay or evacuate, while innovations in the prediction of actual behaviour, mapping of evacuation needs and risks might improve risk communication, insurance and management, and this helps to save lives.

Taking risks is a matter of risk perception, which differs between individuals and between groups. Risk perception is an inter- and transdisciplinary field where many different strands of risk analysis, risk management, governance, risk communications etc. converge and touch base with the joint denominator between expert and laymen knowledge and behaviour. Evacuation planning and exercise, social vulnerability and resilience, residential segregation, civil protection, psychology, the insurance industry, legal and institutional background, socio-demographics, land use and places, risk communication, emergency management, public involvement, decision making, basic research on fear factors, discrimination and human behaviour must be thought together. Such multidisciplinary approaches and comparative surveys can inform decision making under uncertainty, risk and emergency management, as well as policy development. Due to the many activities from different experts, researchers and stakeholders at the conference, a broad overview was provided and participants had the option to explore different challenges, but also solutions from very many different angles and perspectives.

Critical Issues

Quotes from the participants

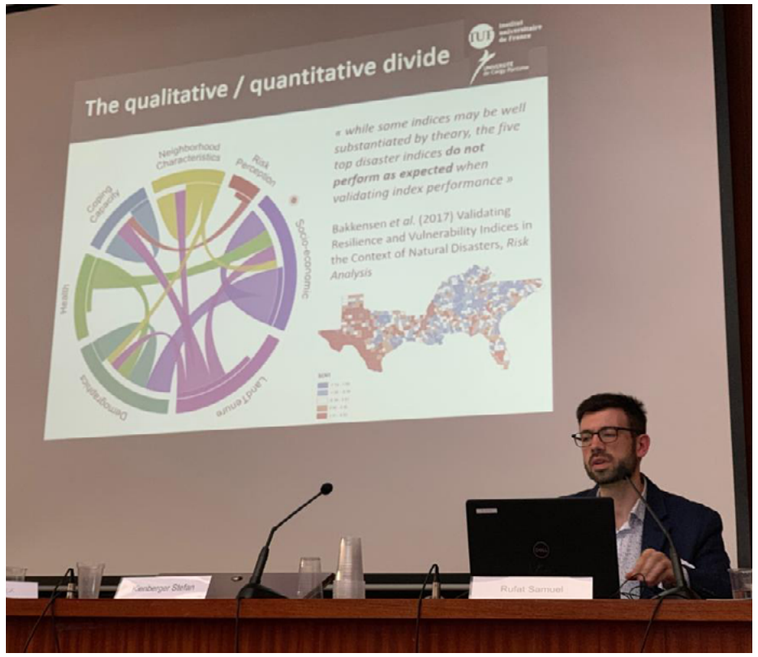
Context matters, context bounds habits, context shapes the local power, constraints and opportunities. Research results in risk perception and behaviour, management and response during the last decades are very often case study specific, and still related to economic, administrative and institutional power.

People matter, and we researchers and policy advisors should listen to them more.

"Knowing better and losing even more" (2001): Gilbert F. White might have left us in 2006, but the many challenges of the use of knowledge in hazards management remain unsolved.

Some unresolved questions and previous gaps still have to be addressed: better addressing local demands, better matching qualitative and quantitative methods, identifying joint theoretical frames, and determining comparative indicators or criteria that can be used to better coordinate future studies.

There is currently a shift in attribution of responsibility for risk reduction from the states to the individual. The perspectives are different from one country to another, but there is a very fine line between empowering the citizenship to take ownership of risk reduction measures and neglecting responsibilities.



Effective promoting risk-perception knowledge across citizens and decision makers is still a challenge, especially at the local level: how can our research impact people's behaviour, the decision-making process, and tangible action?

There is a fine line between feeling responsible and being made responsible.

Whilst there is a growing body of research on risk perception and response, it is both harder and rarer to link them to actual behaviour. The "behavioural turn" isn't completely new: Europe has to catch up on the other side of the Atlantic.

The ambition to bridge the gap between knowing and acting about risks is in fact relying on three underlying assumptions: individuals can actually reduce impacts, they are motivated to do it, they have the resources to do it.

There is a balance to be found between an individual perspective to capture risk perception, and their aggregation or a group perspective, to capture relations of power and response behaviour. Whilst individuals can do quite a lot in terms of impact reduction, motivation to take adaptive action, and individual capacity and resources as contributions to public activities, they do not always have the knowledge, resources or power to do so. It is important to identify not just perception of individuals, but also from groups and institutions, and their impacts on decisions, behaviour and response.

Bridging the gap between knowledge-making and decision-making is still a major challenge. Lots of information, tools, studies and knowledge are available, but only partially applied in decision-making and practice: how to leverage the impressive body of knowledge at the policy level?

Issues of risk perception were addressed differently from one case study to another: one of the main challenges is to find a way to make these different approaches converge.

Despite many years of DRR research, it is still challenging to characterize, map and reach vulnerable groups. Mapping and indicators do not completely capture intersectionality (age, gender, class, disability or exclusion do not exist separately but are woven together). Very little is still known about groups that require special assistance in case of evacuation, their current location, specific vulnerabilities, actual needs, etc.

Ethics of research on different groups: we should systematically ask for their consent, especially for more vulnerable groups (migrants, homeless, etc.) and be prepared to face dissent and event refusal.

The role of power behind the scene is often underestimated, power or institutional vulnerability or resilience; being knowledgeable about it can support the uptake of research in decision-making.

As with the "climate paradox", high awareness does not always lead to high responsibility or action.

Let us repeat this important conference! And let us form an expert group dealing long-term with risk perception and behaviour across Europe. We could call the group: «First Mile with meters»

Whilst perceived risk (and misperceptions) matter more than objective measures of risk for behaviour and response, increasing inequalities between groups and the differentiated impacts of disasters on these quite heterogeneous groups remain critical issues beyond individual perceptions and actions.

People seem often to value their possessions more than their safety, or perhaps they misjudge the hazards. There are deep unconscious attachments to possessions that go beyond their monetary, replacement or insured value.

It is important to unravel not just information gaps but also hidden conflicts, and decision-maker silos.

The issue of disaster risk creation is often overlooked, considering disasters from a point of mal-development.

Resilience and response are linked to the population capacities and resources at individual but especially at collective and institutional level.

Risk perception studies have shown the coexistence of multiple valid yet contradictory evidences: it is therefore currently very difficult to boil down a clear-cut message.

Systemic approaches of these interlinked issues is more than ever indispensable, it is still very challenging to operationalise complex theories however.

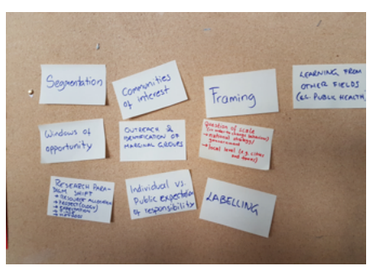
Research needs

- It is critically important to define the minimal requirements to compare studies and surveys from one case study to another, a selection of questions to implement in each questionnaire might even be instrumental to move from comparative studies to cumulative knowledge.
- Risk perception and behaviour are usually studied during or after major events, and in specific case studies, there is an urgent need of a common baseline, and Europe wide comparisons to disentangle the general invariants from the effects of specific events, and the variations from one context to another across Europe and beyond.
- Building bridges between research, decision makers and public administration, and facilitating communication between policymakers and researchers should remain a priority.
- It is important to keep on going reconsidering silos, closing gaps and addressing unresolved issues.
- Bottom-up, people-centred and participatory processes are needed to ensure inclusive decision-making, while ensuring that the collection, analyses and modelling of data is done in a transparent and ethical way to avoid unauthorised dissemination of personal information, inequality and irresponsible behaviour.
- Crossing disciplinary boundaries is needed to operatively integrate risk assessment with risk perception: combining technical sciences, experimental studies and social sciences have the potential to unlock novel solutions for risk management

- Improving classic spatial representations of risk (maps of exposure, vulnerability and hazard) by identifying and understanding communities of interest and engagement is important, as their perceptions of risk and triggers or behaviour barriers might be more differentiated.
- The role of power behind the scene is often underestimated, being knowledgeable about it can support the uptake of research in decision making.
- Moving toward scenario-based questions for surveys (e.g. “In the case your house got damaged by a flooding, can you expect help of any kind from neighbors, family, groups?”) rather than usual proxies such as number of associations, social cohesion or social capital might help filling such concepts and their actual impacts with evidence-based significance.
- The main pitfall so far is the singularity of individual studies and the lack of comparability and transferability. The conference has highlighted the need for more convergent and cooperative work across disciplines and countries in Europe and beyond.
- More systematic and more recurrent assessments and analysis of risk perception on different levels (policy makers, researchers, communities and educators), even some longitudinal studies whenever possible, hence more coordination between the different studies is needed to move beyond a collection of case studies.
- More spaces and more recurrent platforms would be crucial to ensure a better coordination between researchers and studies while also facilitating partnerships with decision makers at all levels.

Recommendations

- Focusing not just on major disasters and events: measuring social welfare disruptions by small events could reveal new cross-disciplinary insights bridging daily needs and disaster needs.
- Avoiding to develop new indicators without a deep understanding of what they are representing and measuring, avoid using models and indictors before comprehensive empirical validation.
- Building a baseline for risk perception, adaptation behaviour and social vulnerability across Europe, fostering comparative studies across disciplines and scales, and long-term monitoring.
- More widely considering social aspects and power issues in Disaster Risk Reduction and Climate Change Adaptation, disaggregating population groups and social vulnerabilities in research, but also to better target decision-making processes.
- Moving beyond identifying geographical clusters and into identifying “communities of interest and engagement”.
- Educating scientists to better communicate with decision makers. Research results need to be better integrated in operational risk management. Policy relevant research requires careful studying of practitioners’ needs and demands across scales.
- Critically studying uncertainty and use of uncertainty language.
- Framing risk information without fear or angst appeal. A positive approach is to focus on response behaviour and community resilience. To make a difference, the communication and promotion of scientific results are as important as the surveys themselves.
- Fostering experimental work, differentiated risk messages based on population segmentation, empowerment rather than fear, communicating more than bad news (e.g. “the nice weather alerts”).
- Focusing more on local knowledge and collective knowledge construction, and moving towards collaborative action, as is already used in emergency management. Local knowledge and collaborative practices are very important and need to be better reflected in scientific efforts and decision-making processes.



- Promoting the risk perception knowledge quadrangle between higher education, research, policy-makers and communities. Jointly educating people, researchers, teachers, policy makers, decision-makers in risk interpretation and action. Strengthening the current efforts to debate with public administration and decision sphere in general.

- Moving beyond analytic and descriptive identification of risk, onto a propositional phase providing decision-makers not only with knowledge of the problem but with solution options. Acknowledging the close links between risk perception, risk communication and behavioural lobby the topic of risk perception and behaviour in the development agendas.

- Promoting the risk perception approach in development and planning to reduce the existing risk and avoid the creation of new risk. Developing tangible action to lobby the topic of risk perception and behaviour in the development agendas.

- Moving from comparative studies to cumulative knowledge, fostering transnational exchanges, multi-disciplinary approaches and multi-scale comparisons of risk perception and adaptation behaviour.

- Publishing a common list of minimal requirements to compare studies and surveys and build cumulative knowledge, and a selection of survey questions allowing for comparability and long-term monitoring. In parallel, criteria to address context-specific aspects of countries and regions need also to be developed.

- Reiterating such an European conference or at least a recurrent meeting on an annual or bi-annual basis to improve coordination and the opportunities to establish partnerships at all decision levels across Europe.

- Submitting a “First Mile” COST Action on risk perception research and its practical applications to foster more European level collaborations and connexions across disciplines and partnerships with decision-makers. The future outcome will be risk perception as a field with a unified metric and maybe later on, theoretical background and the impact could be better understanding and uptake of risk by people, decision makers and researchers leading to better handling of risks.

Emerging themes to consider

- *Cross-border collaboration, partly due to efforts in implementing the EU Floods Directive.*

- *How do we best deal with and communicate uncertainty and ambiguity?*

- *There is a great deal of method development and successful risk communication approaches from disciplines such as social psychology and public health: it is the moment to reach out of the usual disciplines and body of knowledge.*

- *Social and technological changes are currently arousing great expectations, we need to bridge new technologies and current demands with a critical and cautious perspective: social media, big data, artificial intelligence, etc.*

- *The role of power and control at different governance levels, and also the power issues behind decision-making processes in disaster, hazard and emergency management.*

The “last mile” approach is bridging the gap between a long process of risk information and monitoring and the people who are at risk. Renaming it “first mile” turns the chain logic around and emphasises addressing it from the viewpoint of the affected people. Adding “with meters” expresses the ambition of fine-graining this approach but also the transition between expert risk knowledge produced and people who are at risk and have to take risk decisions; hazard-exposed people as well as those having to take a risk or major decision.

Wednesday 13 March 2019

Disaster studies at 50, time to wear bifocals? Ben Wisner

Paradigm Shifts and Challenges: Juergen Weichselgartner, Carl C. Anderson, Silvia Torresan, Markus Leitner, Elisabet Roca

Risk Perception, Preparedness, Warning and Evacuation: Stefan Schneiderbauer, Piotr Matczak, Piotr Jabkowski, Piotr Cichocki, Zoltan Ferencz, Jair Torres

Risk Perception, Insurance and Housing: Stefan Kienberger, Edwige Dubos-Paillard, Katrin Millock, Samuel Rufat

Open discussion: cross-cutting insights

Thursday 14 March 2019

Risk Management, Neglected Groups and Social Vulnerability: Thomas Thaler, María del Mar Moure Peña, Timothy Prior, Marc Daniel Heintz

Risk Management and Institutions, Decision Making: Simon McCarthy, Sven Fuchs, Nathalie Schopp, Alexander Fekete, Martin Dolejš

Risk Communication, Risk Culture and Public Involvement: Marion Amalric, Élise Beck, Victor Santoni, Iuliana Armaş, Elpida Chlimintza

Learning From Experience: Jantsje Mol, Djillali Benouar, Radu Ionescu, Christian Kuhlicke

Open discussion: fostering comparative studies across disciplines and scales, and long-term monitoring

Friday 15 March 2019

"First Mile with Meters" – Building a European consortium on risk perception and management

Connecting researchers, surveys and research projects across disciplines in Europe From knowledge to implementation: power, authority and trust

Feedback on the 2016 and 2018 Seine floods: Cédric Herment

Biases affecting the insured's perception, short and long term perspective: Roland Nussbaum

UNESCO's global actions for Disaster Risk Reduction: Jair Torres

Rufat S., Fekete A., 2019. Conclusions of the first European Conference on Risk Perception, Behaviour, Management and Response. University of Cergy-Pontoise, Paris, France.
Based on the takeover sentences from participants, reports from Victor Santoni and María del Mar Moure Peña, and Markus Leitner's write-up «Research and policy advisors share thoughts on flood risk at Paris conference» .
Pictures: Samuel Rufat and Alexander Fekete. Poster, graphics and design: Laure Cazeaux and Victor Santoni. March 2019.