



Knowledge FOR Resilient soCiEty

**LECTURE (Teaching SMS)
University of Tirana**

INDIVIDUAL DIFFERENCES IN RISK PERCEPTION

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Outline of presentation

Risk Perception

➤ Risk Perception Paradigms

- Psychometric Paradigm***
- The Social Amplification of Risk Framework (SARF)***
- Cultural Paradigm***

➤ Heuristics and Biases in Risk Judgements- Environmental risk

➤ Emotions influence Risk Perceptions

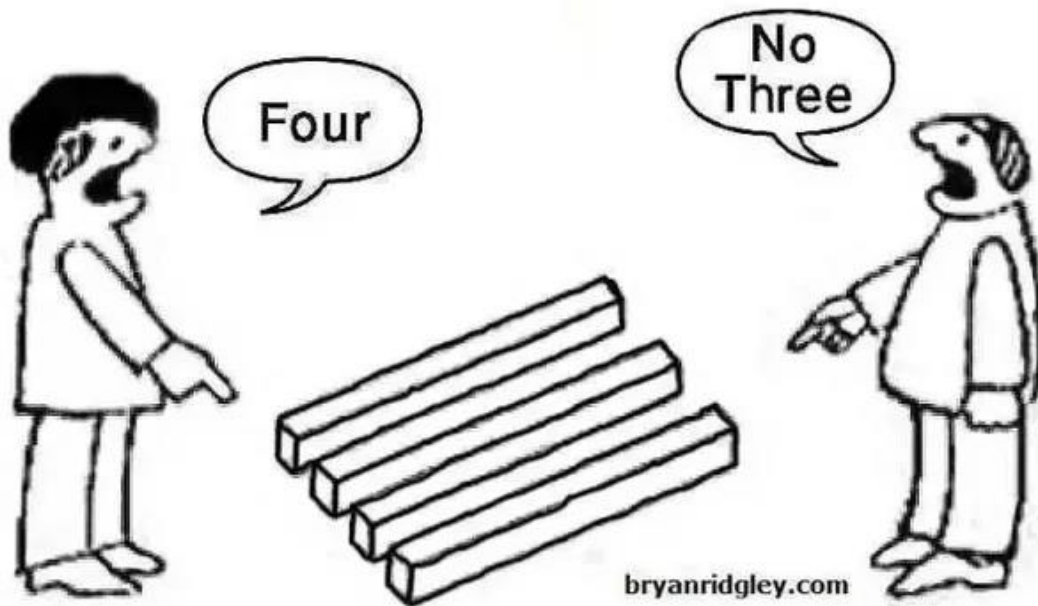
➤ Sociodemographic differences in risk perception- Disaster Risk

Case study : The Socio-economic and cultural context of information, communication, preparation and attitude towards natural hazards in Albania



Risk perception

Reality can be so complex that equally valid observations from differing perspectives can appear to be contradictory.



- inherently psychological construct
- influenced by internal factors that often appear to be quite discrepant from objective evidence of actual risk
- “Risk is perceived differently by different people”.
- consequences of these **nonobjective and distorted risk perception**
- panic and widespread fear of quite unrealistic threats



Psychometric paradigm

- Individual cognitive characteristics that quantify and predict risk
- “How Safe is Safe Enough?,” Fischhoff, Slovic, Liechtenstein, Read, and Combs- 1978
- Why different technologies and activities might inspire such different risk reactions?
- Risk can vary across many characteristics

DREAD RISK and **UNKNOWN RISK**.



Dread Risk and Unknown Risk

Factor analysis for psychometric tool

UNKNOWN RISK
Not observable
Unknown to those exposed
Effect delayed
New risk or hazard
Risk unknown to science

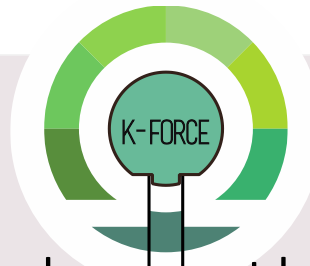
NO DREAD
Controllable
Not catastrophic
Not fatal
Equitable
Low risk to future
Risk decreasing
Voluntary

DREAD
Uncontrollable
Catastrophic
Fatal
Not equitable
High risk to future
Risk increasing
Not voluntary

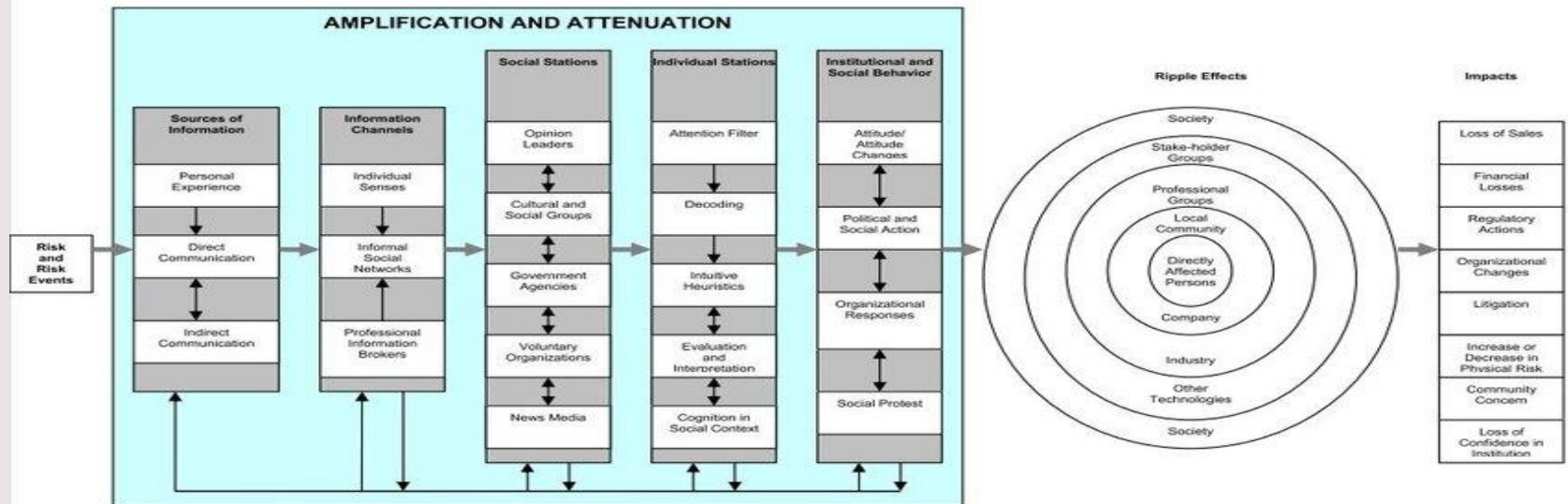
Observable
Known to those exposed
Effect immediate
Old risk
Risk known to science
KNOWN RISK



The social amplification of risk framework (SARF)



- Kasperson et al. (1988)- hazardous event leads to direct and indirect societal impacts
- physical event
- Interpretations becomes messages that are communicated to others
- amplification stations- media, social groups, cultural groups



Cultural paradigm



‘Why is one technology feared in one society or social context and not in another?’

Douglas and Wildavsky (1982) started a discussion about the impact of values and cultural settings on the perception of risks

This paradigm views interpretation of environmental risk and danger as “socially and culturally framed” and shaped by social structure within which individuals are entrenched.

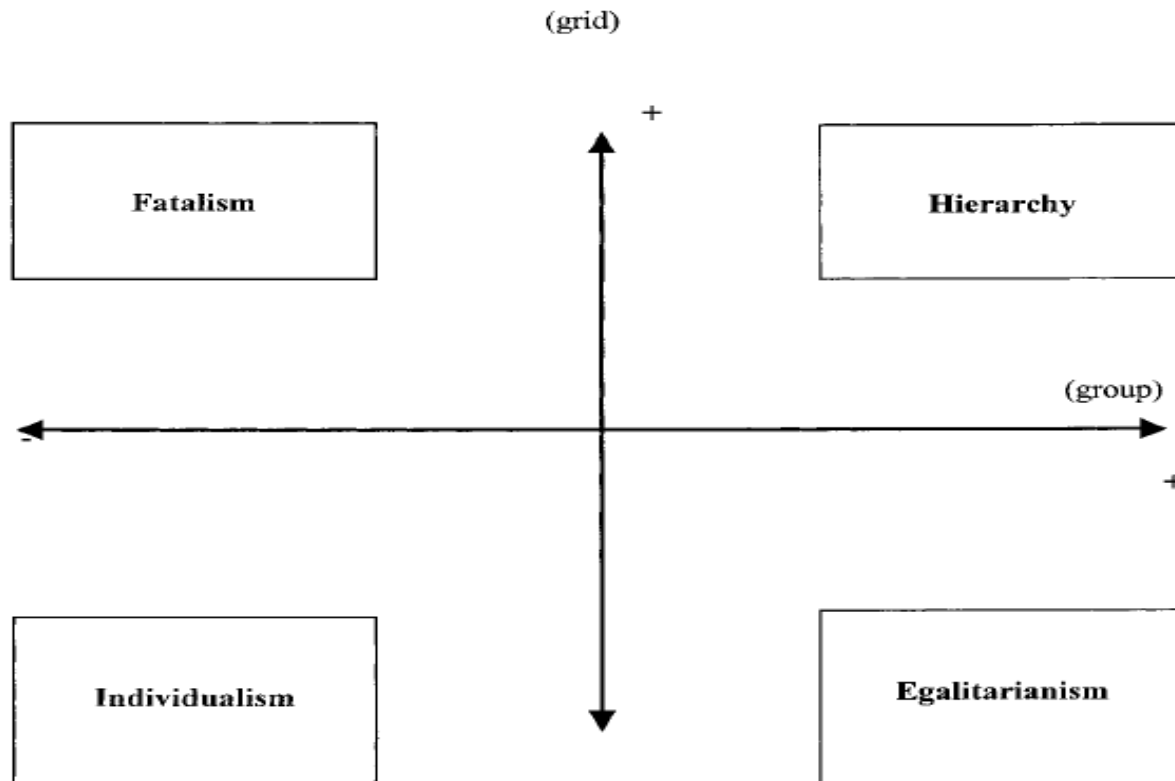
Developed group/grid typology, 4 prototypical patterns

Grid-control

Group-social commitment



Cultural paradigm



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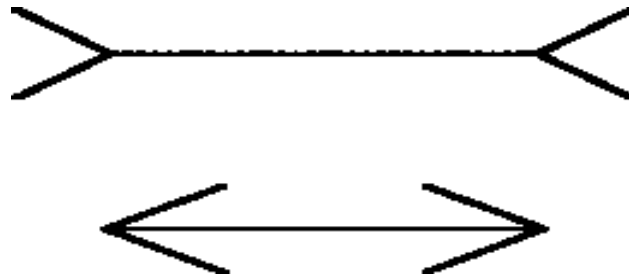


Heuristics and Biases in Risk Judgements

how people use their experience to find answers to questions that arise or to improve their skills

as a quick way or a **shortcut** to more efficient judgments

Which of the two segments is longer?



Heuristics that have evolved over the years can be thought of as the central unit of the brain (hardware). But unlike programs, heuristics are such an important tool that cannot be reprogrammed. Just as optical illusion illustrated heuristics, when used wrongly, can cause mental errors, in the case of the risk management process.

Heuristics and Biases in Risk Judgements

Availability heuristic

1. indicates that events that are **easily** perceived by the mind are more likely **to occur**
people were more concerned about global warming on days warmer than usual
2. frequency of an event leads people to **exaggerate the likelihood** of its occurrence.
Therefore, media coverage of an accident or catastrophic event may affect the perceived probability.



Heuristics and Biases in Risk Judgements

The anchoring-and-adjustment heuristic

1. when making estimates, people often start out **from a reference point** that is salient in the situation (the anchor) and then adjust this first estimate to arrive at a final judgement.
2. In most cases, the adjustment is insufficient, and the final estimates are biased towards the anchor

People who were exposed to a high (10 °F) compared to a low (1 °F) initial anchor not only gave higher estimates for the increase in the Earth's temperature but were also more likely to believe in global warming and were "Willing To Pay" more to reduce global warming



Heuristics and Biases in Risk Judgements

Optimistic Bias

1. The tendency to perceive oneself **as less at risk of negative** events than others
2. Overestimate the risk to others
People tend to perceive risks of climate change, mobile phones, radioactive waste, and genetically modified food to be smaller for themselves than others
3. Can greatly affect the **risk management** process as they may fail to take action to prevent a personal risk even
4. Personal experience with a hazard also diminishes the optimistic bias

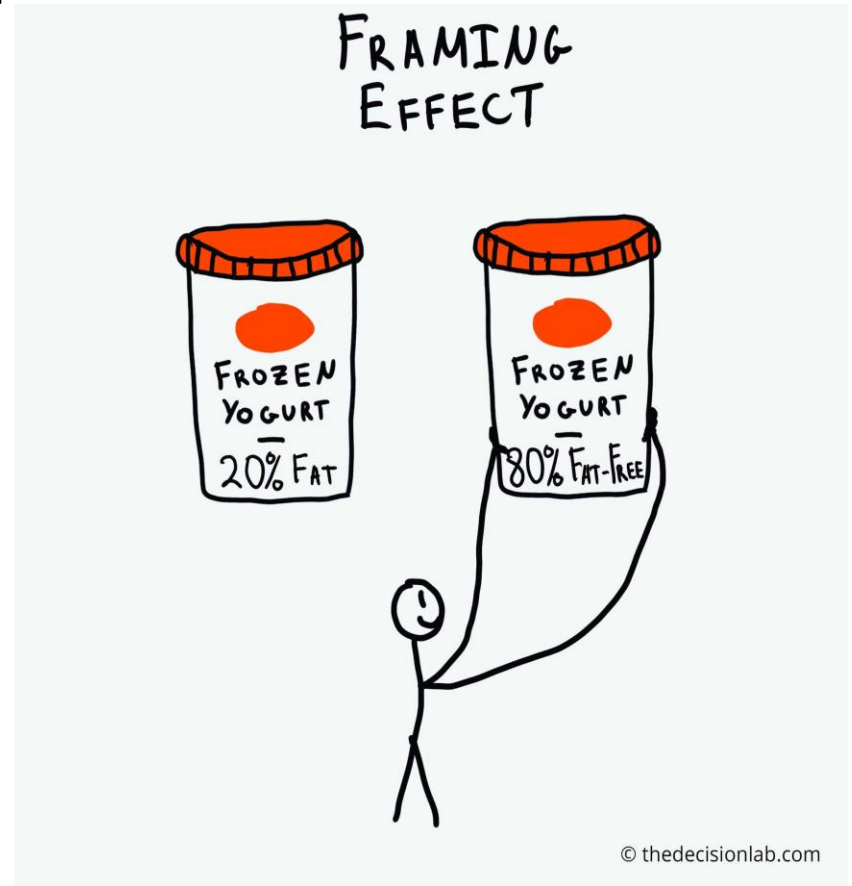


Heuristics and Biases in Risk Judgements

Framing of a problem

1. Framing effects refer to the finding that different descriptions of otherwise identical problems can alter people's decisions
2. One common explanation for framing effects is that a loss is subjectively experienced as more devastating than the equivalent gain is gratifying

people perceived environmental problems (e.g. river quality, air quality) as more important when the opportunity of restoring a previous better state (i.e. undoing a loss), rather than improving the current state (i.e. producing a gain), was given



Emotions influence risk perceptions

Importance of emotions for risk evaluations and decision-making

judge risks **as higher** when we feel **negative** about an activity, but we judge risks **as lower** when we feel **positive** about.

different specific emotions can have differential impacts on perceived risks

- ✓ **fear is associated with evaluating situations as uncertain and uncontrollable, leading individuals to perceive events as more risky.**
- ✓ **anger predisposes individuals to evaluate events as highly certain and controllable, leading them to perceive events as less risky.**

1. people focus on the consequences of a risk, they experience consequence-based emotions.

- **prospective**
- **Retrospective**
- **2. focus on moral rightness, they experience ethics-based emotions**
- **towards oneself**
- **towards other people**
(outrage when blaming



Emotions profile of risk

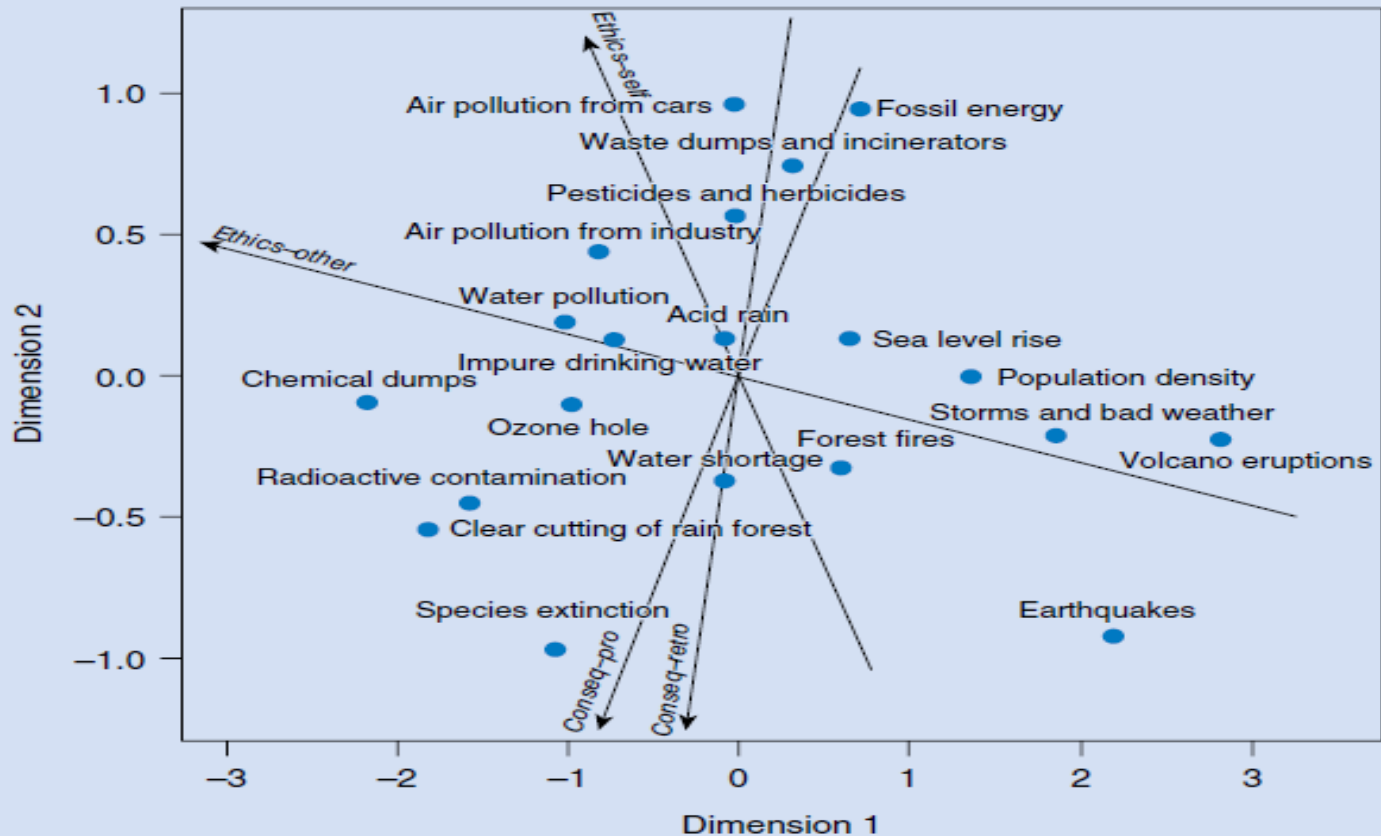


Figure 2.1 Emotional reactions to environmental risks. Display of a multidimensional scaling of hazards based on emotional reactions to them. Vectors fitted into the configuration constitute emotion types. Source: Reprinted from Böhm (2003), with permission of Elsevier.



Sociodemographic factors

1. Age

Armas and Avram (2008) - age was negatively correlated with ability to predict events and positively associated with the potential impacts on life and personal security.

while older ages are more tolerant

2. Education

Armas (2007) shows that grown-ups and individuals with higher levels of education are less tolerant of natural risk

3. Religion

Religious subjects generally perceived greater possible disaster impacts and had an overall greater level of concern with potential disasters than did non-religious respondents



Sociodemographic factors

Gender

1. One of the most important demographic variables for research of risk perception
2. Gustafson reviewed several quantitative and qualitative studies in risk perception, and suggested that gender differences may differ among various hazards.
3. Males may concern more about health and safety risks, industrial accidents, and physical violence, although females may worry more about environmental risks, overexertion injuries, infectious diseases, and sexual assault.
4. Armas, studied risk perception of residents in Romania, found that, compared with males, females had higher risk perception.
5. Furthermore, for the three natural disasters of flood, storm, and earthquake, Plapp found that earthquake was the only one that females' risk ratings were higher than those for males.

Case –Study *The Socio-economic and cultural context of information, communication, preparation and attitude towards natural hazards in Albania*

Pojani & Hudhra 2018

Objectives

Level of awareness of disaster risk, and the factors that affect risk perception

Methodology

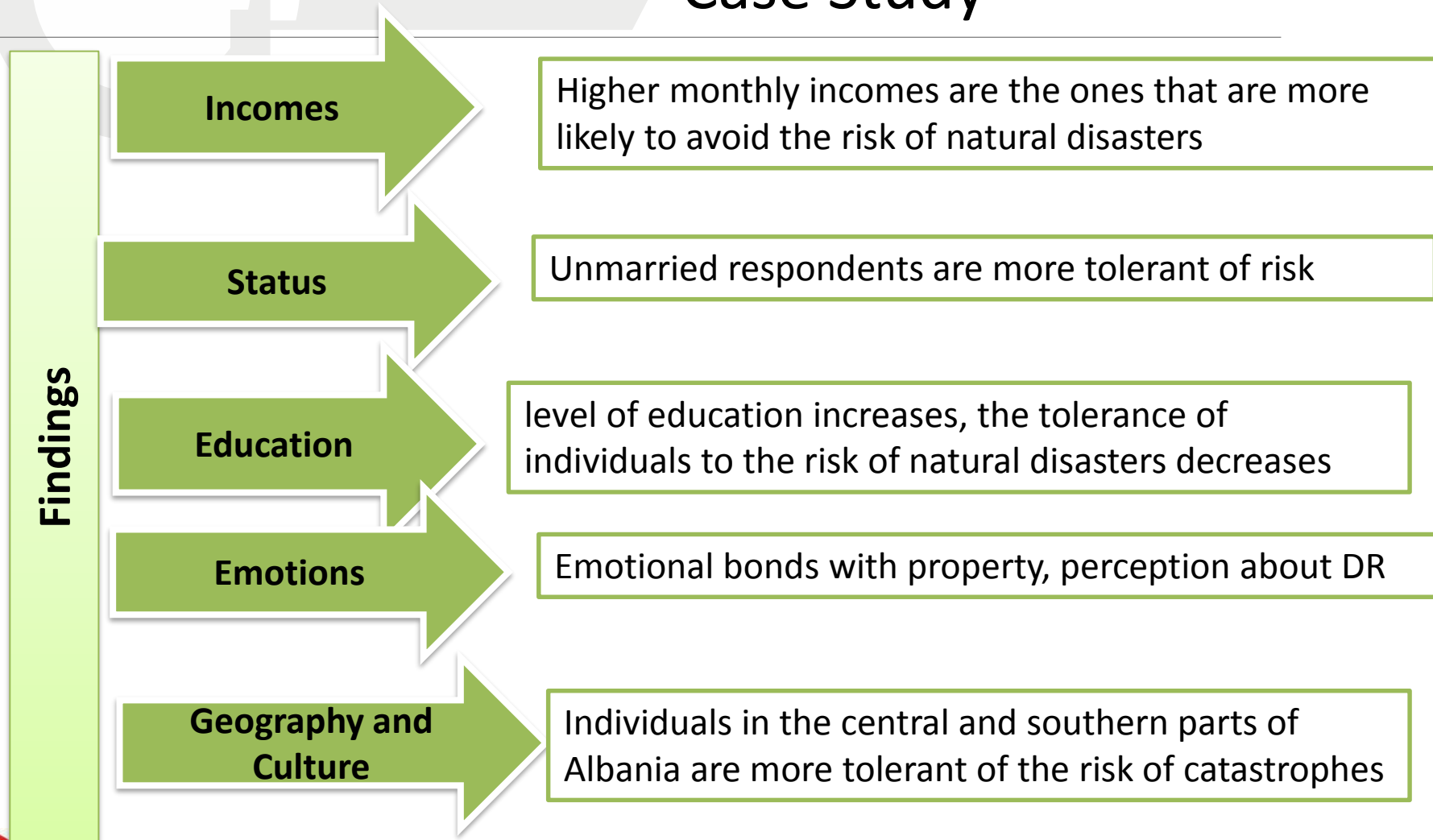
Case study - qualitative and quantitative data analysis.
Four flood prone areas of Albania

Observation and semi-structured interviews

A total of **104 interviews** were completed.



Case Study





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Thank you
for your attention

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