Families’ preparedness and empowerment: creating emergency plans to cope with seismic events

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PROJECT
Creating Emergency Plans
Families’ preparedness for seismic events in the Azores

Geo-demographic and theoretical background
Major Goals
Main Features

Foto Nóbrega, 1980
Geo-demographic characteristics of The Azores

Nine islands
245,000 Inhabitants (approx.)
Area of 2,333 km², 2.6% of the national territory
(SREA, 2008)

located over a triple junction of tectonic plates:
the North American Plate, the Eurasian Plate and the African Plate.

Throughout the archipelago’s 6 centuries of history earthquakes and volcanic eruptions affected its central and eastern islands.
What is the *scenario* of knowledge on seismic risk *perception* in the Azores?

What do we know about Azoreans preparedness to deal with seismic events?
Research on risk perception at the University of the Azores began in 2006.
Results from a previous study (1) - Risk profile evaluation (TOPOI METUS, 2006-2009)

- Uncontrollability
- Earthquakes are the most serious natural hazard in the Azores
Result from a previous study (2) - **System’s vulnerability**
*(TOPOI METUS, 2006-2009)*

- **Who was more negatively affected?**
  - the most socially disadvantaged: aged and psychologically vulnerable persons
  - the owners of/residents in vulnerable houses

- **Major losses:**
  - Lives
  - Material - houses and property
  - Patrimony (*e.g.* Historical buildings; churches)
  - Psychological/emotional
Results from a previous study (3) – **Preparedness**
(**TOPOI METUS**, 2006-2009)

奇异 What is done by authorities/entities (e.g. Government, Civil Protection, experts, schools)?

**During** and **after** a crisis: Ok; The Government does its share; things work because **people help each other**

**Before** a crisis, to prepare citizens: Elementary Schools – some training

‘Authorities’ – **Nothing**

奇异 What is done by the person him/herself?

A sense of not needing more information to be better prepared, to become more resilient to crisis and crisis impacts

**There is not a ‘culture of precaution’**
There are pamphlets and a chapter in a manual available on the internet about preparing to and dealing with earthquakes.
perceived and actual preparedness
(e.g. Basolo et al., 2009)

- Individuals have a high level of confidence in local government to manage a disaster;
- Exposure to more preparedness information sources were associated with a higher level of perceived preparedness;
psychological predictors of preparedness for an earthquake (Spittall et al., 2008)

- People (in general) take more survival actions than mitigation actions.
- Individuals who are more risk-taking tend to take more survival actions, and individuals psychologically categorized as having an internal locus of control make more mitigation actions.
- Home ownership influence preparedness – individuals who own a home take more mitigation actions.
high-school students motivation for preparedness
(Shawn, 2003)

- students learn about earthquakes in school and seem to be aware of its risks.
- however, only 25% performs risk reduction actions.
variables influencing risk perception (Wachtendorf & Sheng, 2002).

- Women are more likely to perceive risks (with serious physical injuries) than man
- Older people are more vulnerable to disasters impacts, however, as age increases, serious risk perception decreases
- Emotional distress was the most consistent predictor of risk perception for earthquake outcomes (individuals who had earthquake experiences)
<table>
<thead>
<tr>
<th>Knowledge Characterization</th>
<th>Management strategy</th>
<th>Appropriate Instruments</th>
<th>Stakeholder participation</th>
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</table>
| Uncertainty-induced risk problems (e.g. earthquakes) | Resilience-focused (risk absorbing system) | ➤ *Improving capability to cope with surprises*
* *Diversity of means to accomplish desired benefits*
* *Avoiding high vulnerability*
* *Allowing for flexible responses*
* *Preparedness for adaptation* | Reflective discourse |

(IRGC, 2005, p.16)
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Major Goal
Observe and understand the ways in which families create a familiar emergency plan to face an earthquake

Also
Which factors are associated to that process?
- Sense of Community (McMillan & Chavis, 1986)
- Home ownership (Spittall, et al, 2008)
- Robustness of the building (Spittall, et al, 2008)
- Place identity and place attachment (Davidson & Cotter, 1991)
- Religious engagement (Bourg, D., 1997)
- Political ideology (Bourg, D., 1997)
- Public engagement (Cass, 2006)
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Underlying ideas:

- Difficulty to openly communicate about frightening issues, even when they represent serious risk for individuals and communities.
- Such difficulty may persist, or increase, in situations where children are involved.
- Incapacity to talk about potential harmful events may affect the way people anticipate and prepare for those situations.
Project’s Phases

- Selection of families
- First Contact
- Family Emergency Plan Development
- Interview
- Publicizing the Emergency Plans
Selection of families

Criteria

- Existence of dependent individuals in the family
- Heterogeneity – residential area – Neighborhood
Type

Localization:
- historical center
- periphery of urban center
- outside urban center

Demographics of residents:
- global socio-economic and educational level
- size of families
Families participating in the study
Families appointed to participate in the study
The first contact

- Briefing about the project;
- Informed consent;
- Questionnaire:
  - Socio demographic data
  - Sense of Community (SCI-2)
  - Home ownership
  - Robustness of the building
  - Place identity and place attachment
  - Religious engagement
  - Political orientation
  - Civic participation
The Interview

Major Dimensions

1. Risk Perception
   risk profile
   social vulnerability evaluation
   risk management
   trust

2. Preparedness practices in the family
   *e.g. what is done to protect family members? Who takes the lead in these matters?*

3. The Family Emergency Plan
   what was done, how, and why
   who headed the process, who was involved
   what kind of communication
Publicizing the Emergency Plan

a negotiated process

Later and optional

- Emergency Plan feedback
- ‘Preparedness Tutorial’ *in loco*
THANK YOU FOR YOUR ATTENTION
References


- Wactendorf, T., Sheng, X. Demographics an experiences as factors of earthquake risk perceptions. *Disaster Research Center, University of Delaware, Newark, DE, USA.*

Sites:
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