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European Ph.D. on
Social Representations and Communication
At the Multimedia LAB & Research Center, Rome-Italy

"Social Representations of Urban Places
and Environment: Images, Memory and Identity"

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Key Lecture

European Ph.D

on Social Representations and Communication

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EuroPhD.on Social Representations and Communication

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Social Representations of Urban Places and Environment: Images, Memory and Identity

Environmental risks and threats: social representations and behaviors What is the role of personal involvement?

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Environmental risk and social psychology

Can we reduce the effects and costs of catastrophies?

Can we encourage people's engagement in risk mitigation *collective* behavior?

Collective risks as social environmental phenomena

Environmental phenomena: objective dimensions

- **Vector-borne diseases (VBD)**: objective indicators, subjective perception
- **Earthquakes (EQ)**: magnitude, intensity, probability, dread, novelty

Risk = Probability x Vulnerability

- How do people think about their situation with regard to risk?
- What makes people take, or refrain from taking, action towards risk?
- How do people shift from individual to *collective* action related to risk?

Collective risks

- Social environmental phenomena
- Objects of social representations

Personal Involvement

Major explicative variable of the social thinking

- A mediator in the making of social representations
- A result of three independent components

1. **Risk valuation:** estimated importance of what is at stake

[Risk X] is a matter of no importance (-) — *[Risk X] is a matter of life and death (+)*

2. **Personal exposure/concern:** estimated exposure to risk

Everyone is exposed/concerned, I'm just as exposed as others (-) — *I feel personally exposed/concerned (+)*

3. **Perceived capacity for action:** feeling of control over risk

I can't do much (-) — *It only depends on me (+)*

Empiric and experimental results

Two studies:

1. **Field study** (vector-borne disease, VBD)
   - Practice, personal involvement, representations
   - Chikungunya epidemy at La Reunion

2. **Experimental study** (seismic risk)
   - Effects of practice on the social representations
   - Effects of personal involvement on the representations
   - Personal involvement and sociability as facilitators of the engagement in risk-related *collective* conducts
   - Seismic risk in Bucharest, Romania

Vector-borne diseases: procedure

Participants (interdisciplinary survey 18 months after the chikungunya outburst at La Réunion)

- N=100 GPs practicing on the island during the epidemy
- N=415 households

Variables measured by the social psychologists

- **Pratices**
  - Therapeutic itineraries
  - Anti-vector measures and practices related to the close environment
- **Representations**
  - Individual and media discourses about the epidemy
  - Perception and knowledge about chikungunya and VBD
- **Personal involvement**
  - Risk valuation
  - Personal exposure (concern?)
  - Perceived capacity for action
    - Effectiveness of protection
    - Accessibility of protection measures

Method

- Quali & Quantitative : interviews, questionnaires

Vector-borne diseases: GP sample

GP sample (N=100)

- Average age 50, Men/Women Ratio = 3/1, Average duration of practice at La Réunion: 18 yrs
- 11 academic training in tropical medecine, 80 stated attending lifelong medical training

Personal involvement: perceived capacity for action

- Effectiveness of protection
  - mosquito nets: 76% (said mosquito nets were an effective protection against chikungunya)
  - mosquito repellents: 57%
  - action taken by the public authorities: 39%

- Effectiveness of treaments
  - pain killers: 28%
  - « zamal » (cannabis): 7% (inter-GP difference cf. experience in tropical countries)
  - chloroquine: 6%
  - plants: 2%
  - No difference cf. years of practice, membership in early warning network, or participation in chloroquine testing

- 64% of GPs used IT: communication/trust issue between GPs and public health authorities, while information is key in crisis management

Vector-borne diseases: households

Pratices

- Therapeutic intineraries
  - Multicultural background and ancient medical pluralism still exist on the island
  - Patients went first to GP: 93%
  - Self-treatment using plants bought or picked: 49%
  - Self-treatment (medicines) 26%, psysiotherapist 18%, prayer 17%

How can these behaviors be explained? The interviews show that:

- Patients soon realized that the disease and its gravity were quite unknown to GPs and public health authorities
- The existence of many cases around them allowed patients to recognize the disease based on visible symptoms (fever, joint ache, skin problems)
- Perceived ineffectiveness of treatments, long waiting lines at GPs, generalized prescription of pain killers and anti-inflammatories

Use of the local *materia medica*:

- « Zamal » (cannabis) boiled in water perceived as a ressource from ancient wisdom, but also an identity marker
- Population's own specific resource for crisis management

Vector-borne diseases: households

Pratices

- Anti-vector measures: pratices related to the close environment focused on the destruction of mosquito larva sites next to the houses: gardens
  - Gardens and garden management at La Réunion ?
  - Gardens provide protection, decoration, food, medical treatment!
  - Many indicators of the importance of gardens in the lives of inhabitants of La Réunion
    - Many species of plants are cultivated
    - Much time is invested in gardening
    - Multiple uses of gardens
    - Affective investment and pride
  - *Conclusion : garden= key element in the quality of life* of the inhabitants of La Réunion
  - This probable centrality of gardens in the **representation** of the quality of life (« QOL ») of the inhabitants of La Réunion explains their weak adoption of anti-vector measures (practices) during the epidemy
  - Thus, people used a « bricolé » prevention solution
  - Households adopted only gardening prevention measures that were consistent with/did not contradict the existing representation (and accordingly distroyed mosquito larva sites)
    - Removing saucers under the flower pots, cleaning the back of the house, cover rainwater tanks

Vector-borne diseases: households

Representations

- Individual and media discourse about the epidemy
  - **Reasons given for the occurrence of the chik epidemy at La Réunion:**
    - Natural causes (30% of answers) : mosquitos (20%), natural environnement (10%)
    - Human-related causes (33% of answers) : lack of hygiene, bad waste management
    - Imported disease (*came from elsewhere, by boat, brought by immigrants*, 30% of answers)
    - Responsibility of the pblic health authorities and other authorities, 7 %)
    - **Triple split: nature/society, here/there, individual/collective responsibility**
  - **Collective vs individual dimension**
    - The social birth of an event occurs when its status changes from anonymous to a fact that is named, and even more when its name becomes a familiar one
    - *Analysis of the regional press*:
    - « disease », case », « chikungunya », « epidemy », « chik »
    - Epidemy (« collective dimension », 504 occurrences) vs disease (« individual dimension », 354)
- Perceptions and knowledge about chikungunya and the VBD
  - 80% of households reported mosquito as a vector of chikungunya (20%NR, RErr)
    - Knowledge about Chik decreases with age and being an islander
    - 100% of respondents born outside of the island know how chik is transmitted (vs 74%of islanders)
    - Knowledge about Chik decreases with education and SES
  - 76% of households report mosquito as a vector of malaria, 55% for dengue fever

Vector-borne diseases: households

Personal involvement

- **High valuation of health risk** (0,92 on a scale from 0 to 1)
  - However, Chik arrives behind (!) road accidents and air and water pollution
- People report **low perceived exposure** to health risk
  - However, this is the case of all risks on list (quid poverty?).Individual factors(chance, immunity)
- **Perceived capacity of action: highly effective but low accessibility protection**
  - Effectiveness of protection measures was perceived as high (0,6 to 0,95)
    - High score for the items related to garden cleaning and waste management: cf. official campaigns
  - Conversely, the accessibility of protection measures was perceived as low (0,5 to 0,7)
    - This difference was especially high for measures perceived as effective:
    - Garden celaning: effectiveness score: 0,95 ; accessibility score: 0,61
    - Elimination des déchets : effectiveness score: 0,94 ; accessibility score: 0,63
  - Importance of contrast within the perceived capacity for action: difficulties in implementing effective protection measures decreased the perceived capacity for action, therefore the overall personal involvement

Conclusion (1)

- **Practices related to health protection**
  - Leaned on the multicultural background and ancient medical pluralism on the island
  - Organized the social thinking about health risk
  - The centrality of gardens in the representation of the quality of life of the inhabitants of La Réunion explains their weak adoption of anti-vector measures during the epidemy
  - … in other words: protection measures that contradicted the SR were dumped
- **The social representations of the epidemy**
  - Triple split: nature/society, here/there, individual/collective responsibility
  - Collective vs individual dimension
  - Perceptions of chikungunya and the VBD depend on: age, SES, education, insularity
- **Personal involvement**
  - High valuation but low perceived exposure to health risk
  - Difficulties in implementing effective protection measures decreased the perceived capacity for action, therefore the overall personal involvement.

Study 2 : Seismic risk

Risk: *risicare* (*It.*) = to dare

Earthquake: natural phenomenon

- Magnitude, intensity, probability, dread, novelty, etc.

Risk = Probability x Vulnerability

- How do people think about their situation with regard to risk?
- What makes people take, or refrain from taking, action towards risk?
- How do people shift from individual to collective action related to risk?

Seismic risk

- **Object of social representations**

Social representations: theories of lay thinking

Social representation of seismic risk

- A way of seeing which is locally and temporarily shared within a given community, which allows cognitive appropriation of an aspect of the world (here, risk) and guides the action related to it.

A structural perspective on Social representations

- SR = Socio-cognitive systems = Elements + Relations
- Numerous relations between SR elements: structured, robust SR
- Two components:
  - *Functional*: elements that are useful for risk-related action
  - *Normative*: normative/attributive elements used for evaluation

Practice and social representations

Practice: capital role in the making and the transformation of social representations

- Social practices = *agents that transform* representations
- Social representations are *conditions* for social practice

Effects of risk-related practice on the perceived capacity to act on seismic risk

Participants (N=486)

- Low seismicity area: no risk experience
- High sismicity area: collective risk experience (collective memory, risk culture)
- High sismicity area, questioned after a major earthquake: direct risk experience

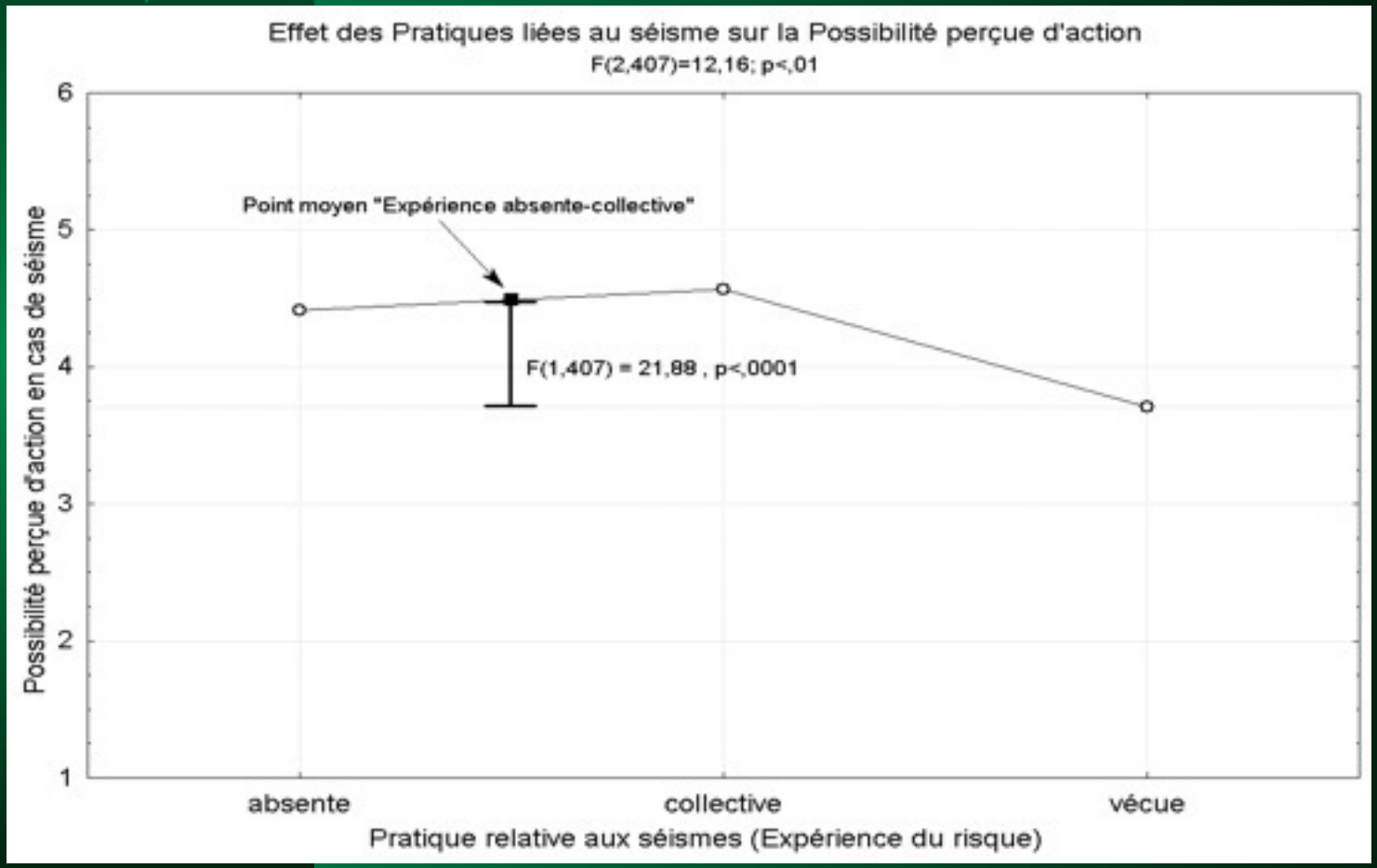
Independent variable

- Risk-related Practice: Absent / Collective / Direct risk experience

Dependent variable

- Perceived capacity to act

Effects of risk-related practice on the perceived capacity to act in seismic risk situation



Risk experience decreased the perceived capacity to act towards risk

Earthquake experience = retroactive awareness of risk/vulnerability

Effects of risk-related practice on the social representation of seismic risk

Participants (N=486)

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Independent variables

- Risk-related Practice: Absent / Collective / Direct risk experience
- Personal Involvement: Risk valuation

Dependent variable

- The structure of the social representation of seismic risk

Effects of risk-related practice on the social representation of risk

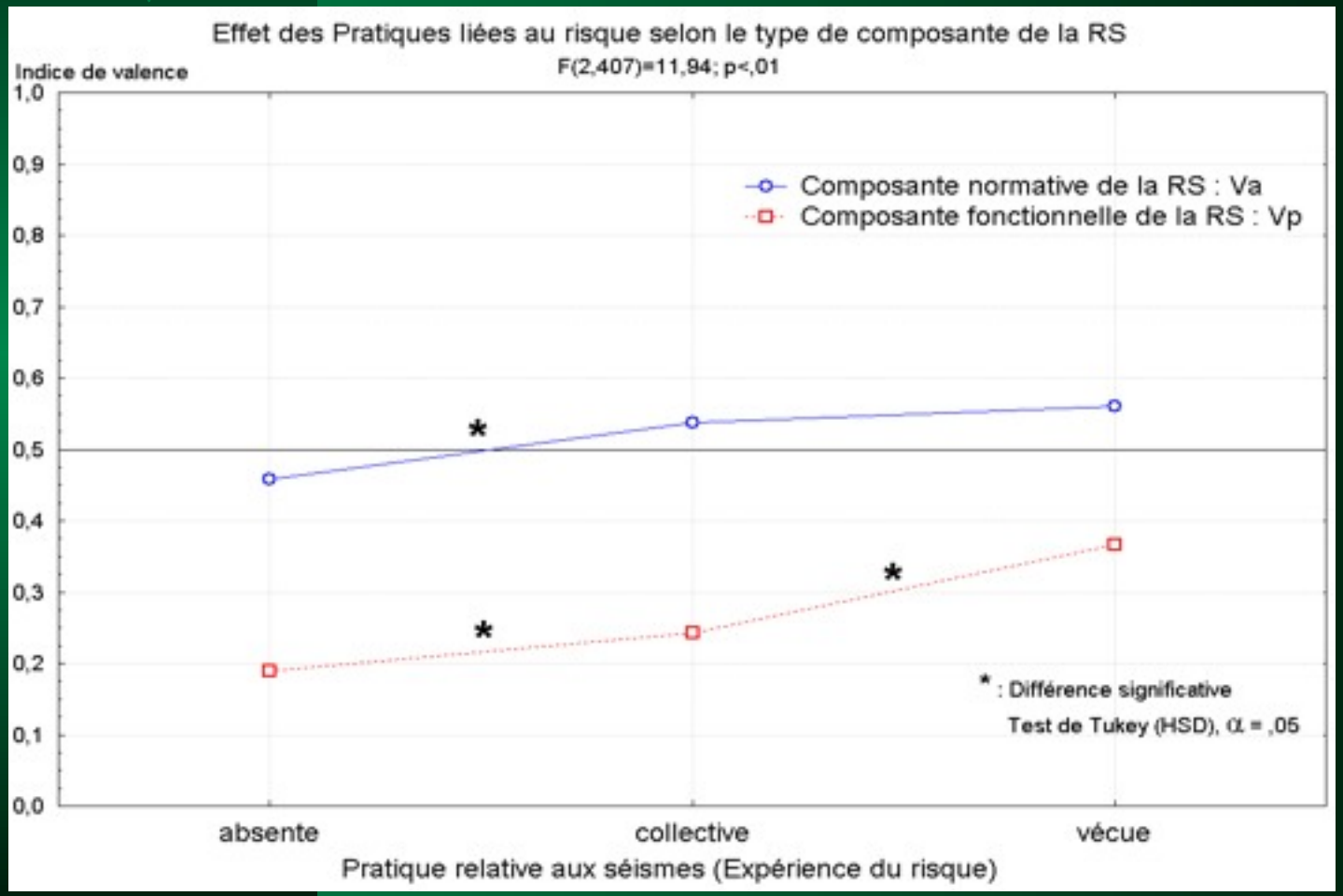
Operational dependent variable

- **Structure of the social representation of risk**
  - *Fonctional component :* Praxis Valency Index (Vp ϵ [0,1])
  - *Normative component :* Attributive Valency Index (Va ϵ [0,1])

Method

- Based on the theoretical model of the Basic Cognitive Schemes (BCS)
- Procedure: free association (inductor « earthquake » – associated answer)
- In the SCB model, the components of the SR are defined by formal cognitive schemes
  - *Functional component*: BCS Praxis (operational index: Vp = praxis valency)
  - *Normative component*: BCS Attribution (operational index: Va=attributive valency)
- High valency index = Numerous relations Inductor ↔ Associated answers: Robust representation

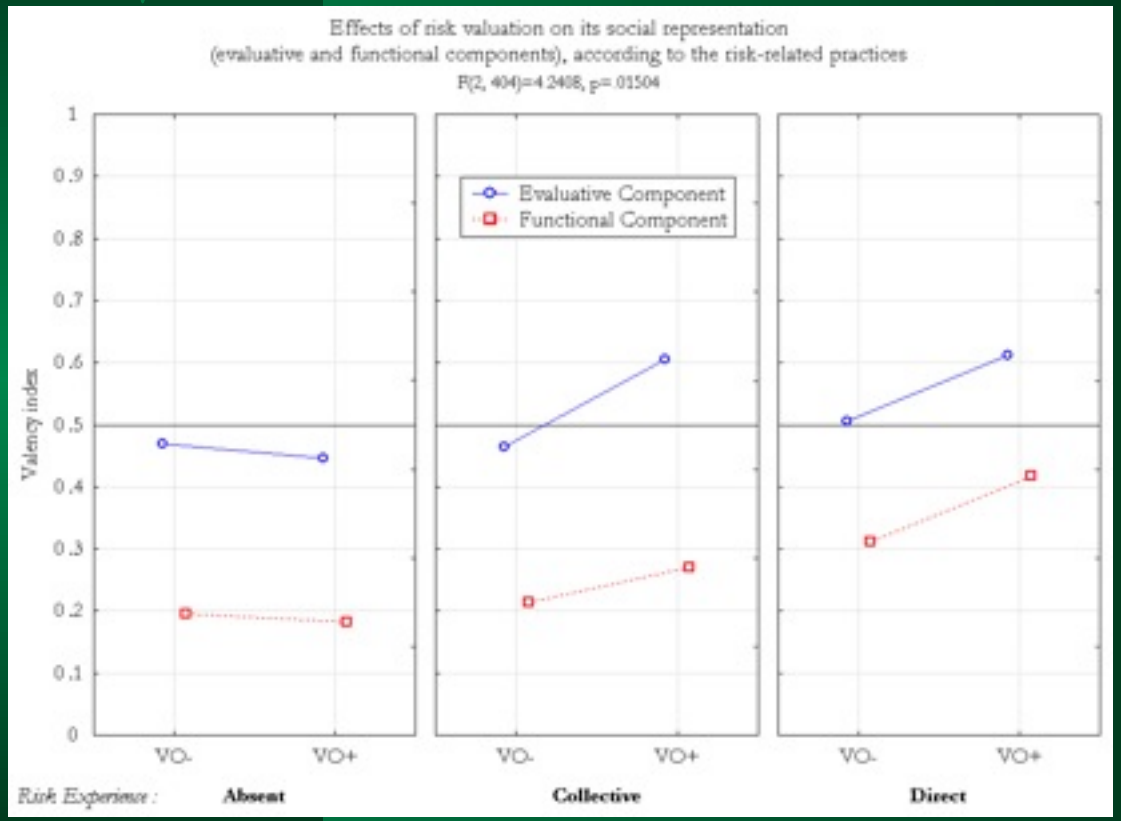
Effects of risk-related practice on the social representation of risk



The social representation of the seismic risk is *normative* in nature, but becomes more functional for participants who have risk-related practice

Participants who experienced risk build a more functional social representation of risk, which is more practically oriented and stronger in conditioning collective behavior

Effects of personal involvement on the social representation of risk



If participants experienced seismic risk, either *collectively* (risk culture) or *directly,* the social representation built by those who are highly interested in this risk (VO+) is more structured, and more functional than that of those who are less interested in it (VO-)

If participants did not experience seismic risk, their interest for risk has no effect on the structure of the representation

The social representation of risk built by participants who experienced earthquake and who feel involved in it is more practically oriented

The effects of personal involvement on the structure of the social representation of risk are *conditioned* by the existence of risk-related practices

Personal involvement and sociability as facilitators of the engagement in risk-related collective conducts

Population

- Romanian sample (high seismicity area): direct seismic risk experience

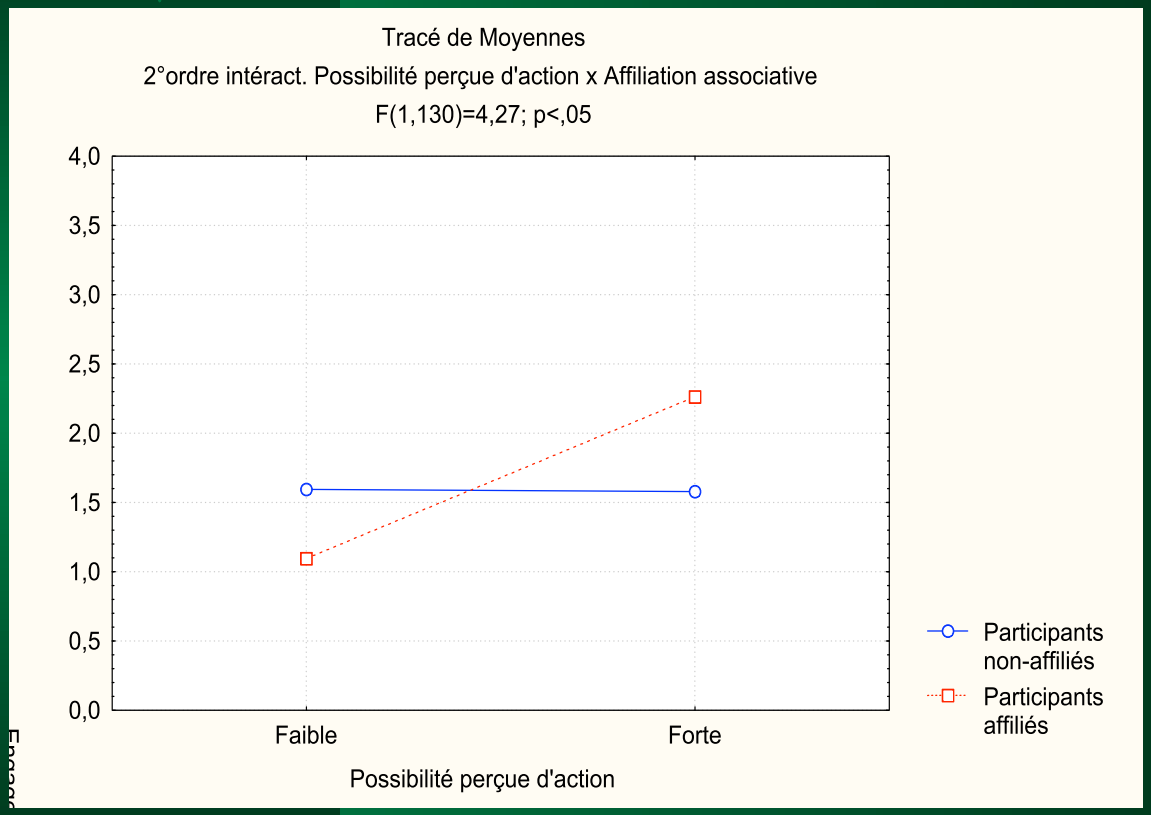
Independent variables

- **Perceived capacity for action**
  - High (« It's up to me… »: teaching protection behaviors, etc.)
  - Low (« I cannot do anything about it »)
- **Sociability**
  - High: participants were members of associations
  - Low: participants not members of any association

Dependent variable

- Engagement in a collective conduct of seismic risk mitigation
  - Mesured by the number of evenings volunteered to an association of seismic risk education: 0 to 4.

Personal involvement and sociability as facilitators of the engagement in risk-related collective conducts



High sociability condition (affilated participants): engagement in risk-related collective conducts increased with the perceived capacity for action.

Low sociability condition (non-affilated participants): engagement was constant regardless of the perceived capacity for action.

The highest engagement in risk-related collective conducts was noted with **participants who have a feeling of control over risk and are socially affiliated.**

Conclusion (2)

- **Risk-related practice** (seismic experience)
  - Decreased the perceived capacity to act: increased perceived vulnerability
  - Increase the degree of organisation of the social representation of risk
  - Give a more practical orientation to the social representation

- **Effect of personal involvement on the SR structure**
  - Appeared to be conditioned by the existence of risk-related practices. Application

- **Engagement in risk-related collectives conducts**
  - Increased with the perceived capacity for action
  - Was supported by social affiliation. Application (natural social networks, associations, opinion guides, etc.)

<u>Practice, implication et sociabilité</u> :

Notions clés pour étudier l'élaboration des social representations et les conduites liées aux menaces et risques collectifs

Ongoing research on risks

Effects of social practice and personal involvement

- Environmental risks and threats

- earthquakes, nuclear power (France, Japan, Iran)
- climate change (France, Romania)
- pollution (France - Provence)

- Anthropic risks (« human-made »)

- terrorism (France, United States, Qatar, Turkey)
- financial crisis (France)

- Health and the environment (VBD, La Réunion)

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