

**The social psychology of seismic adjustment: a re-evaluation of the international literature, with empirical illustrations from the UCL EPICentre Human Loss Project**

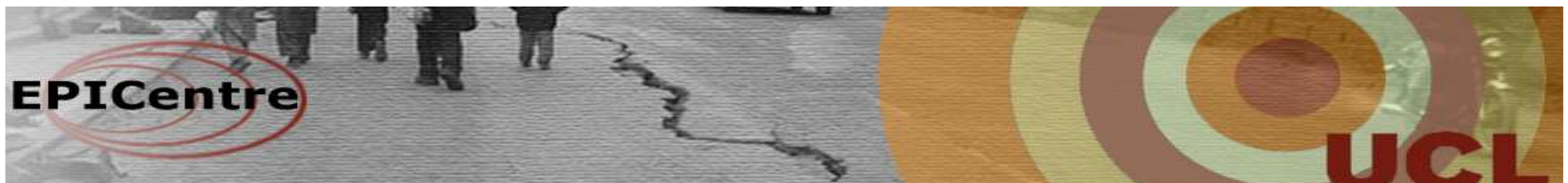
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# Introduction



- Christian Solberg, UCL Div. of Psychology and Language Sciences
- Earthquake & People Interaction Centre: EPICentre, funded by EPSRC
- Human Loss Project
  - Cross-cultural study of lay representations of seismic risk, N=144, Osaka, Seattle, Izmir



# Outline of talk



- Seismic adjustment
- Seismic risk perception
- Social identities
- Trust, responsibility and blame
- Control, efficacy and fate
- Conclusion



# Seismic adjustment



- What do we mean by *seismic adjustment*?
  - Mitigation and preparedness in the context of households and individuals
- What does research tell us about its prevalence?
  - Preparedness adjustments vastly more common than mitigation adjustments
  - In general, estimates are lower than desirable



# Adjustment data from Human Loss Project



Country	Mitigative Adjustments		Preparatory Adjustments	
	Mean number	Mean as % of max	Mean number	Mean as % of max
USA	1.71	28.5	7.23	55.61
Turkey	1.46	24.33	3.5	26.92
Japan	1.71	28.5	4.67	35.92



# Risk perception



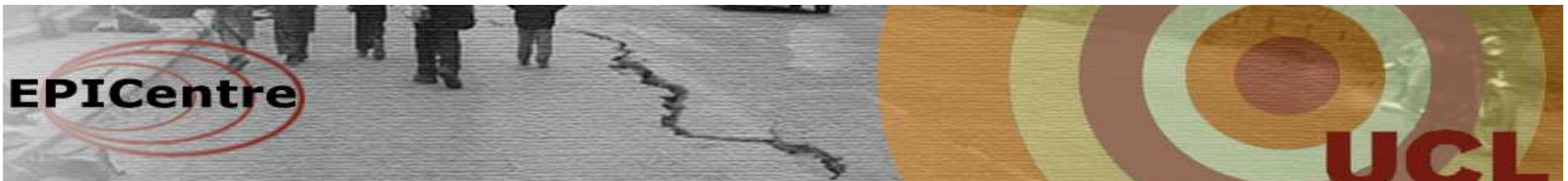
- Risk perception: a subjective judgment regarding the characteristics and severity of a threat
- Typically measured by questions such as “how likely is it?”, “how damaging will it be?”, “do you feel at risk?”, “are you worried about it?”
- Contrasted with expert, scientific risk assessment (objective risk)



# Seismic risk perception



- What does the literature tell us about levels of seismic risk perception?
- Some at-risk individuals have risk perceptions that are largely similar to expert estimates
- Also some evidence to the contrary



# Seismic risk perception



- What factors correlate with, or cause, changes in risk perception?
- Experience
- Psychological biases
- Socio-cultural status and identity





# Seismic risk perception



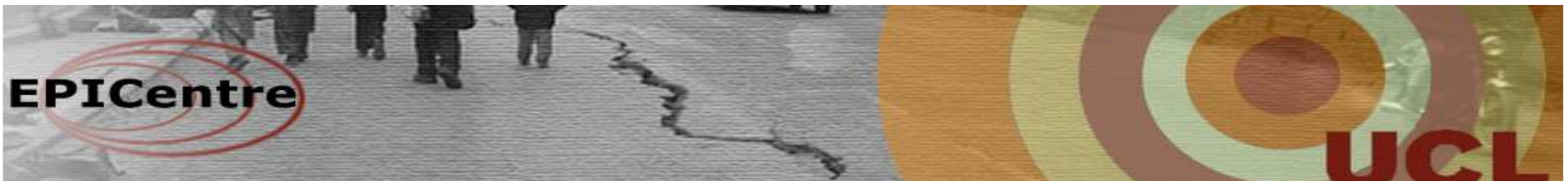
- Main findings
  - It is uncertain what influence the natural and built environment has on seismic risk perception
  - Experience increases the salience of seismic risk, but not necessarily risk concerns
  - Psychological biases serve to distance people from seismic risk
  - Culturally and socially dominant groups (i.e. (white) men) are less concerned with seismic risk than females and minority group members



# Seismic risk perception



- Seismic risk perception is only weakly correlated with seismic adjustment
  - Lowest effect for mitigative measures, somewhat higher for preparative measures
- Concern with risk is a necessary, but probably not sufficient condition for seismic adjustments to be put into practice



# Social identities



- Social identities such as gender, age, ethnicity and status influence seismic risk perception
- Social identities also entail social norms
- Social norms influence seismic adjustment behaviour as well as risk perception

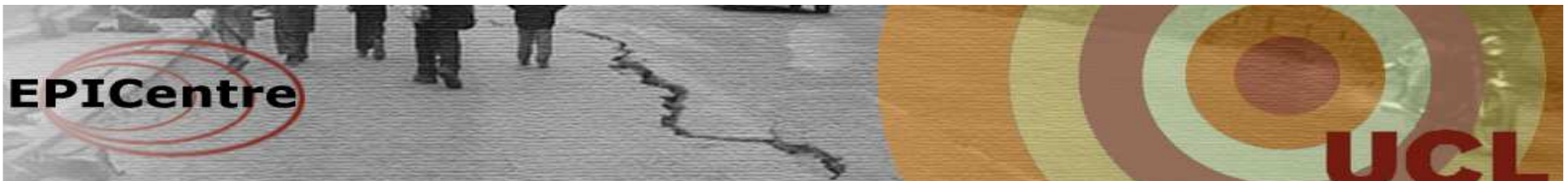


# Trust, blame and responsibility



**UCL**

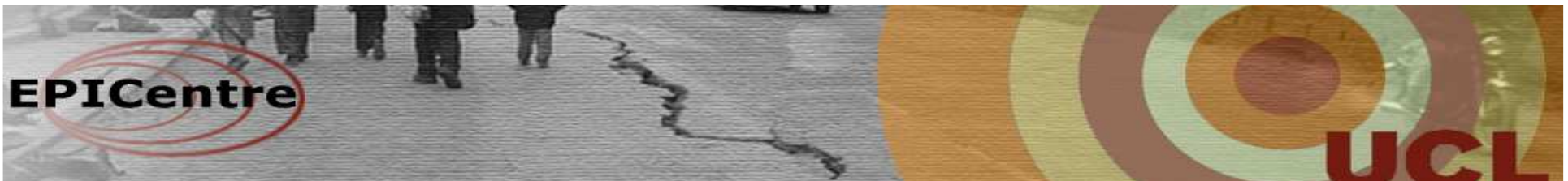
- Trust and distrust can powerfully influence seismic adjustment
- Responsibility attributions influence protection motivations



# Control, efficacy and fate



- Beliefs about control, efficacy and fate shape seismic adjustment motivations
- Sense of control can pertain to both one's own and the community's potential actions
- Beliefs about own and collective control, efficacy and fate are partly driven by cultural discourses (mass media, popular culture, social representations)



# Individual attitudes towards control



- **Self-efficacy**
  - The knowledge that leads to belief that one can control the outcome of an earthquake
  - Conceptualised as a dispositional trait (locus of control) and as shaped by cultural factors



# Collective efficacy



- Seismic adjustment is a collective endeavour requiring individual and group cooperation
- Collective efficacy refers to people's joint ability to identify risks and implement seismic adjustments
- Collective efficacy is culturally variable



# Fatalism



- Typically defined as *negative control beliefs*
- Is influenced by cognitive, emotional and cultural factors
- Beliefs about fatalism and control are complex
  - *Acts of God and/or Acts of Nature versus Acts of People*





# Summary



- Seismic risk perception is shaped by emotional and cultural as well as cognitive factors; is only weakly correlated with seismic adjustment
- Social and place identities shape protective action norms and expectations
- Beliefs about control and fate shape adjustment intentions in complex ways



# Critique and conclusion



- Geographical and socio-demographic skew
- Need for cross-cultural and longitudinal studies
- Little synchronisation between research instruments
- Highly individualistic and rationalistic focus

