

Does cost explain differences in damage mitigation & survival preparedness?

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Different types of preparedness

Spittal, McClure et al., '06, 08

- Survival actions
 - assist survival after earthquake, flood etc.
 - E.g. medical kit, bottle water
- Damage mitigation actions
 - Reduce damage in e.g. earthquakes
 - E.g. strengthen building, fastening shelves
 - Two subtypes: buildings, contents
 - Paton & Johnston, 2008
- Relate to different predictors [Spittal et al., '08]
 - Survival to risk perception, mitigation to perceived control

Different levels of preparedness

- People do many more survival actions and damage mitigation actions
 - Russell, Goltz, & Bourke 1995; Yoshida & Delye, 2006
- But mitigation actions reduce deaths more
- Why is this – is it cost? Time?
 - some mitigation actions cheap
 - E.g. Computer security
 - But many people don't do them

Get explanations for not acting— businesses and households

- Present 12 actions
 - survival and both types of mitigation
- Have you done the action?
- You choose attributions for each action

Mitigation 1: Actions that mitigate damage to buildings and harm to persons and contents

- *[Spittal et al. mitigation subscale; Paton & Johnston, factor 2. Physical security of house]*
- 1. Did you get a builder or engineer to check that your house will withstand a major earthquake?
- 2. Have you taken specific steps to increase the earthquake resistance of your home?
- 3. Have you ensured that your hot water cylinder is secured and fastened?
- 4. Have you ensured that the foundations of your house are sound enough to withstand an earthquake?

Mitigation 2: Actions that mitigate damage to contents.

- *[Spittal et al. mitigation subscale; Paton & Johnston, factor 4. Securing household fittings and fixtures.]*
- 5. Have you fastened tall furniture to the wall?
- 6. Have you secured objects in your home that could fall over in an earthquake e.g. computer, vases?
- 7. Have you ensured that heavy objects are stored on the floor?
- 8. Have you securely fastened cupboards with latches?

Survival:

Actions that enhance survival.

[Spittal et al. survival subscale; Paton and Johnston, Factor 1: Emergency kit items and factor 3: Household emergency planning.]

- 9. Have you stored water for survival? [Paton & Johnston factor 3]
- 10. Have you arranged a place to meet after an earthquake? [Paton & Johnston factor 3]
- 11. Have you obtained supplies of canned food? [Paton & Johnston factor 1]
- 12. Have you obtained items for a first aid kit that would be useful after an earthquake? [Paton & Johnston factor 1]

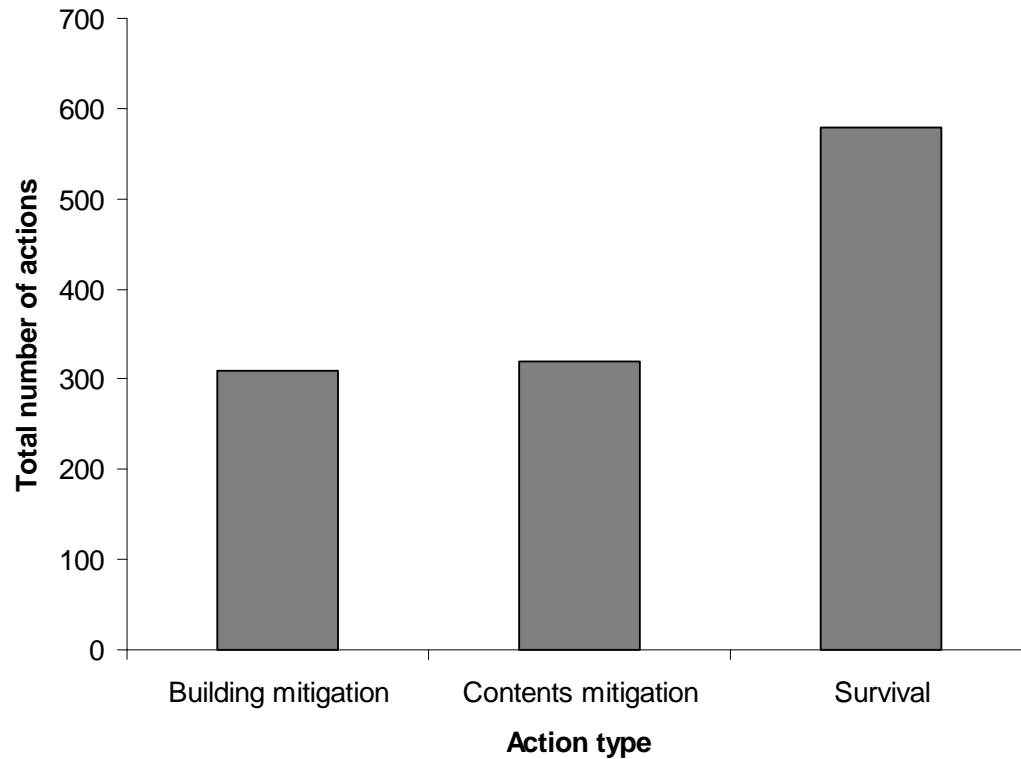
1. Did you get a builder or engineer to check that your house will withstand a major earthquake?

- Yes
- No - because of the cost
- No - because of time limitations (too busy)
- No - because it was ...obvious that there wasn't a risk
- No - because it's not a top priority
- No - because I don't think it would make much difference if an earthquake happens
- No - because I don't take lots of precautions for things that might go wrong
- No - because I haven't thought about it
- No - because of some other reason: (describe)

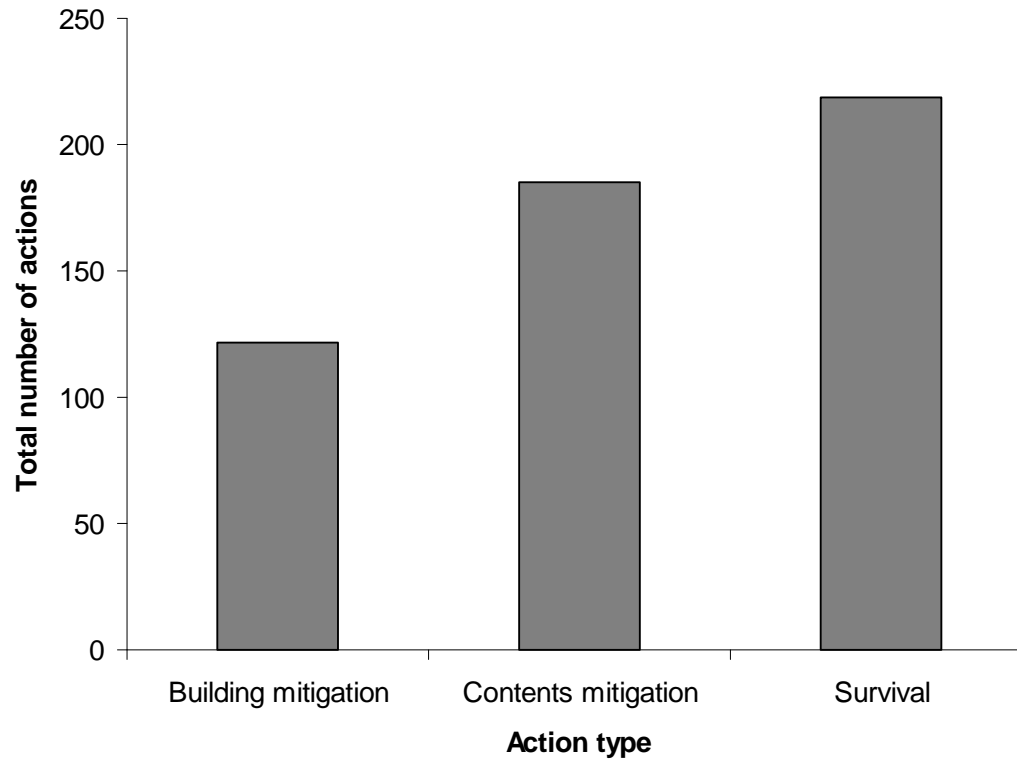
Estimates of cost?

- ‘How much do you think this action would cost?’ circle one.
- Nil, \$20, \$40, \$60, \$80, \$100, \$150, \$200, \$500, \$1,000, \$5,000, \$10,000+.
- Is there a relation between doing each actions and the cost?
- Other measures, demographics etc.

How many have done the different types of action? [households]



How many have done the different types of action? [Businesses]



Which actions show a relation between action & cost estimate?

- log transformed the cost, & logistic regression
- Significant for 4 actions [households]
 - Builder/engineer check
 - Fastened tall furniture
 - Strengthened foundations
 - Secured cupboards
- All mitigation actions
- More expensive ($M=\$647$) than the others ($\447).

Ranking of attributions for 3 different types of actions

- 1. Haven't thought about it
- 2. Not a priority
- 3. Not needed [households]
- 3. Would make no difference [business]
- Cost is no higher than 4th.
 - households, 7th for contents mitigation, survival
 - Businesses 4th or 5th, depending on action type

How many of each type of actions done 3 months later

- Target number of actions & no complete @ 3 months [businesses]
- Building mitigation: 15/3 [19%]
- Content mitigation: 16/7 [45%]
- Survival: 33/8 [23%]
- Choose more survival actions as targets
- but do = number of survival & content mitigation
 - Small N's get this far
 - Some building mitigation requires longer time frame

Discussion/ implications

- Is money the main factor behind doing fewer [mitigation] actions?
- cost is a factor but not the only one
- Cost doesn't relate to some actions
 - especially survival actions
- Attributions - other factors more imp
 - Haven't thought about it
 - not a priority
 - Not needed? Makes no difference - Fatalism