COMMUNICATIONS & WARNINGS CLUSTER:
CONNECTING COMMUNITIES & RESILIENCE

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EMERGENCY MESSAGE EYE-TRACKING STUDY & BUSINESS-FOCUSED RISK COMMUNICATION

CONNECTING COMMUNITIES & RESILIENCE

Emergency message tracking

Extension of the experiments examining message structure & the use of visual stimuli

- involves a series of lab experiments that extend on phase one by accounting for the effect of visual images on risk perceptions and behavioural intentions, and the role of individual risk propensity on message compliance.
  - o How do individuals search visually for information in a message block?
  - o What reference do they make to visual imagery?
  - o How does innate risk tolerance effect risk perception & behavioural intention?

CONNECTING COMMUNITIES & RESILIENCE

METHOD

18yrs+ with normal or corrected-normal vision (N=40)

- 30 item Domain Specific Risk Taking Scale (DOSPERT)
- Randomised actual emergency warning messages across all levels of alert
- Eye tracking software + survey of risk perception & behavioural intention

CONNECTING COMMUNITIES & RESILIENCE

PRELIMINARY RESULTS

- @46% of the variance in participants ability to correctly identify the risk associated with a message could be explained by their DOSPERT score

- Those who scored high on recreational risk scales, were least likely to correctly ascribe threat to a message and consequently were most unlikely to behave in the desired way.

- Early evidence that images incongruent with the message instruction result in increased information seeking.

- Visual tracking behaviour indicates that there is a limit to attentional tolerance.

IMPLICATIONS FOR PRACTICE

- Visual images used in emergency warning messages must be congruent with the information & threat level being advised

- Confirms that message length and information order are critical to comprehension & correct risk ascription

- Prevention and preparedness messaging targeted to high recreational risk-takers must be careful not to confirm incorrect risk perception & risky behaviour

BUSINESS-FOCUSED RISK AND WARNING COMMUNICATION

Audit of business-oriented disaster management resources	Qualitative focus groups and interviews with businesses and emergency management in Queensland	Quasi experiment to test existing and modified messages to business owners

STUDY 2. QUALITATIVE RESEARCH

- Appetite v desire for business-focused risk communication

  - *Even yesterday in the messaging before the fire, there was nothing about… it was all have your own evacuation plan and secure your pets but nothing about secure your business records*—Bundaberg LDMG

  - *…secure loose items - that's great stuff, but what does that actually mean for my business? If I have a car yard, do I pull the cars in or do I not? You might have hail, you may not. So it's those sort of questions where I think you have a high degree of uncertainty, and not a lot of warning.* (Business Owner/Manager, Brisbane)

State emergency management

Bundaberg LDMG (n=9, FG)

Brisbane businesses (n=9, I)

Bundaberg businesses (n=7, I)

QUALITATIVE THEMES

Business owner/operators
- Tolerance for uncertainty
- Sweet spot of timing
- Power of local knowledge
- Areas of need: Specificity, guidance, impact

… even if just an email came out saying you have a business registered in this area, we believe these are imminent dangers or imminent risks to your business, these are our recommendations, keep an eye on these websites for updates. (Business Owner/Manager, Brisbane)

Emergency management
- Willingness to problem-solve
- Reluctance to change
- Recognition of value
- Shared responsibility
- Focus on preparedness

…the people who are receiving that message need to look at their context and take what is relevant to them. (Emergency Manager, Brisbane)

STUDY 3. QUASI EXPERIMENTS

Insights about knowledge and capabilities, cues, and information-seeking choices

Test existing and modified messages

Measure message effectiveness and protective action

SMALL BUSINESS SAMPLE CHARACTERISTICS

Fire	Flood
55% Female, 45% Male	47% Female, 53% Male
64% urban, 36% rural	66% urban, 34% rural
18% had formal BCP	23% had formal BCP
22% had bushfire plan	
40% had past personal experience with a disaster	44% had past personal experience with a disaster
10% had past business experience with a disaster	21% had past business experience with a disaster

KNOWLEDGE AND BEHAVIOURAL INSIGHTS

Fire	Flood
• Moderate knowledge sufficiency • Moderate required knowledge • Moderate confidence in response ability • Moderate-low worry	• Moderate knowledge sufficiency • Moderate required knowledge • Moderate confidence in response ability • Moderate-low worry

INFORMATIONAL CHOICES

Fire	Flood
Information platforms • Television (60%) • Online news (59%) • Radio (52%) • Google (50%) • Facebook (31%)	Information platforms • Google (59%) • Television (59%) • Radio (49%) • Online news (48%) • Facebook (33%)
Informational sources • Emergency (78%) • SES (46%) • Local council (44%) • Media (32%) • BoM (31%)	Informational sources • BoM (62%) • SES (47%) • Local council (44%) • Emergency (35%) • Media (32%)

QUASI EXPERIMENTS

Fire

Emergency Services |

WATCH AND ACT – Bushfire Warning

Emergency Services is advising residents to finalise their bushfire plans.

A large and strong fire is expected to impact the area within the next 24 hours.

Residents are advised that if their plan is to relocate or they do not have a plan then they are advised to relocate now. Leaving well ahead of a fire is the safest option for survival.

Well prepared and defended homes can offer safety during the fire and may be defendable.

Currently, 20 fire crews are working to contain the blaze but firefighters will not be able to protect every affected property and residents should not expect a firefighter at their door.

Residents are advised to call Triple Zero (000) if their property comes under threat.

Residents should consider taking precautionary measures including:
- Putting on protective clothing;
- Drinking lots of water;
- Moving car/s to a safe location;
- Closing windows and doors and shutting blinds;
- Bringing pets inside, restraining them (leash, cage or secure room) and providing water;
- Wetting down fine fuels close to buildings;
- Removing garden furniture, doormats and other items;
- Sealing all gaps under doors and screens;
- Filling containers with water - eg bath, sinks, buckets, wheelie bins;
- Having ladders ready for roof space access (inside) and against roof (outside);
- Having a generator or petrol powered pump ready; and
- Checking and patrolling outside for embers, extinguishing any spot fires and seeking shelter as the fire front arrives.

Residents are advised to call Triple Zero (000) if they believe their property comes under threat.

Regular updated information will be provided on the Emergency Services website or listen to local radio.

Flood

Australian Government Bureau of Meteorology

MAJOR FLOOD WARNING

Flood Warning Number: 2

Significant rain and areas of flooding are expected to develop and intensify in your region overnight and into tomorrow.

Heavy rainfall is forecast for the region tonight.

For the next 24 hours, widespread rainfall totals of 50 mm to 150 mm with isolated totals in excess of 200 mm are forecast in the area.

Heavy falls are also expected in the subsequent days associated with the weather system through the region.

Heavy rainfall is expected to cause significant river rises, areas of flooding and adversely affect road conditions. Some roads may become impassable and some communities may become isolated.

Your catchment is likely to be affected.

Flood Safety Advice

Emergency Services advises people and communities to be aware that flooding is possible and be prepared to relocate equipment and livestock. Watch water levels. Travellers need to be aware that road conditions may be adversely affected and travel plans may need to be reconsidered. Do not drive into water of unknown depth and velocity.

Next Issue

The next warning will be issued tomorrow by 5:00 pm.

This warning is also available through TV and Radio Broadcasts; the Bureau's website at www.bom.gov.au or call 1300 111 111.

MANIPULATIONS FOR FIRE

Emergency Services is advising residents _and businesses_ to finalise their bushfire plans.

A large and strong fire is expected to impact the area within the next 24 hours.

Businesses should also consider taking precautionary measures including:
- Advising staff to stay away from or evacuate the business
- Locating and safely storing critical business records and documentation
- Reviewing evacuation routes
- Moving stock or equipment
- Anticipating possible impacts to customers and suppliers and making alternative arrangements.

Businesses should consider potential injury from smoke inhalation and property damage or destruction from fire.

In response, businesses should consider taking precautionary measures including:
- Advising staff to stay away from or evacuate the business
- Locating and safely storing critical business records and documentation
- Reviewing evacuation routes
- Moving stock or equipment
- Anticipating possible impacts to customers and suppliers and making alternative arrangements.

MANIPULATIONS FOR FLOOD

Flood Safety Advice

Emergency Services advises people, ~~and~~ communities and businesses to be aware that flooding is possible and be prepared to relocate equipment and livestock. Watch water levels. Travellers need to be aware that road conditions may be adversely affected and travel plans may need to be reconsidered. Do not drive into water of unknown depth and velocity.

Businesses should advise staff about potential threats, move critical business records or documents to a safe location, move or secure outdoor business equipment or products, and make arrangements for possible impacts on customers and suppliers should the business be closed or inaccessible.

Flood waters may make driving unsafe, damage indoor and outdoor business equipment and stock, and cause delays in the restoration of power and other services important to the business. Businesses should advise staff about potential threats of flood water, move critical business records or documents to a safe location, move or secure outdoor business equipment or products, and make arrangements for possible impacts on customers and suppliers should the business be closed or inaccessible.

MESSAGE EFFECTIVENESS

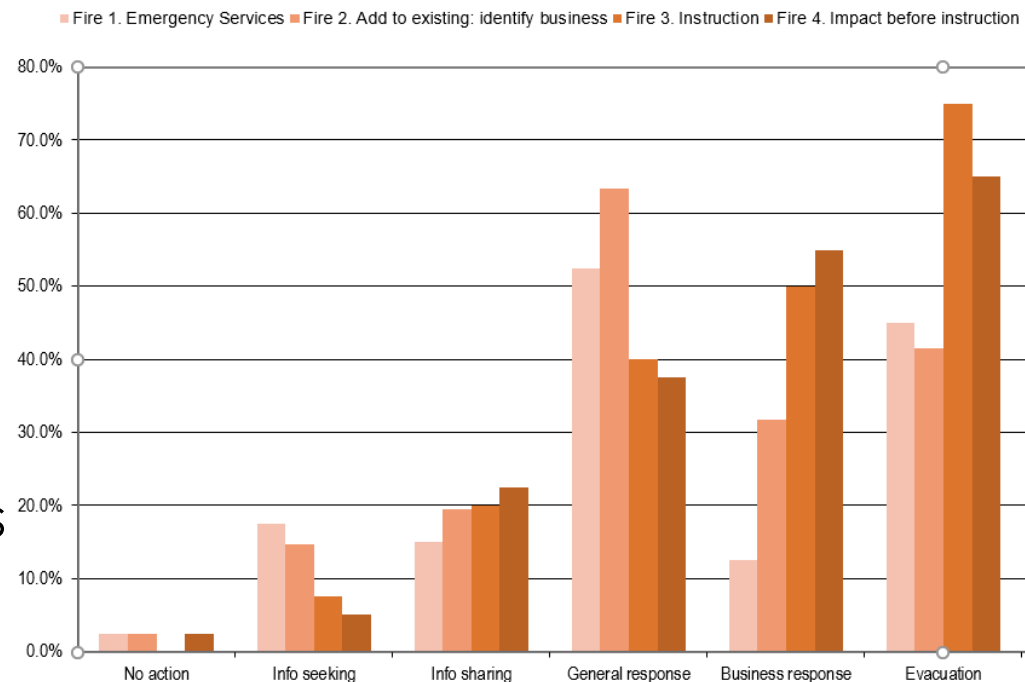| Fire	Flood
1) Message modifications were more relevant to businesses than existing message—specifically existing + identification of business	1) Message modifications were more relevant to businesses but to a smaller effect than for the fire scenario.

PROTECTIVE ACTIONS—FIRE

Fire

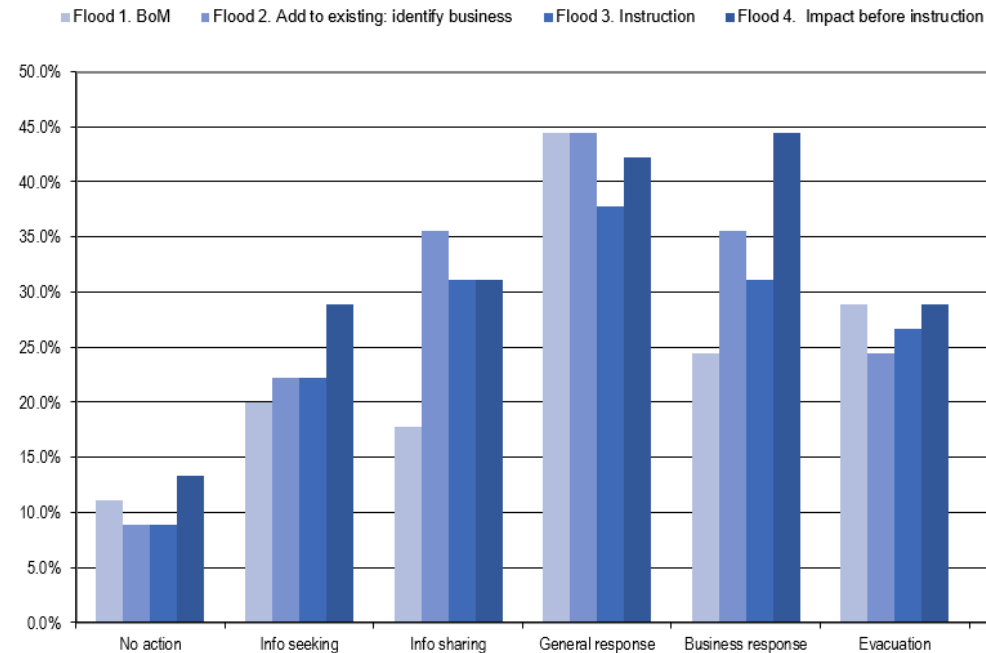1) Message modifications resulted in greater intention to :
   a) Anticipate effects on business
   b) Advise staff to protect themselves
   c) Clear flammable materials
   d) Move/secure critical business records
   e) Evacuate

Fire 1. Emergency Services ■ Fire 2. Add to existing: identify business ■ Fire 3. Instruction ■ Fire 4. Impact before instruction

PROTECTIVE ACTIONS—FLOOD

Flood

1) Message modifications resulted in greater intention to:

   a) Move/secure critical business records

   b) Advise staff to protect themselves

   c) Move/secure business equipment/stock

2) Lower intention to:

   a) Evacuate

   b) Anticipate effects on business

CHECKLIST TO INFLUENCE PROTECTIVE ACTION

Fire	Flood
❑ Specify businesses to enhance relevance	❑ Specify businesses to enhance relevance
❑ Embed content that enhances worry for employees	❑ Embed content that enhances worry for employees and risk to business future
❑ Build knowledge to sufficiently understand and respond to fire	❑ Build knowledge to sufficiently understand and respond to flood
❑ Reinforce cues to evacuate:	❑ Build confidence in ability to deal with flood
❑ Official recommendation	❑ Reinforce cues to evacuate:
❑ Concern for staff	❑ Concern for staff
❑ Seeing others evacuate	❑ Concern about others' expectations
	❑ Seeing others evacuate

RECOMMENDATIONS AND NEXT STEPS

Education, training and confidence in response before and after events

▷

Modify messages across multiple channels

▷

Further research to investigate specificity, length, format,