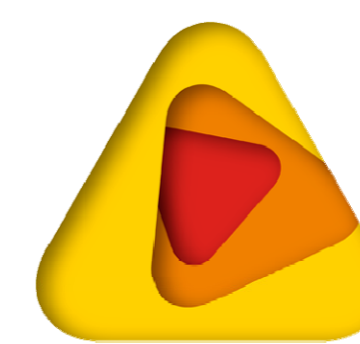# BUILDING RESILIENT COMMUNITIES: CREATING EFFECTIVE MULTI-CHANNEL COMMUNICATION DURING DISASTER RESPONSE AND RECOVERY

bushfire&natural HAZARDS CRC

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THE AIM OF THIS PROJECT IS TO EXAMINE EVIDENCE-BASED STRATEGIES THAT MOTIVATE APPROPRIATE ACTION AND INCREASE INFORMED DECISION-MAKING DURING THE RESPONSE AND EARLY RECOVERY PHASES OF NATURAL DISASTERS. THESE ARE THE RESULTS FROM WORK CONDUCTED OVER 2014-2017. WE WILL BE EXPANDING ON THIS WORK IN A NEW PROJECT DURING 2017-2020.

COMMUNITY FOCUS GROUPS: *MESSAGE COMPREHENSION*

In ten focus across Australia testing real life emergency warning messages from end-user agencies we sought to examine how community members understand and respond to emergency warnings from a familiar versus an unfamiliar hazard.

The **findings** suggested that warnings should consider:

1. Putting the **name** of the affected location at the top of the message to get attention of the right audience
2. Being **specific** with the instructions and placing the instructions early on in the warning
3. Providing **direct links** for further information for specific queries (e.g., not a generic URL link)
4. Using the **time** between updates to signal event severity
5. Assuming preparation begins in the response phase; adjust instructions accordingly
6. **Avoiding** the use of technical **language** to aid in message comprehension

COMMUNITY EXPERIMENTS: *MESSAGE COMPLIANCE*

The purpose of the experiments were to add empirical depth to findings in the focus groups, generalise the findings, and test best practice emergency warnings prior to field testing by end users. Using findings from the focus groups and expertise in psychology, behavioural economics, and risk communication we ran 77 experiments of 3615 Australians using the escalation of flood warnings messages typically found in end-user agencies.

The **findings** suggest that:

1. **Stylised message** increases intent to evacuate
2. Message order matters! **Place instructions up front** and retain weather event description (usually from BoM) later
3. Short-term, specific update times are perceived as useful and **triggered information sufficiency**
4. Long-term, vague update times trigger **optimism bias**
5. Indicating that there are responders in the area, but not how many or what they are doing, **triggers information seeking.**

SOCIAL MEDIA ANALYSIS: *EMERGENCY SERVICES MESSAGING*

In a review of Twitter communication during ex-Tropical Cyclone Marcia we examined how community members responded to emergency risk and warning messages.

The **findings** suggest five opportunities for agencies:

1. Add extra **precision** to updates and instructions
2. Filter out noise and introduce **#official** as a hashtag to draw attention to important messages
3. Integrate **stories** that personalise risk and enhance self-efficacy to reflect trends in community tweets
4. Take advantage of affect and engage in **preparation** messages during recovery phase
5. Ground-truth to share knowledge about events and their impact to add **accuracy** and avoid familiarity bias for next disaster

EYE-TRACKING EXPERIMENTS: *RISK PERCEPTIONS AND VISUALS*

To examine how people search visually for information and how risk tolerance affects message interpretation.

The **findings** suggest that:

1. Visual images used in emergency warning messages must be congruent with the information & **threat level** being advised however there is little tracking evidence of high dependence on images
2. The positive relationship between young males with high risk tolerance and minimising **message urgency** was reinforced
3. High **visual dependence** on where to get further information is significant

SURVEY WITH BUSINESSES: *EMERGENCY WARNINGS FOR BUSINESS RESILIENCE*

We qualitatively examined needs of small businesses during hazards in combination with emergency management organisations' appetite to adapt messages before running four flood and four fire experiments, adapting warning messages, with 341 participants.

The **findings** suggest that:

For Fire

1. Specify businesses to enhance **relevance**
2. Embed content that enhances **worry** for employees
3. Build **knowledge** to sufficiently understand and respond to fire
4. Reinforce **cues** to evacuate: official recommendation, concern for staff, seeing others evacuate

For Flood

1. Specify businesses to enhance **relevance**
2. Embed content that enhances **worry** for employees and **risk** to business future
3. Build **knowledge** to sufficiently understand and respond to flood
4. Build **confidence** in ability to deal with flood
5. Reinforce **cues** to evacuate: concern for staff, concern about others' expectations, seeing others evacuate

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