TOWARDS PROTECTIVE ACTION: EFFECTIVE RISK AND WARNING COMMUNICATION DURING NATURAL HAZARDS

Researchers: Professor Vivienne Tippett, Professor Lisa Bradley, Dr Paula Dootson, Associate Professor Dominique Greer, Associate Professor Amisha Mehta, Sophie Miller

STARTING POINTS FOR PHASE TWO

Evidence-based communication

Factors influencing protective action by the community

Overcoming ambiguity to maximise comprehension & positively influence action

23 end-user organisations + 46 end-users

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PHASE TWO RESEARCH PROGRAM

Research Package 1: Encouraging Protective Action and Enhancing Trust with Multi-Agency Risk and Warning Communication Strategies Lead Researcher: A/Professor Amisha Mehta	Research Package 2: Overcoming Ambiguity: Conflict between Emergency Warning Messages and Socio-environmental Cues Lead Researcher: Dr Paula Dootson	Research Package 3: Optimising Emergency Warning Messages to Encourage Readiness to Act Lead Researcher: Dr Dominique Greer
RQ1: How do community members respond to risk and warning communication from multiple agencies during natural hazards? **RQ2:** What is the optimal communication strategy (timing, content, agency) to enhance community trust in agencies and encourage protective action?	**RQ1:** How do community members interpret socio-environmental cues that conflict with emergency warning messages? **RQ2:** How can emergency warning messages overcome this conflict to encourage protective action?	**RQ1:** To what extent do current emergency warning messages encourage community members' readiness to act on emergency instructions? **RQ2:** In cases of low readiness to act, can emergency warning messages be optimized to encourage higher levels of readiness to act on emergency instructions?
RP1.1: PROVE Describe how communities evaluate messages, trust agencies, and take protective action in response to risk and warning communication from multiple agencies.	**RP2.1: PROVE** Identify how conflict between emergency warning messages and socio-environmental cues negatively impact risk perceptions, information seeking, self-efficacy, and non-compliant behaviour.	**RP3.1: PROVE** Measure the extent to which current emergency warning messages encourage readiness to act on emergency instructions (using measures of self-efficacy, motivation, opportunity and ability).
RP1.2: ASSESS Develop and test how risk and warning communication from multiple agencies and sources can enhance community trust in agencies and encourage protective action.	**RP2.2: ASSESS** Develop and test an intervention to mitigate the negative effects of conflict between emergency warning messages and socio-environmental cues to encourage protective action.	**RP3.2: ASSESS** Develop and test optimised emergency warning messages that encourage higher levels of readiness to act on emergency instructions.
RP1.3: UTILISE Engage with end-users to translate the findings via briefing notes, workshops, and personalised consultation to optimise ways to (i) build trust in risk and warning communication and (ii) support the adjustment of messages during hazards. Possible outputs could include multimedia content and message templates (including content, prompts, and starting phrases).	**RP2.3: UTILISE** Engage with end-users to translate the findings via briefing notes, workshops, and personalised consultation to optimise emergency warnings to encourage community compliance when there is conflict between emergency warning messages and socio-environmental cues. Possible outputs could include multimedia content and message templates.	**RP3.3: UTILISE** Engage with end-users to translate the findings via briefing notes, workshops, personalised consultation, and media to enhance hazard knowledge to optimize emergency warning messages in order to improve readiness to act in accordance with emergency instructions. Possible outputs could include multimedia content and message templates.
RP1.4: EVALUATE Assist end-users to develop evaluation strategies for their changes (if any) to emergency warning communications.	**RP2.4: EVALUATE** Assist end-users to develop evaluation strategies for their changes (if any) to emergency warning communications.	**RP3.4: EVALUATE** Assist end-users to develop evaluation strategies for their changes (if any) to emergency warning communications.

RESEARCH PACKAGE ONE

1) Package research aims

    a) To better understand how community members respond to risk and warning communication from multiple agencies during natural hazards.

    b) To develop an understanding of the optimal communication strategy (e.g. timing, content, agency) to enhance community trust in agencies and encourage protective action.

2) Phase one: Focus groups

    a) Partner end-users: DFES, BoM, QFES, VIC SES

- Pilot focus groups in Perth
- Fire focus groups in Caloundra
- Flood focus groups in Wangaratta

RESEARCH DESIGN

Participants evaluated:

1) BoM video
2) Agency official warning (written)
3) Agency video (QUT-designed) in uniform v plain-clothes
4) Agency emergency alert (QFES designed for research)

Hazard risk perception	Message characteristics	Information-processing	Message effect – trust, knowledge, actions

INDICATIVE STIMULI: EMERGENCY WARNING

KEY FINDINGS

Interagency congruence

Message conflict

Attention effect of video

Verification

Emergency alert

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Bureau of Meteorology—Linda Anderson-Berry

+

Victoria State Emergency Services—Tamsin Achilles

PRACTICAL IMPLICATIONS

BUREAU OF METEOROLOGY REFLECTIONS

1) Community trust in the Bureau and its challenge and ability to communicate risk and uncertainty

2) Community acceptance of and learning from videos (e.g. fire danger ratings and reliable information sources)

3) Reinforced need for localised information on maps

4) Role of visual cues (e.g. images, graphics, and text style) can gain attention and lead to action but must be congruent and meaningfully used
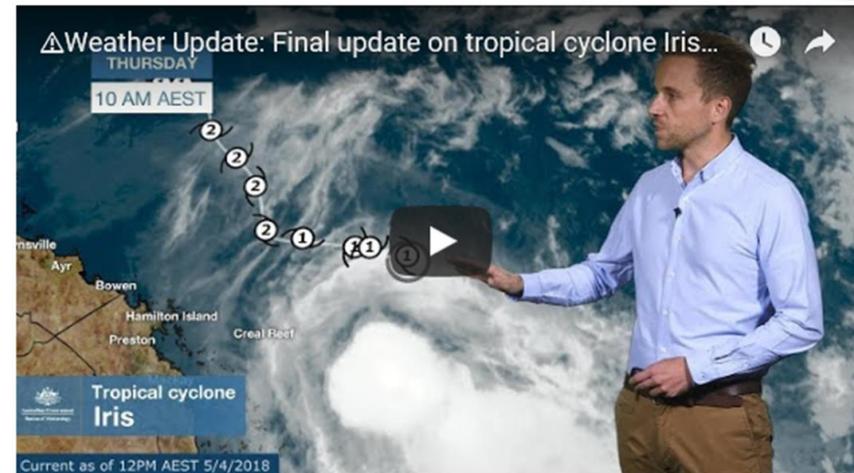
Using videos to "tell a story"

FINDINGS OF PARTICULAR NOTE

1) Understanding the value and importance of previous hazard experience (recent and historical) – we need to better understand the relationship between direct and vicarious experience

2) The need to communicate more specifically how a change in the weather elements influences the change in risk – e.g. change in wind change and direction – we need to understand how to clearly indicate/communicate the point at which, in an evolving event, the 'risk' changes and responsive action decisions need to change

TO BE CONSIDERED FOR FUTURE APPLICATION

1) Impact and consequence information is still being shaped and user needs for this information in terms of how it support their protective actions decision-making is still being understood

2) Clearer messaging – removal of the word 'warning' would be problematic

3) Explore options for working with media and other agencies to incorporate visual (particularly television) footage

4) Explore the interactions between multi agency and media messages

5) Explore greater flexibility in communication style

VICSES NEXT STEPS

1) Refining warnings products
    a) Nomenclature within content of warnings
    b) Exploring options to improve targeting of warnings products

Melbourne, Victoria December 2017, source: AAP in news.com.au

VICSES NEXT STEPS

2) Exploring new resources to aid comprehension + verification

    a) Development of pre-prepared videos

    b) Development of guidance notes and resources for field

Euroa, Victoria December 2017, source: AAP in news.com.au

VICSES NEXT STEPS

3) Emergency Alert (EA)

   a) Review of EA templates

Melbourne, Victoria December 2017, source: NewsCorp Australia in news.com.au

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