Do Current Emergency Warning Messages Encourage Readiness to Act?

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Natural hazards provoke considerable uncertainty but community members often ‘under-react’ when confronted with messages warning them of imminent hazards. How well do current emergency warning messages encourage community members’ readiness to act on emergency instructions?

Since the release of the National Review of Warnings and Information (EMV, 2014), emergency service agencies across Australia have increasingly adopted evidence-based practice in the construction of emergency warning messages. In this research, we aim to investigate the extent to which current emergency warning messages (which have been optimised to match current evidence-based practice) encourage community members’ readiness to act on emergency instructions.

We draw on a socio-psychological precautionary adaption model (Grothmann & Reusswig, 2006) that is underpinned by Protective Motivation Theory (Prentice-Dunn & Rogers, 1997).

METHOD

A total of 1,595 Australians across all states/territories participated in a survey. Participants read one of four mock emergency warnings (see Figure 1) about either a bushfire or a riverine flood and were then asked a series of questions relating to demographic characteristics, message comprehension and effectiveness, threat appraisal, coping appraisal, protection motivation and maladaptive coping behaviour. Riskiness of colour was also assessed (see Figure 2). Data were analysed using ANOVA and multiple regression.

FINDINGS

Overall, results show that optimised warning messages perform well. Optimised warning messages:

- are highly comprehensible and effective;
- provoke a moderate and appropriate threat appraisal (perceived probability and severity of hazard, and fear); and
- contain instructions that participants perceived (i) they could execute well (perceived self efficacy), (ii) would be highly protective (protective response efficacy) and (iii) were low cost (response cost).

Together, risk probability, risk severity, fear, perceived self efficacy, protective response efficacy, and protective response costs accounted for nearly 60% of the variation in protection motivation.

What about maladaptive responses?

Optimised warning messages also generate maladaptive responses. Together, risk probability, risk severity, fear, perceived self efficacy, protective response efficacy, and protective response costs accounted for just over 20% of the variation in fatalism, 34% of the variation in denial, and 15.7% of the variation in wishful thinking.

After controlling for the effects of the other variables, response cost has the strongest association with all three maladaptive coping responses, uniquely explaining 8.5% of the variation in fatalism scores, 11% of the variation in denial scores, and 5.1% of the variation in wishful thinking scores.

Reducing perceived response costs may reduce potential maladaptive responses.