



PREPARING... FOR WHAT? EXPLORING THE DIMENSIONALITY OF WILDFIRE PREPAREDNESS

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Background

Limitations A review of the literature on bushfire preparedness has identified several critical limitations: Very little attention has been paid to defining preparedness or specifying the scope of behaviours that it encompasses. Studies that measure preparedness quantitatively do so in a variety of different ways. There is therefore very little consistency across studies and it is therefore difficult to determine how the results of one study would compare to those of others. In addition, where it has been measured quantitatively, preparedness has typically been operationalised either as a uni-dimensional construct, or in terms of a large number of highly specific actions. Studies that have employed composite measures of preparedness have thus treated all actions as being equivalent in terms of their respective objective and effectiveness.

Consequences The consequences of these limitations in this line of research include: The scope of behaviours that are examined across different studies of preparedness varies considerably, making it very difficult to compare the results of different studies as the dependent variable is different in each case. Also, practitioners are left uncertain as to which of the research is most relevant to their situation. Finally, different preparatory actions will vary in their relevance as a function of the intentions of the household. E.g., a person who plans to leave well before a fire strikes would not need a fuel-powered electric generator, but would need to have a planned destination in mind. The current measures do not differentiate between preparedness items suitable for the different intentions and actions of the household.

Goals of the study:

1. Develop a formal specification of the behaviours that constitute bushfire preparedness,
2. Explore the dimensionality of preparedness and develop a typology, and
3. Develop a standardised, weighted, multi-dimensional self-report preparedness checklist for use by future researchers and practitioners.

1. Defining Bushfire Preparedness

A definition of scope of behaviours that constitute bushfire preparedness was developed on the basis of a review of existing measures. Preparedness was deemed to include:

- Any cognitive or physical action taken prior to a wildfire, or already-existing feature of a property, that will reduce the risk to the householders' lives and the property itself, in the event of a wildfire.

2. Developing a Typology of Preparedness

A variant of the Critical Incidents Technique (Flanagan, 1954) was used:

1. Preparatory actions were identified by reviewing existing research and emergency services documents → 68 unique actions that satisfied the definition
2. A taskforce of eight community fire safety experts (including end users from the Bushfire CRC) was assembled. The experts were asked, independently, look through all the preparedness actions and sort them into piles based on their own judgments on how the actions might constitute different types of preparedness. Analyses revealed five dimensions of preparedness that emerged with consistency:
 1. Preparing the Surrounding Property for Wildfire (e.g. Ensured that long grass and dense scrub is cut and well-watered)
 2. Preparing the House for Wildfire (e.g. Installed shutters to all external windows)
 3. Preparing to Evacuate (e.g. Mapped out an evacuation route)
 4. General Planning for Wildfire (e.g. Formed a household bushfire emergency plan)
 5. Preparing to Defend the Home against Wildfire (e.g. Obtained and prepared equipment to put out spot fires and sparks, such as metal buckets, rakes, shovels, and mops)

3. Dimensions 3 and 4 were closely related to one another, most likely reflecting the fact that preparing to evacuate requires considerable 'cognitive' planning.
4. A new sample of experts will be assembled to cross-validate the assignment of each action to its respective dimension as well as weight each behaviour in terms of its effectiveness. The results of this part of the exercise were not available at the time of submission.

The dimensions observed using this method were consistent with those observed in an exploratory factor analysis of data from an earlier study of community bushfire preparedness using a smaller set of preparedness actions (McNeill et al., under review).



3. Developing a Self-Report Preparedness Checklist

- By using the effectiveness ratings obtained from the experts in Step 5 above, each preparedness action will be weighted in terms of how effective and critical it is for success.
- Future researchers will be able to make use of either the full measure, or the dimensions that are most relevant to their research.
- Practitioners and government agencies will be able to include the measures in their published materials for the purposes of household self-assessment.