HOW PERCEPTIONS ABOUT COMMUNITY PREPAREDNESS INFLUENCE HOUSEHOLDERS' OWN HAZARD READINESS

ABOUT THIS PROJECT

This research was conducted as part of the *Improving the role of hazard communications in increasing residents' preparedness and response planning* project, which sits within the *Communications and warnings* cluster. This research concluded in 2017.
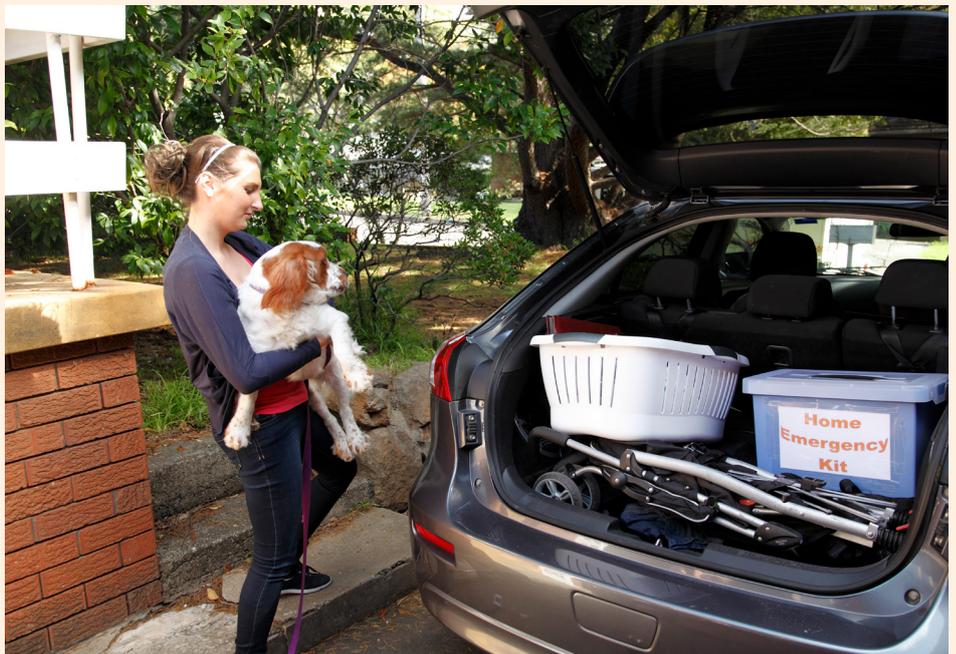
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SUMMARY

Telling residents about how and why to prepare for bushfires and floods is not always effective in prompting them to act. This research explored the potential of a different motivational strategy, which is based on a theoretical model of behaviour called the Reasoned Action Approach. Specifically, the researchers investigated the extent to which residents' preparedness could be explained by their perceptions of the culture of preparedness in their local community.

Data about bushfire and flood preparation from residents across several states was collected to measure the perceived attitudes and social norms around preparing held by different portions of the community.

Among the key findings were that to effectively influence natural hazard preparedness, it is important to 1) consider which aspects of preparedness need to be influenced, 2) which community groups have the most influence on that aspect of preparedness, and 3) whether this influence should be based on how prepared the community group is in relation to this aspect, or how prepared the community group expects others to be in this regard.

CONTEXT

Previous research has shown that the effectiveness of traditional ways of encouraging residents to prepare for natural hazards has been limited. This research is based on the Reasoned Action Approach motivational model, and focuses on residents' perceptions of community attitudes, behaviours and expectations as levers for influencing residents to prepare.

BACKGROUND

Past research using the Reasoned Action Approach has shown that the likelihood of an individual performing a behaviour is influenced by:

- their attitude towards the behaviour (was it seen as something positive or negative, for example)
- the extent to which individuals think others are performing the behaviour, which is referred to as the descriptive norm
- the individual's perceptions of whether others expect them to perform the behaviour, which is referred to as the injunctive norm, and
- individuals' perceived ability to perform the behaviour.

Although some studies have used this model to understand preparedness for natural hazards, these studies have several
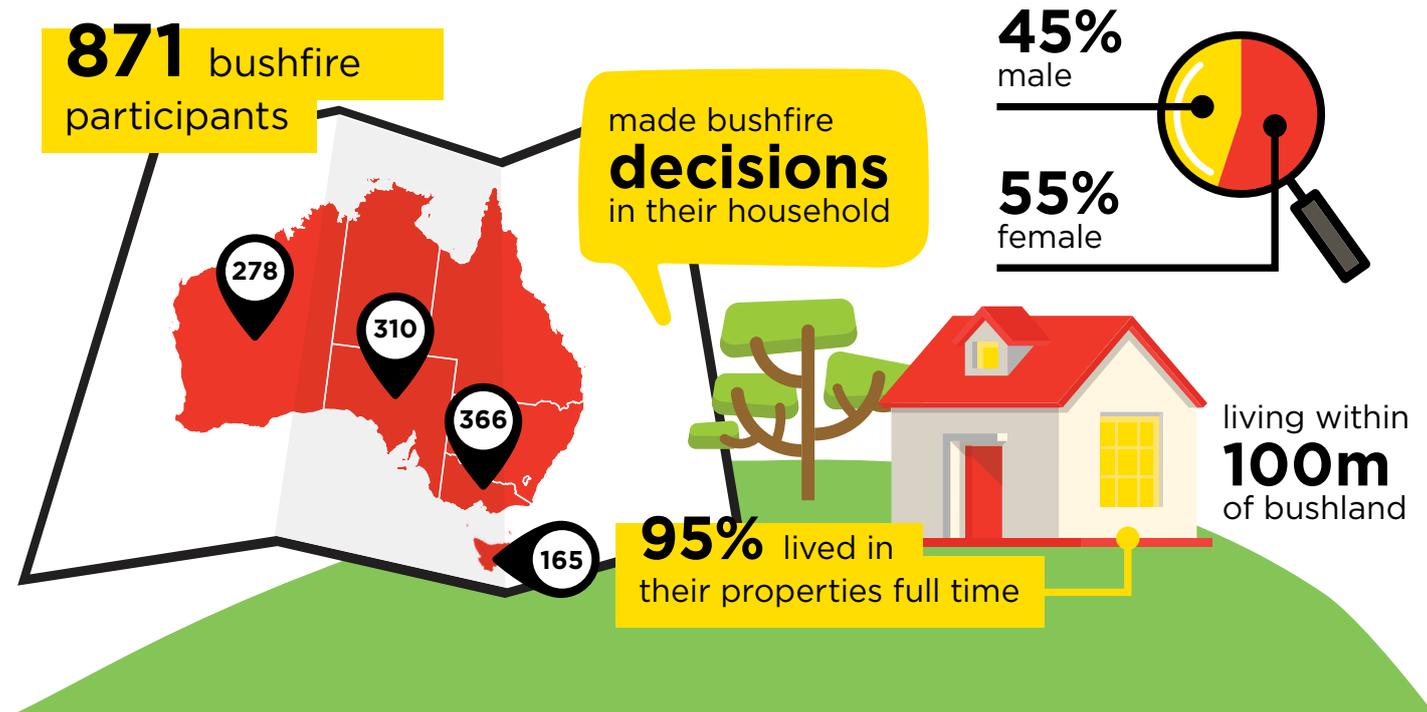
▲ Figure 1: BUSHFIRE PARTICIPANTS WHO PARTICIPATED IN THE BUSHFIRE COMPONENT OF THIS RESEARCH.

limitations. For example, most looked at intentions to prepare rather than actual preparedness, and none of the studies that examined actual preparedness took all of the above aspects into account simultaneously. In addition, none of these studies looked at whether it matters which group in the community was presenting the attitudes or norms, (for example, local peers versus the local council). Finally, these past studies generally looked at one type of preparedness (for example, preparing your property for bushfires) or used a very general measure, rather than examining different aspects (planning how to evacuate, for example).

This project conducted two field studies, involving quantitative surveys of residents regarding bushfire and flood, that were designed to fill these data gaps.

BUSHFIRE AND NATURAL HAZARDS CRC RESEARCH

Bushfire participants

The bushfire data was collected at two time points: at the start of the 2016/2017 fire season (wave 1), and towards the end of the season (wave 2). Of the 871 respondents who completed the first wave, 291 residents lived in Victoria, 265 in South Australia, 209 in Western Australia and 106 in Tasmania. A total of 248 respondents completed the survey at both time points, with 75 residents from Victoria, 45 in South Australia, 69 in

Western Australia and 59 in Tasmania.

The recruitment criteria included that respondents made bushfire decisions in their household, were aged 18 years or over, and their house was within 100 metres of bushland (for example, a park, reserve, undeveloped public or private land, etc that was at least one hectare).

Fifty-five per cent of respondents were female, and the average age of respondents was 55 years. Most residents lived in their properties full time (95%), most of which were houses on residential blocks (70%).

Flood participants

The flood data was collected at one time point, in February 2017. Of the 297 respondents, 151 residents were in Queensland and 146 in New South Wales.

The recruitment criteria included that respondents lived in a community that was at risk of flooding, they made flood-related decisions in their household and were aged 18 years or over.

Sixty per cent of respondents were female, and the average age of respondents was 47 years. Most residents lived in their properties full-time (97%), most of which were houses on residential blocks (64%).

Method

The researchers used a quantitative methodology to measure respondents' personal attitude towards preparing for

bushfires/floods and their perceived ability to prepare for bushfires/floods (these were the control variables). As well, the researchers measured participants' beliefs about the attitudes towards preparing and their perceptions of the community norms around preparing of:

1. local residents in general
2. local friends, relatives, and neighbours (their peers)
3. the local council, and
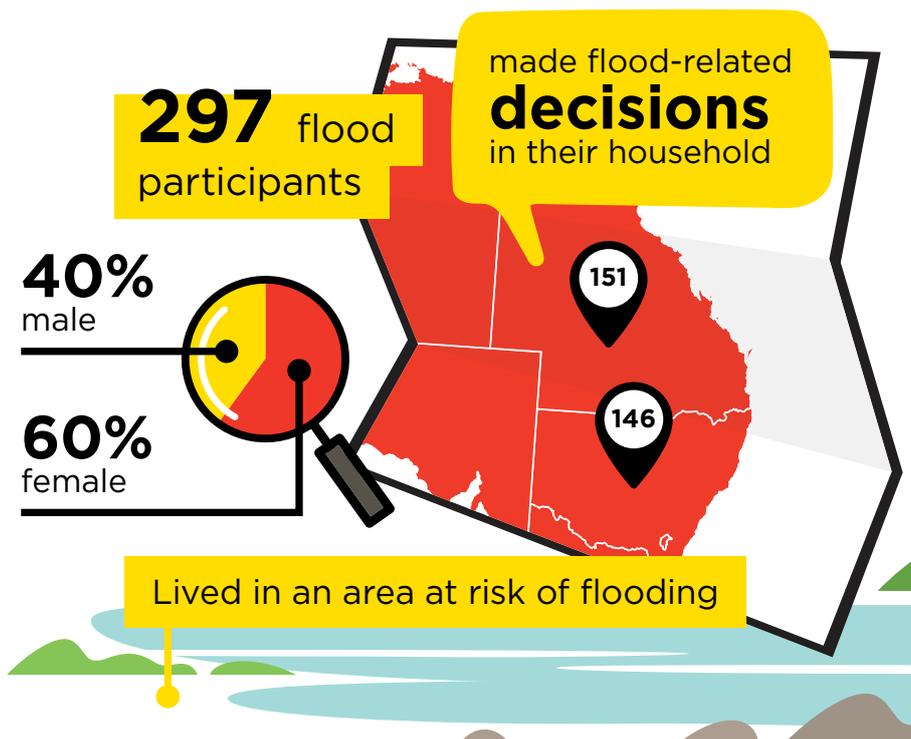4. the locally active fire agency/State Emergency Service.

Finally, the researchers measured the following aspects of preparedness:

• *Physical preparedness (preparatory actions)*

For the bushfire study, this measure focused on whether the respondent had prepared in ways that would increase the fire resistance of their property (27 items), and prepared themselves for defending (23 items) and evacuating (six items). For the flood study, this focused on whether the respondent had completed actions on an emergency checklist (16 items). Both studies measured physical preparedness as a percentage of actions completed.

• *Planning*

This was measured with 13 items for both the bushfire and flood study. It was also measured as a percentage of actions completed.

297 flood participants

made flood-related **decisions** in their household

40% male

60% female

151

146

Lived in an area at risk of flooding

▲ Figure 2: FLOOD PARTICIPANTS WHO PARTICIPATED IN THE FLOOD COMPONENT OF THIS RESEARCH.

- *Perceived availability of social support for response and recovery*

This was measured with six items for social support for response and six items for social support for recovery, all scored on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Scale scores were calculated as the average across the six items, with a higher score indicating greater availability of social support.

- *Perceived ability to respond and recover*

This was measured with seven items of response and seven items for recovery, all rated on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Scale scores were again calculated as the average across the items, with a higher score indicating greater perceived ability.

- *Financial resilience*

This was measured with three items rated on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Scale scores were again calculated as the average across the items, with a higher score indicating greater financial resilience.

RESEARCH FINDINGS

The pattern of results showed many similarities between the bushfire and flood samples. Some of the key findings are broadly summarised here; for more detail please see McNeill *et. al*. 2017 in further reading.

- *Personal ability versus attitude:* overall, residents were more likely to prepare for bushfires or floods if they felt capable of doing so than if they merely had a positive attitude towards preparedness.
- *Actions speak louder than words:* respondents' perceptions of how prepared community groups were tended to be better predictors of their own bushfire or flood preparedness than perceptions of the extent to which community groups held positive attitudes towards preparing.
- *Residents versus official bodies:* Overall, preparedness appeared more strongly related to perceptions of what other residents (especially peers) thought and did than to perceptions of what the local council or emergency service thought and did.
- *What matters most depends on the group:* For local peers and residents, preparedness appeared to be more strongly connected to how prepared these groups were, rather than to how prepared these groups expected the respondents to be. The opposite was true for the local council and fire agencies; for the latter, preparedness appeared to be more strongly connected to how prepared these groups expected respondents to be rather than to how prepared these

groups appeared to be themselves.

However, there were also some noteworthy differences between findings from the bushfire and flood studies.

- *Attitudes:* residents' and peers' attitude towards preparing seemed unrelated to planning and physical preparedness for bushfires, but were negatively related to these aspects of preparing for floods. For the latter, respondents who thought their peers viewed flood preparation more positively did less preparation than respondents who thought their peers' flood preparation attitudes were more negative.
- *Expectations:* the SES appeared to have a stronger influence on residents' preparedness for floods than the local fire brigade had for fire. That is, perceived expectations set by the local fire brigade appeared unrelated to physical preparedness for bushfires. However, respondents were more likely to prepare an emergency kit for floods if they believed the local SES strongly expected them to do so.
- *Financial resilience:* for floods, higher perceived preparedness of the emergency service was related to higher reported personal financial resilience by residents. This was not replicated for bushfires.
- *Emergency kit preparations:* for floods, residents who thought the SES held

higher expectations for residents' preparedness did more emergency kit preparation than those who thought the SES held milder expectations.

HOW THE RESEARCH COULD BE USED

The research results show that in formulating strategies and interventions to influence bushfire and flood preparedness through community culture, it is important to ask:

1. What aspect of preparedness needs to be influenced?
2. Which community group is mostly likely to influence this aspect of preparedness?
3. Which aspect of this community group's culture could most effectively influence this type of preparedness?

The results suggest that it might be more fruitful to give residents the perception that others in their community are well prepared than the perception that others have a positive attitude towards preparing.

It also indicates that fire and emergency services should focus on shifting residents' perceptions of social norms set by other community groups, rather than predominantly communicating the social norms held by the agencies themselves.

FUTURE DIRECTIONS

The research presented in this *Hazard Note* provides valuable information on the potential role of perceptions around community preparedness in increasing residents' preparedness for bushfires and floods. However, there are still several gaps that need to be filled by future research. The most important of these is the gap between correlation and causality. Current studies were correlational in nature, and therefore lacked any conclusive evidence around causality. Future research needs to test the extent to which intervention strategies based on these findings are effective at 1) changing the targeted community perceptions of preparedness, and 2) subsequently increasing the targeted aspects of preparedness.

FURTHER READING

McNeill IM, Boldero JM and Vargas-Saenz A (2017), Community culture and bushfire preparedness: the role of attitudes and social norms, Bushfire and Natural Hazards CRC.

▲ **Above:** THE STUDY FOUND THAT RESIDENTS WERE MORE LIKELY TO PREPARE FOR BUSHFIRES OR FLOODS IF THEY FELT CAPABLE OF DOING SO THAN IF THEY MERELY HAD A POSITIVE ATTITUDE TOWARDS PREPAREDNESS. PHOTO: NSW SES