

PROGRAM: COMMUNICATING RISK

PROJECT: HUMAN BEHAVIOUR UNDER STRESS(2):

HOW HOUSEHOLDERS MAKE DECISIONS DURING BUSHFIRES

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Tasmania Fire Service

GOODBYE!

This was my last RAF
(the project ends this year)

Q1:

Are there any ‘nuggets’ left in the Bushfire CRC Black Saturday Task Force interviews beyond what was in the Report to the 2009 Victorian Bushfires Royal Commission?

Q2:

Are there potentially useful concepts for enhancing community bushfire safety endeavours by agencies to be found in the applied social psychology health promotion/injury prevention literature?

A1:

Yes; but a different—quantitative—analysis strategy would be needed (not simply a ‘more-of-the-same’ qualitative analysis methodology as used in the Report to the Bushfires Royal Commission). Transcripts to be analysed using a reliable category rating, coding, and counting procedure.

A2:

Probably yes; but in any event a ‘more-of-the-same’ pragmatic, simplistic, street-wisdom approach based on ‘the last big bushfire’ may not (on its own) lead to major improvements in community bushfire safety preparedness for the NEXT big bushfire. Trialling ideas derived from research-based behaviour-change theories could give agencies a needed boost.

McLennan, J. & Elliott, G. (2011). *Community members' decision making under the stress of imminent bushfire threat – Murrindindi Fire*. Melbourne: School of Psychological Science, La Trobe University.

<http://www.bushfirecrc.com/publications/citation/bf-3138>

McLennan, J. & Elliott, G. (in press?). Community members' decision making under the stress of imminent bushfire threat – Murrindindi Fire. *Fire Note*, Bushfire CRC.

Beatson, R. & McLennan, J. (2010). *Understanding community bushfire safety from social psychology perspectives-a discussion paper*. Melbourne: School of Psychological Science, La Trobe University.

http://www.bushfirecrc.com/managed/resource/socpsych_theories_discussionpaper_.pdf

Beatson, R. & McLennan, J. (2011). What applied social psychology theories might contribute to community bushfire safety research after Victoria’s “Black Saturday”. *Australian Psychologist*, 46, 171-182. / doi: 10.1111/j.1742-9544.201.00041.x

Beatson, R. & McLennan, J. (2010). Applying social psychology to community bushfire safety. *Fire Note No. 71*, December 2010. Bushfire CRC.

http://www.bushfirecrc.com/managed/resource/applying_social_psychology.pdf

THE 'MAIN GAME': THE 2011-2012 'HUMAN BEHAVIOUR UNDER STRESS(2)' PROJECT

1. Conduct analyses of all the 7 February 2009 Black Saturday Bushfire CRC Task Force interview transcripts and report findings potentially relevant to future community bushfire safety endeavours.

(A detour: Organise and lead a FESA(WA) – Bushfire CRC ‘mini-taskforce’ to interview a sample of residents impacted by the Lake Clifton (WA) Fire of 10 January 2011, analyse the interview transcripts and report on findings relevant to community bushfire safety).

2. Conduct surveys of households in bushfire at-risk communities nominated by participating fire agencies to investigate potential theory-derived determinants of bushfire survival-related decisions and actions—including decisions to ‘wait and see’ what develops before committing to an action.

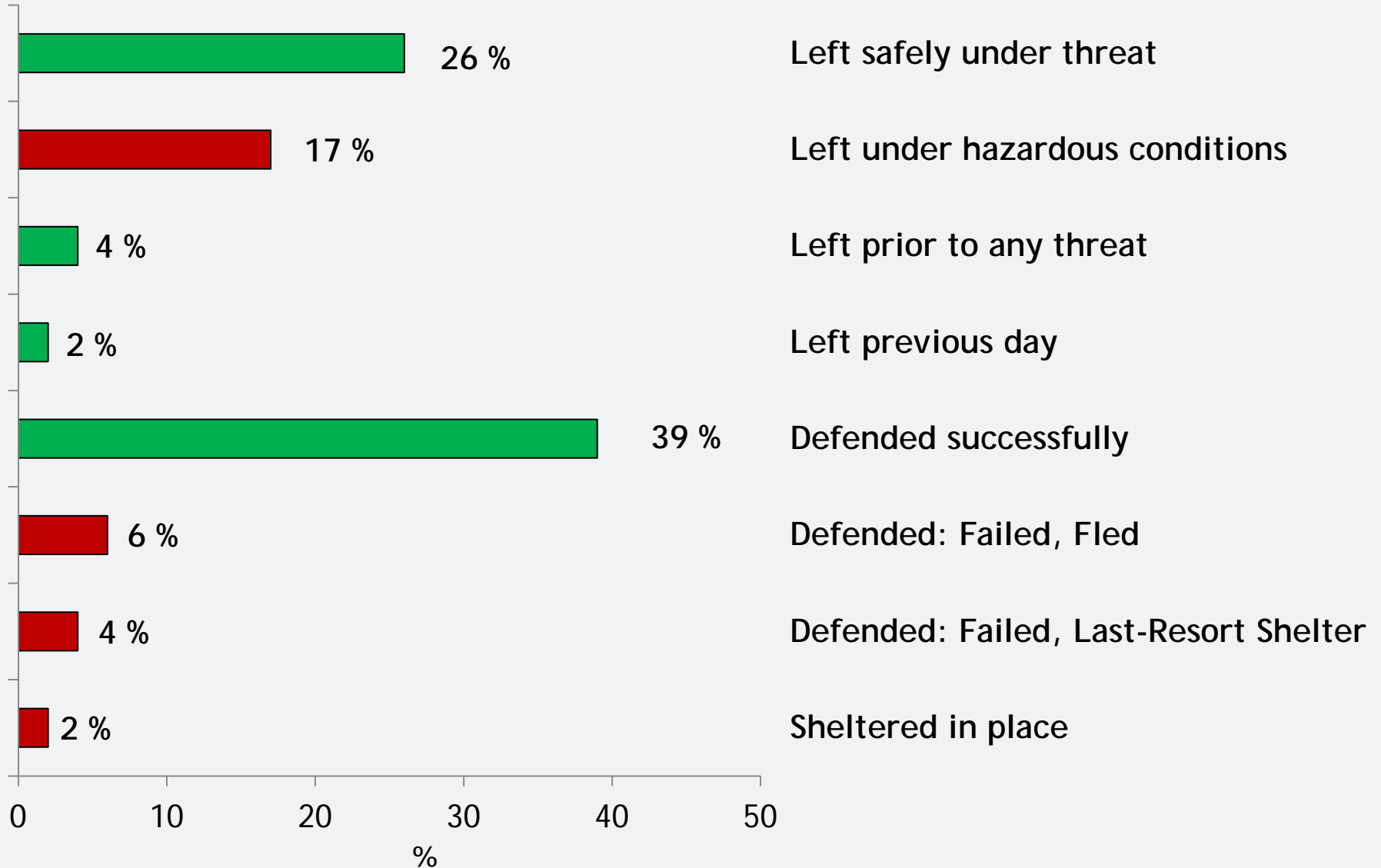
THE BUSHFIRE CRC RESEARCH TASK FORCE

--ANALYSES OF THE TRANSCRIPTS

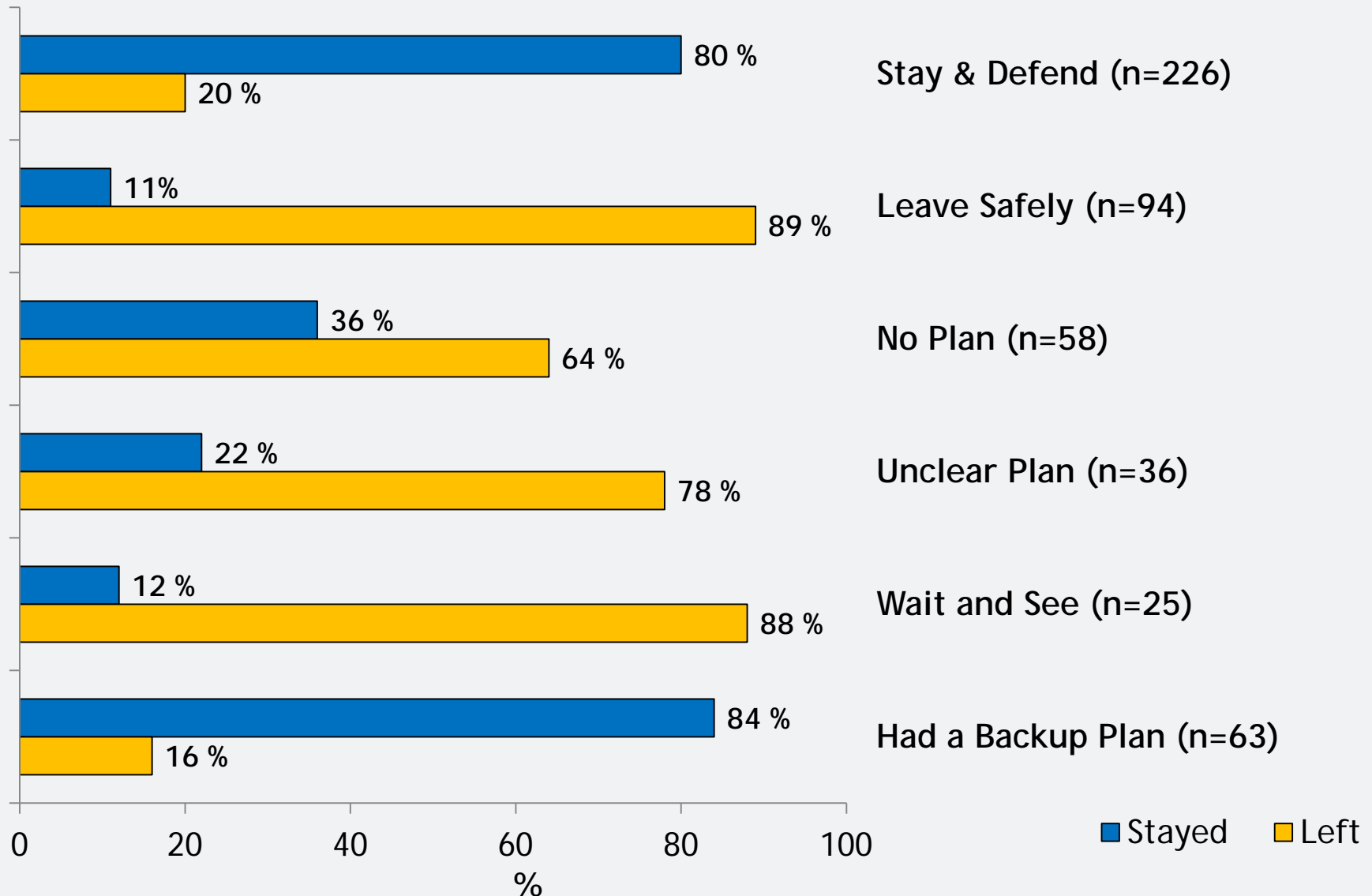
- 496 interviews with affected households
- 457 involved survival-related decision making
- Interviews transcribed, content coded/rated, analysed



ACTIONS AND OUTCOMES (% , N = 457)



ACTIONS: STAYED & DEFENDED VS LEFT IN RELATION TO PRIOR PLANS/INTENTIONS (% , N = 439)



'STAY-AND-DEFENDERS' VERSUS 'LEAVERS'?

Stayed and defended:

Engaged with bushfire risk

- Prized home/property
- Planned and prepared to defend
- Believed their endeavours would succeed.

Left:

Few engaged with bushfire risk

- Low level of planning and preparation (protect **or** leave)
- Reacted to emerging threat
- Perceived fire danger
- Concerned for family safety

COMMUNITY SAFETY 'TAKE-AWAYS'?

1. Many of those who left had not personalised bushfire risk—neither long term, nor that predicted for 7 February 2009.
2. Many who intended to leave before being threatened had neither planned nor prepared so as to do this safely.
3. Many who intended to leave took a 'wait and see' approach when fire threatened (*researchers: WHY?*).
4. Many who stayed and defended were not prepared for the severity of bushfire attack under the predicted conditions.
5. There are many important differences in bushfire risk perceptions among residents who live: (a) on isolated rural properties, (b) on streets of rural towns, and (c) on suburban bushland-interface streets.
6. For the future: devote attention to: (i) educating at-risk householders about planning and preparing to leave safely; and (ii) emphasising the risks involved in staying and defending.

McLennan, J., Elliott, G., & Omodei, M. (2011). *Issues in community bushfire safety: Analyses of interviews conducted by the 2009 Victorian bushfires task force*. Melbourne: School of Psychological Science, La Trobe University.

<http://www.bushfirecrc.com/publications/citation/bf-3160>

McLennan J, Omodei M, Elliott G, Holgate A (2011) “Deep survival”: Experiences of some who lived when they might have died in the February 2009 bushfires. *Australian Journal of Emergency Management*, 26(2), 41-46.

McLennan, J., Elliott, G., Omodei, M., McNeill, I., Dunlop, P., & Suss, J. (2011). Bushfire survival-related decision making: What the stress and performance research literature tells us. *Proceedings of the AFAC/Bushfire CRC Conference Science Day*, Sydney, September 2011.

<http://www.bushfirecrc.com/resources/pages-307-319-bushfire-survival-related-decision-making>

McLennan, J., Elliott, G., & Omodei, M. (2012, April). *When residents come under imminent wildfire threat what aspects of decision making distinguish those who stay and defend their home from those who leave?* Paper presented at the 3rd Human Dimensions of Wildland Fire Conference, International Association of Wildland Fire, Seattle.

McLennan, J., Elliott, G., & Omodei, M. (in press). Householder decision making under imminent wildfire threat: stay and defend or leave? *International Journal of Wildland Fire*.

McLennan, J. & Elliott, G. (in press?). Community bushfire safety issues: Findings from interviews with residents affected by the 2009 Victorian bushfires. *Fire Note*. Bushfire CRC.

McLennan, J., Elliott, G., & Omodei, M. (in preparation). The 7 February 2009 Victorian (Australia) wildfires: Household's survival-related decision making. *Fire Safety Journal*.

DETOUR: THE LAKE CLIFTON (WA) FIRE: ANALYSES OF INTERVIEW TRANSCRIPTS

10 January 2010, school holiday Monday.

40 households interviewed—35 in the fire scar area (= 56% of the 62 households in the fire scar), plus five on the edge of the fire scar (directly in the path of the advancing fire).

Interviews were conducted 18-21 January, teams of two interviewers (1 X FESA Community Engagement, 1 X university researcher—UWA(2), La Trobe(1), VU(1))

Findings:

1. A high level of potential bushfire threat awareness, BUT:
2. A low level of bushfire preparedness—a lack of personalising of bushfire threat.
3. A worry: the number of residents who expected and waited for a message from authorities that it was time to leave.

DETOUR: THE LAKE CLIFTON (WA) FIRE: ANALYSES OF INTERVIEW TRANSCRIPTS

OUTPUTS

McLennan, J., Dunlop, P., Kelly, L., & Elliott, G. (2011). *Lake Clifton Fire 10 January 2011: Field interview task force report – community bushfire safety*. Melbourne: School of Psychological Science, La Trobe University.

http://www.bushfirecrc.com/managed/resource/fesa_report_lake_clifton_fire.pdf

McLennan, J. & Dunlop, P. (2012). Householders' Survival Decisions Under Imminent Bushfire Threat – 2011 Lake Clifton (WA) Fire: A Joint FESA-Bushfire CRC Field Research Study. *Fire Note No. 91*, May 2012. Bushfire CRC.

http://www.bushfirecrc.com/managed/resource/1205_lakeclifton_f91_lowres.pdf

Dunlop, P., McLennan, J., Elliott, G., Kelly, L., Riseborough, K., Tyler, M., & Fairbrother, P. (2011). Capturing the community's bushfire experiences: Lake Clifton (WA) fire. *Proceedings of the AFAC/Bushfire CRC Conference Science Day*, Sydney, September 2011.

http://www.bushfirecrc.com/managed/resource/272-277_capturing_community_members_bushfire_experiences_the_lake_clifton_fire.pdf

Cadeddu, M., McLennan, J., & Evans, L. (in preparation). Bushfire survival-related decision making by couples during the Lake Clifton (WA) Fire. *The Australian Journal of Emergency Management*.

DETERMINANTS OF HOUSEHOLDERS' BUSHFIRE SURVIVAL-RELATED DECISION MAKING: IN PROGRESS

Survey questionnaire

- 7 locations in Tasmania
- 6 locations in NSW
- 2 locations in the ACT
- Range of locations in NE-Victoria (by La Trobe Honours student Heidi Cochrane)

Can be completed on-line or by mailing a reply-paid paper version.

- Bushfire-related demographics
- Fire threat scenario:

Now imagine that during the fire season you and all those who normally reside with you are at home. It has been declared a day of "Extreme Fire Danger", and there is a Total Fire Ban for your Region of the State/Territory. At about 3pm you become aware of a warning (on the radio, or a web site, or by email, or text, or telephone) that there is a large bushfire burning out of control and that it will probably hit your location in 1-2 hours. You look outside and see a large plume of smoke being blown toward your property.

--CHOOSE:

Leave as soon as possible

Stay and defend

Wait and see what develops.

DETERMINANTS OF HOUSEHOLDERS' BUSHFIRE SURVIVAL-RELATED DECISION MAKING: IN PROGRESS

- Three parallel sets of questions, each tailored to the choice.

The questions measure theoretical constructs making up each of three models of health-promoting/injury prevention behaviour:

Theory of Planned Behaviour-Expanded.

Protection Motivation Theory

Extended Parallel Processing Model (of fear/threat-based behaviour change).

PLUS a set of psychological characteristics which analyses of the Task Force transcripts suggested **may** be relevant to bushfire survival-related decision making under imminent threat:

- Self-esteem
- Emotionality
- Sense of Community
- Attachment to Place
- Fatalism
- Reactance
- Avoidance/Denial

DETERMINANTS OF HOUSEHOLDERS' BUSHFIRE SURVIVAL-RELATED DECISION MAKING: IN PROGRESS

- Finally, a measure of bushfire preparedness—to stay and defend and to leave safely.

So far, ~600 returns: 45% leave as soon as possible; 25% stay and defend; 30% wait and see what develops before committing to a final course of action. Data collection closes 31 May 2012.

OUTPUTS TO DATE

McLennan, J. & Elliott, G. (2012). Checklist of items for researchers: Householder preparations for bushfires. Melbourne: School of Psychological Science, La Trobe University.

http://www.bushfirecrc.com/managed/resource/checklist_items_for_researchers_occasional_report_2011.pdf

McLennan, J. & Elliott, G. (2012). Checklist of items for researchers: Householder preparations for bushfires. *Fire Note No. 87*, Bushfire CRC.

http://www.bushfirecrc.com/managed/resource/checklist_items_for_researchers.pdf

TO COME:

Report

Fire Note

Paper(s) in refereed journal(s)