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WESTERN AUSTRALIA  
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# **Motives, Goals, and Expectations: A Self-Regulatory Perspective on Enhancing Preparedness and Information Processing under Stress**

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# McLennan & Elliott (2010)

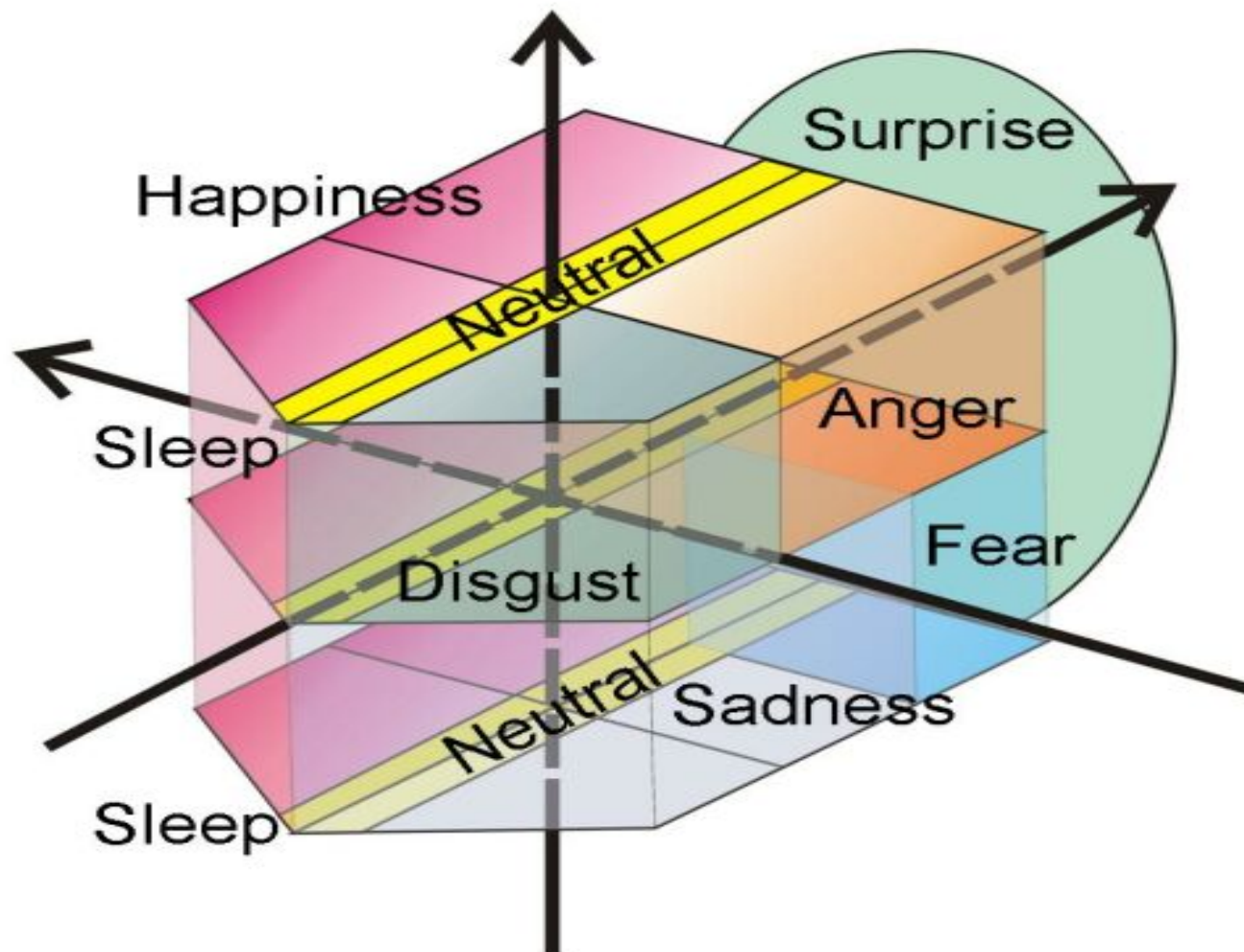
- Ten Lessons from Murrindindi Fire:
  - Two identified the importance of community and social context
  - Two identified the importance of information and its sources
  - One identified the role of anxiety and emotional regulation

# Human Decision Making



Is influenced by many things

People can behave in a rational way under some circumstances but frequently they are not



We also know that decisions are often influenced by the social context



"All those in favour say 'Aye'."

"Aye."

"Aye."

"Aye."

"Aye."

"Aye."

The concepts of “Groupthink” and “Risky Shift” are well known

## Understanding the Community Context

- Embeddedness
- Self-Efficacy
- Leadership
- Social Cohesion
- Trust in agencies
- Attitudes

### Decisions in the lead-up

- Home site selection
- Establish fire plan
- Clear fuels
- Install defensive measures
- Contingency plan

## Getting the Messages Right

- Individual Differences in Motives and Goals

### Decisions on the day

- wait and see
- defend then leave
- avoid altogether
- take shelter

## Understanding the Receivers

- Individual Differences in Emotional Susceptibility

# What's been happening

- Staff Appointments (2 PhDs)
- Disaster Master Classes and Seminars
- Perth Hills Fires
  - Roleystone, Redhill, Gidgegannup
  - Community feedback and research forums
    - Added Busselton, Bunbury, Capel, Kalamunda

# Data collection - interviews

- Interviewers invited residents to participate in a recorded interview.
- Interview checklist completed during interview
- Household survey given to interview participants and for other adult members of the household

|                      | Interview Checklist | Interviews | Addresses Visited         |
|----------------------|---------------------|------------|---------------------------|
| Kelmscott-Roleystone | 307                 | 303        | 1041                      |
| Red Hill-Brigadoon   | 65                  | 65         | 173<br>(plus flyer drops) |
| Gidgegannup          | 53                  | 52         | 242<br>(plus flyer drops) |
| Total                | 425                 | 420        | 1456                      |



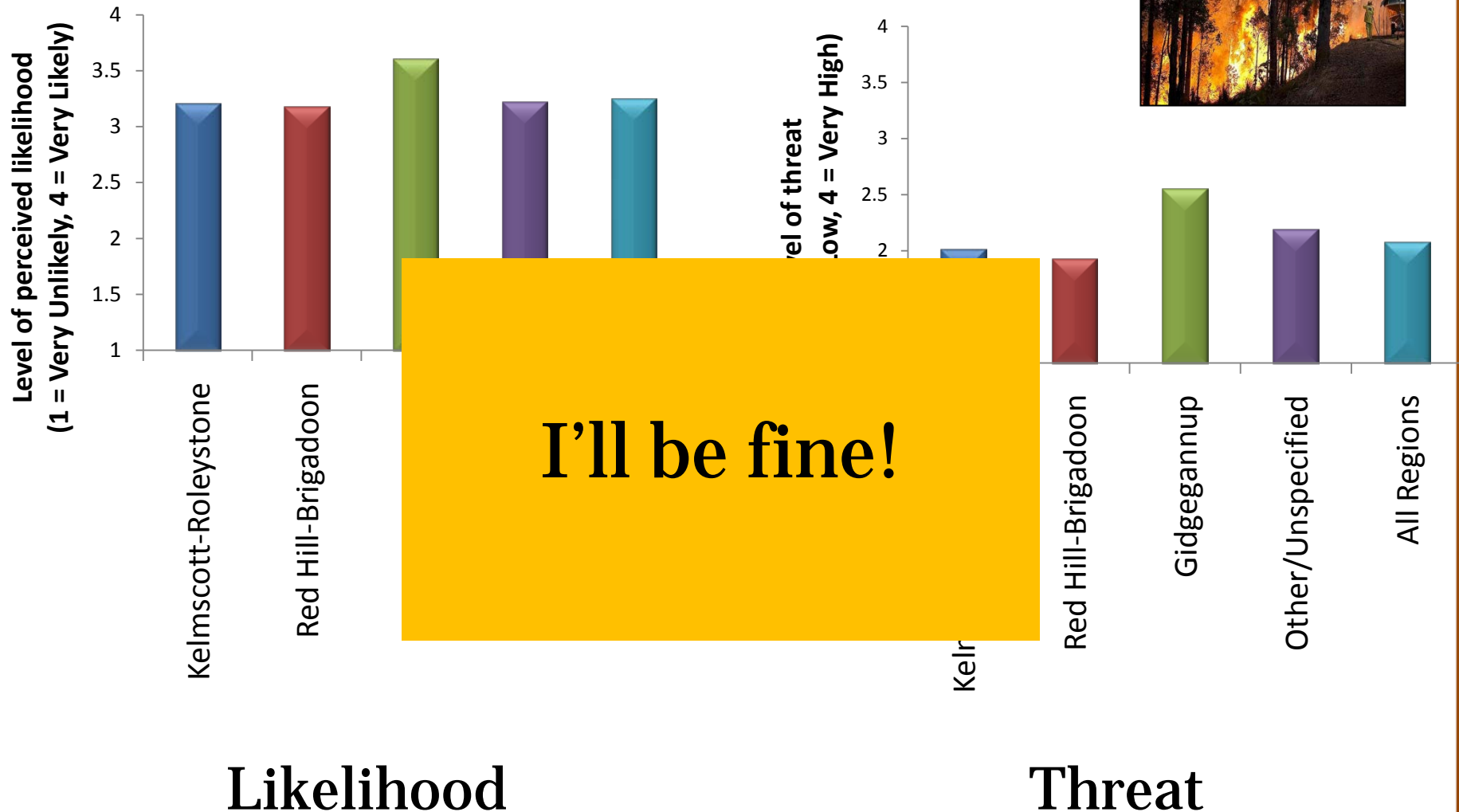
# Data collection - questionnaires

- 3000 questionnaires were mailed out to residents within the fire damaged suburbs

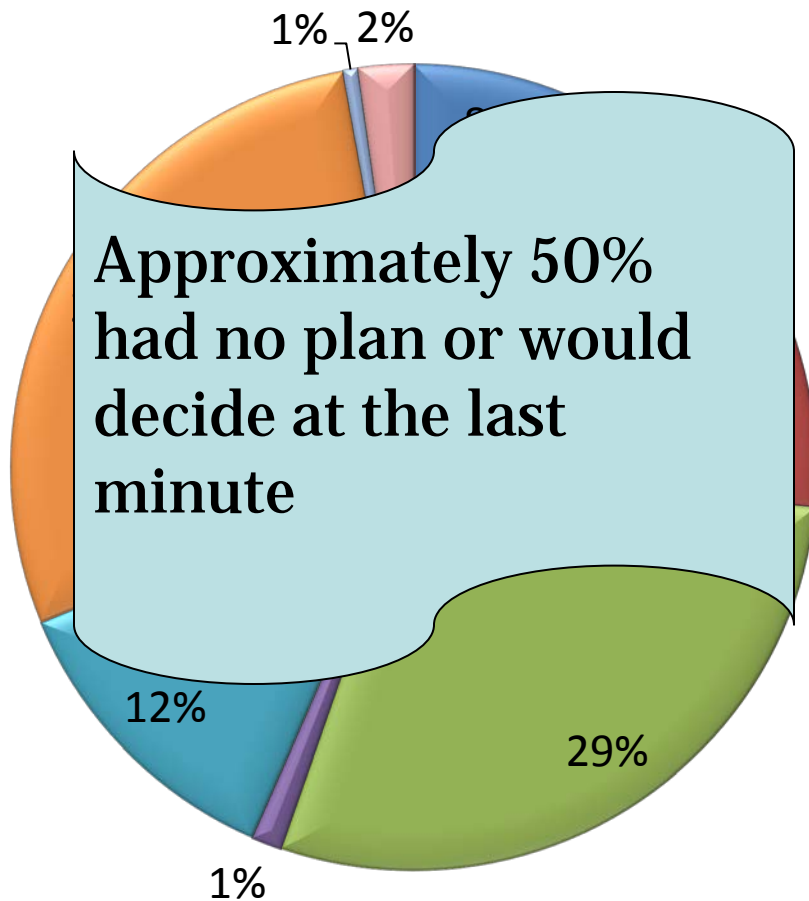


|                      | Mailed out  | Returned    | Response Rate |
|----------------------|-------------|-------------|---------------|
| Kelmscott-Roleystone | 2115        | 685         | 32.4%         |
| Red Hill-Brigadoon   | 885         | 139         | 29.0%         |
| Gidgegannup          |             | 118         |               |
| Unspecified/Other    |             | 90          |               |
| <b>Total</b>         | <b>3000</b> | <b>1032</b> | <b>34.4%</b>  |

# Likelihood and threat of bushfire

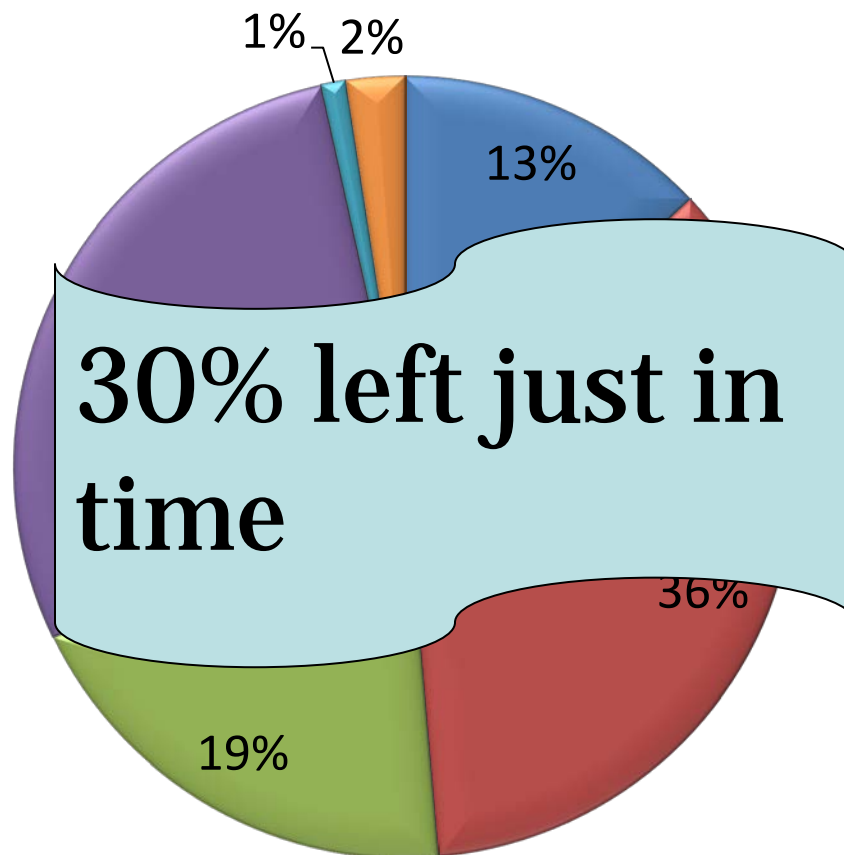


# Bushfire Survival Plan - Kelmscott



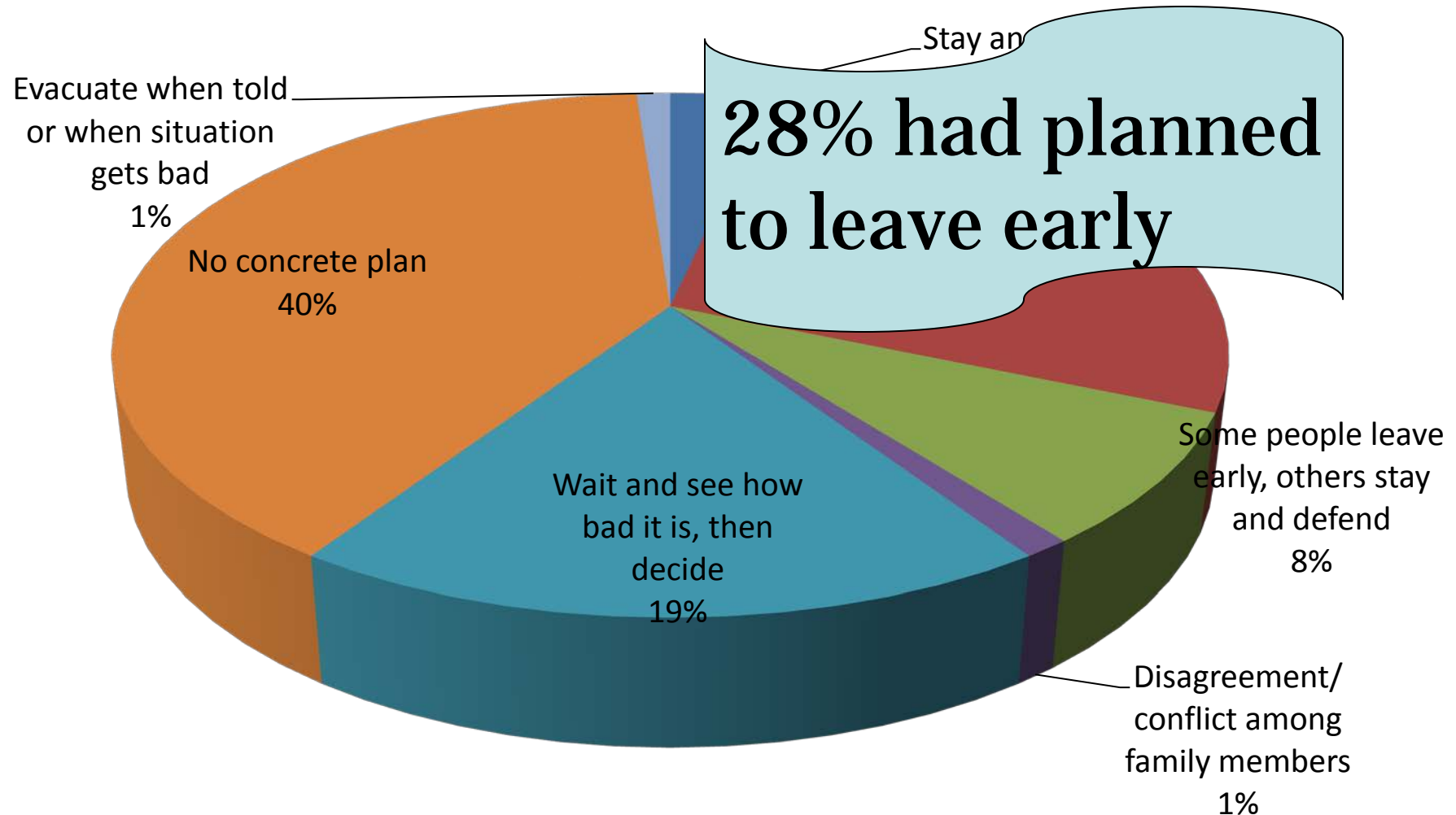
- Stay and defend (unambiguous)
- Wait and see how bad it is, then decide
- Whole family leaves early
- Disagreement/conflict among family members
- Some people leave early, others stay and defend
- No concrete plan
- Defend for as long as possible, then leave
- Evacuate when told/when situation gets bad

# Action on the day of the fire – Kelmscott



- Not at home, just by chance
- Left well before fire impact
- Successful attempt to defend home
- Left just in time
- Evacuated by authorities
- Some stayed to defend, others left

# Of those who left just in time...



# Reminder of Communications Project Goals

- **To:** Improve 1) bushfire preparedness and 2) information processing under stress.
- **By:** Enhancing our understanding of the role of motives and goals in performing preparedness behaviours and information processing under stress.
- **And:** Using this understanding to develop communication content and styles that motivates the desired behaviours.

# Two Lines of Research

1. The Influence of **Bushfire Expectations** (e.g., expected risk, perceived protection responsibility, expected loss of services) on Preparedness
2. The Influence of **Competing Goals** (e.g., saving the house vs. making sure the children are safe) on Preparedness and Information Processing under Stress



# The Influence of Bushfire Expectations

- People have limited resources (e.g., time, attention, money, etc).
- What people spend these resources on is strongly influenced by their motives and goals.
- These motives and goals are, in turn, influenced by people's expectations.





# The Influence of Bushfire Expectations

## Past research:

- Greater risk perception leads to better preparedness (e.g., Martin, Bender, & Raish, 2007; Martin, Martin, & Kent, 2009)
- Expecting the government/emergency services to keep you safe leads to worse preparedness (e.g., Beringer, 2000; McCaffrey, Stidham, Toman, & Shindler, 2011)



# The Influence of Bushfire Expectations

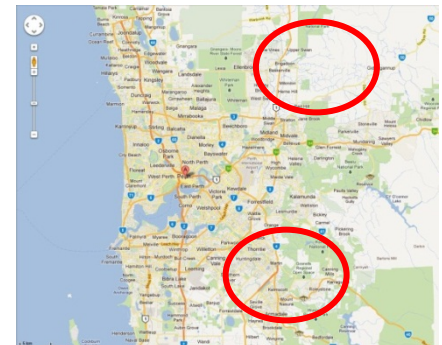
- BUT: Do these expectations influence all **types of preparedness** equally?
  - ❖ Preparing to defend
  - ❖ Preparing to evacuate
  - ❖ Increasing the resilience of the house against a fire
  - ❖ Planning
- What about **Warning Responsibility**?
  - ❖ Similar effects as Protection Responsibility?
- What about **Expecting Obstacles**?
  - ❖ Influence of expecting to lose services or expecting road closures?



# The Influence of Bushfire Expectations

## Survey (February 2011)

- 3000 mail surveys to Perth North Eastern and South Eastern suburbs (all sent in response to February 2011 fires).
- Response rate: 33.4%
- Demographics NE suburbs: 49% was over the age of 55, 49% was male, and a vast majority (98%) owned the property.
- Demographics SE suburbs: 54% was over the age of 55, 39% was male, and a majority (94%) owned the residence.



# The Influence of Bushfire Expectations

## Initial Findings and Possible Implications

- Perceived threat severity is better predictor of preparedness than perceived threat likelihood.
- Focus on the impact of a fire (BUT: make sure people feel able to prevent this negative impact by preparing)
- 'Informing neighbours/relatives of fire plan' and 'making notes of important things to remember' not predicted as well by expectations as other prep types.
- Increase awareness of benefits of these preparatory actions?
- From all loss of services, expecting to lose water is best predictor of all types of preparedness.
- Inform people about the possible obstacles formed by losing other services.

# Objectives for next 6 months

**What:** Change expectations through communications and measure effects on preparedness

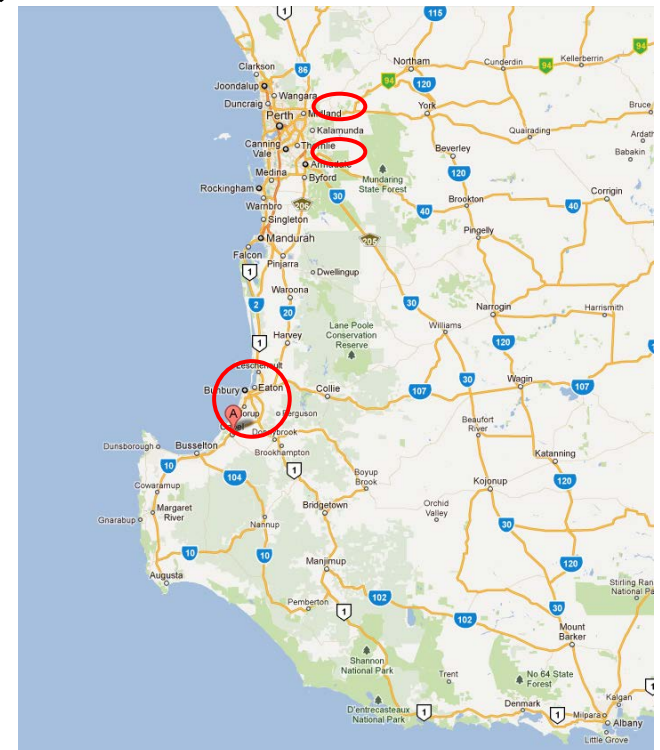
**How:** Longitudinal study (3 waves)

## Wave 1 (now) details

- Sample:
  - ❖ Perth North and South eastern suburbs –  $\pm 500$  surveys
  - ❖ Shire of Capel – 1000 surveys
  - ❖ City of Bunbury –  $\pm 200$  surveys.

**Wave 2: December/January**

**Wave 3: March/April**



# Two Lines of Research

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# The Influence of Competing Goals

Being motivated is not always enough...

*“I’ll get around to it!”*      *“Sure, right after I’ve finished doing this”*  
*“Of course I’ll do it!”*  
*“Yes, I’ll definitely do that!”*

- Meta-analysis of cross-sectional studies:
  - Intentions explain only 28% of the variance in behaviour (Sheeran, 2002)
- Can you **change** people’s intentions?
  - Yes!
  - but actual behavioural change rarely follows!
  - (Effect size  $r = .18$ )

# The Influence of Competing Goals

## So why is being motivated not always enough...

- People generally have multiple motives and goals competing for their attention,
- People tend to pursue the goal/act on the motive that is strongest at that time,
- When 2 competing motives or goals are equally strong, this can result in a conflict.





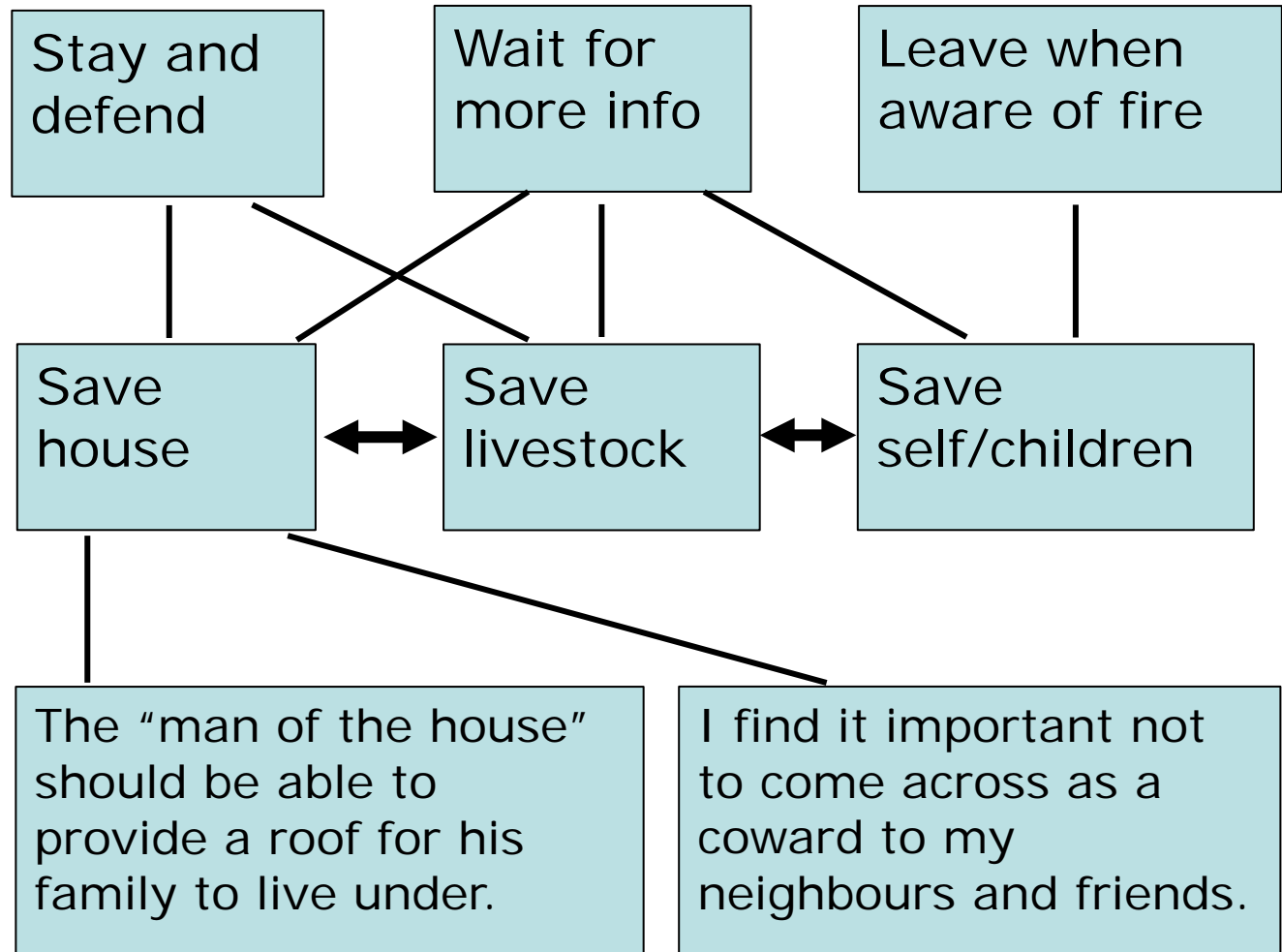
## Applied to a Bushfire Emergency situation

Behaviour:



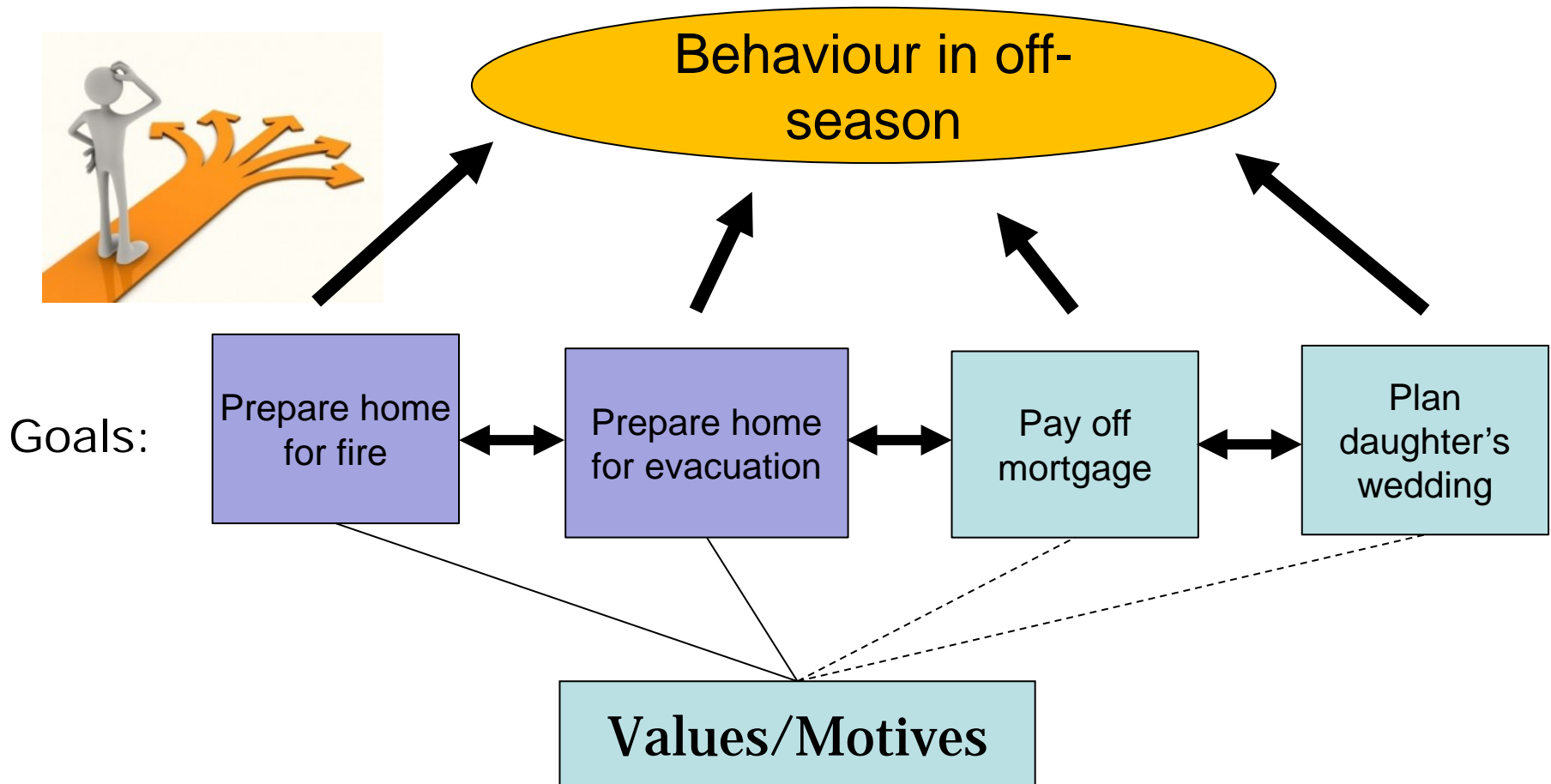
Goals:

Values/motives:



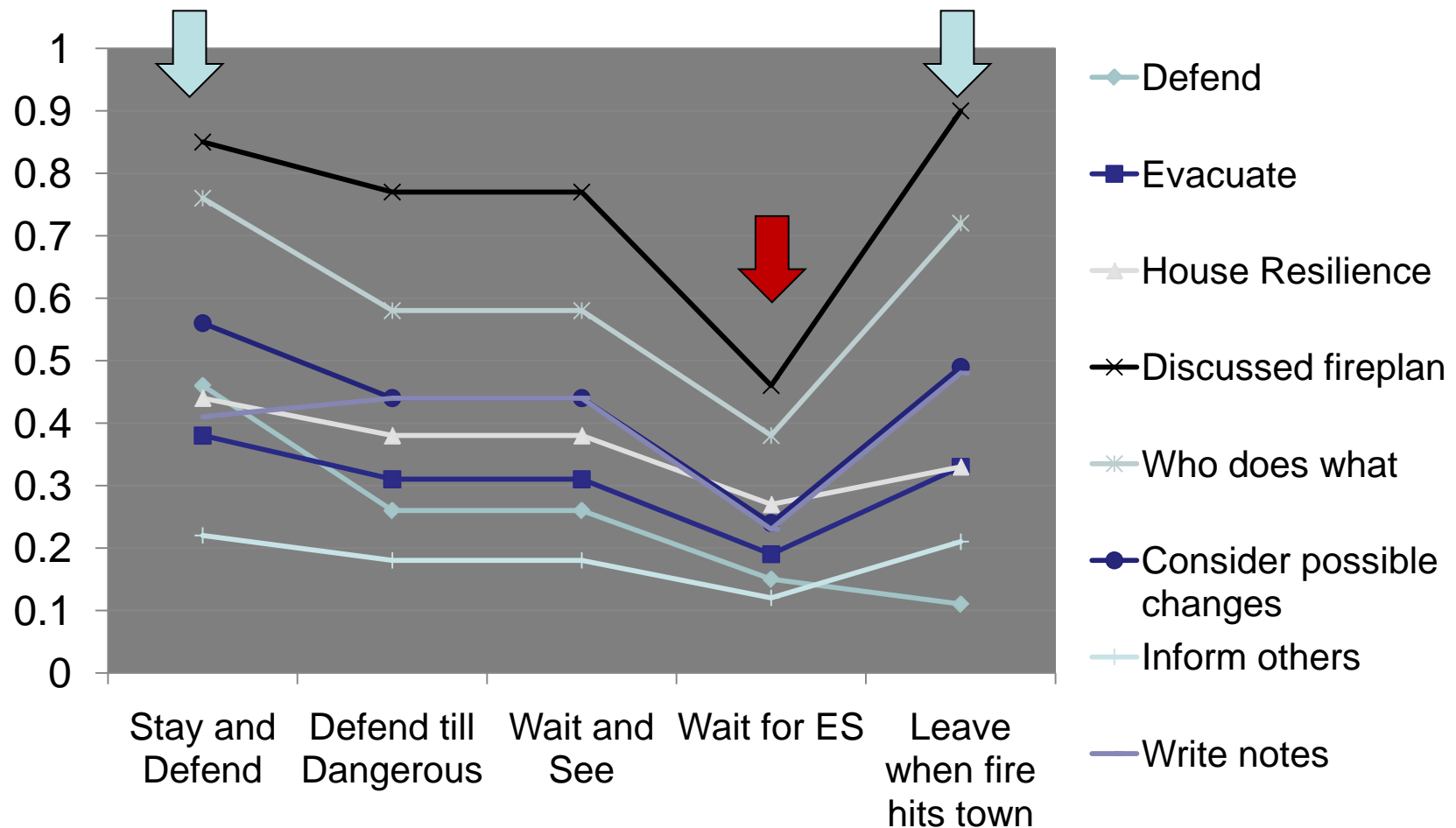
## Competing goals during the off-season

- In the off-season the # of competing goals increases even more.



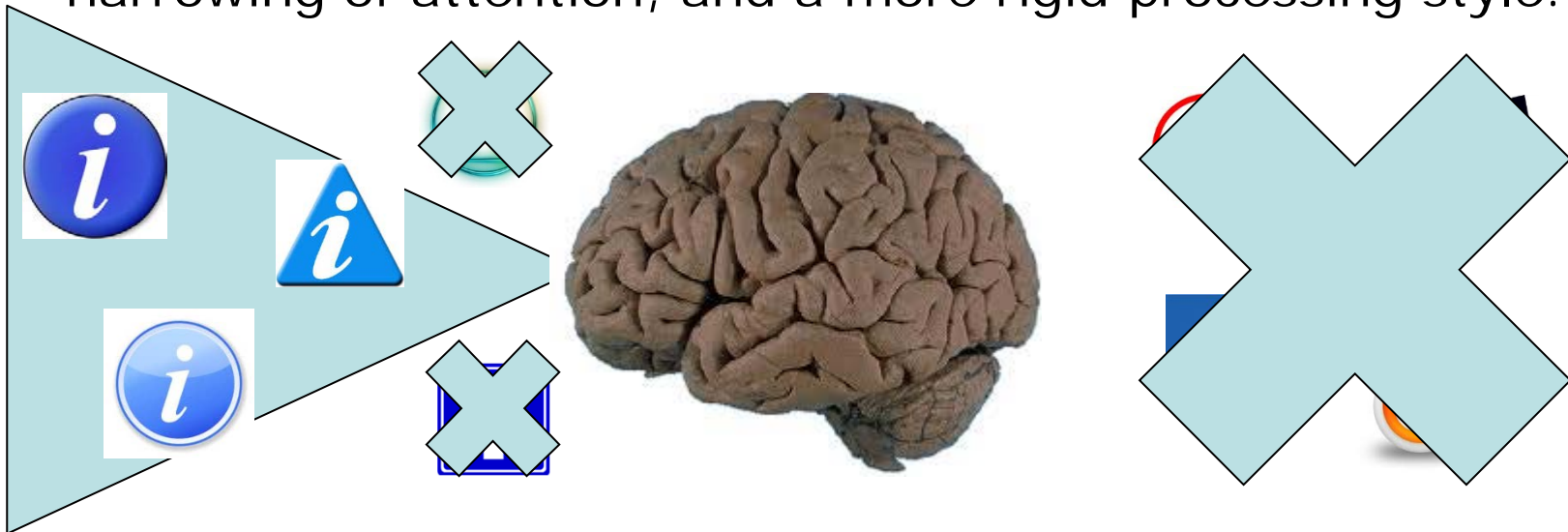
# The Influence of Competing Goals

## Initial findings: Preparedness based on fire plan



## So how do goals influence information processing?

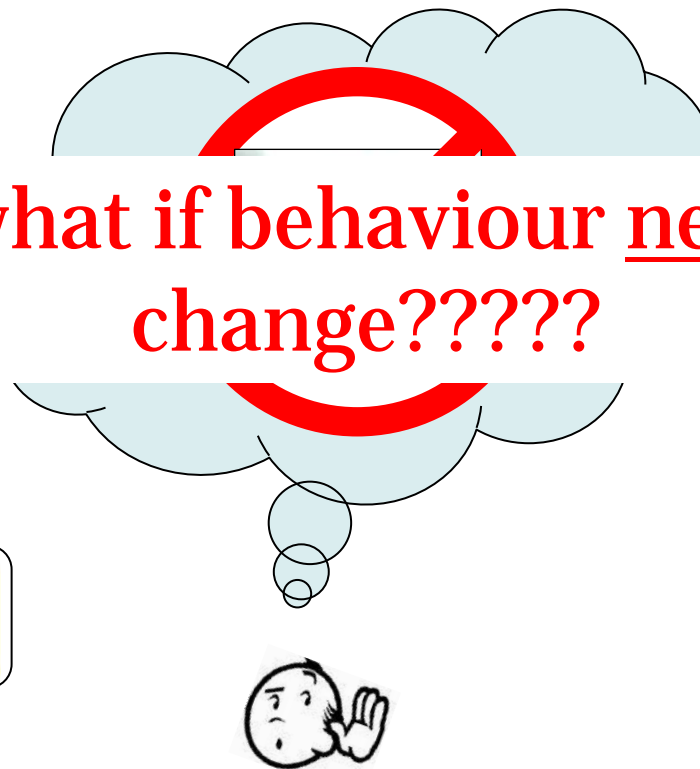
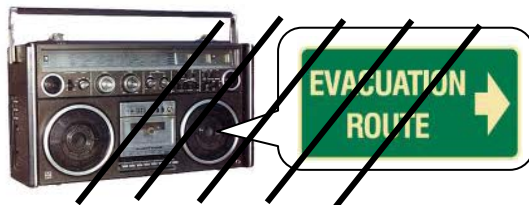
- In case of competing goals or behaviours, pursuit of one will inhibit the activation of the competing others,
- More attention will be given to information that is relevant to the goal being pursued and *less* to the goal being *suppressed*, and
- Avoidance goals (focused on avoiding negatives) lead to a narrowing of attention, and a more rigid processing style.



## Applied to a Bushfire Emergency situation

- More attention goes to the information relevant to the active goal and/or behaviour.

But what if behaviour needs to change????



## Applied to a Bushfire Emergency situation

- Avoidance goals (focused on avoiding negatives) lead to a **narrowing of attention**, and a more rigid processing style.
- When processing information during a bushfire, people are likely to have **difficulties processing conflicting pieces of information**.
- They are also likely to find it **hard to switch** from one source to another.
- Furthermore, if they do switch between sources, they are likely to have **difficulties integrating the information**, especially when information format or wording differs from one source to another.



# Objectives for next 6 months

- **Predicting Preparedness** based on **Competing Goals**
- **Predicting Information Processing** based on **Competing Goals**
- **IV's:**
  - Goal strengths (e.g., Save house vs. Save family)
  - Their relation to different fire plans
- **DV's:**
  - Preparedness
  - Information recall (e.g., Road closures vs. Fire behaviour)
- **With:**
  - Longitudinal field study (3 waves)
  - Experiments

# Future Plans

- Use competing goal findings from longitudinal study to construct improved communications.
- Test communications with experiments.
- Questions to be answered:
  - ❖ How can we **reduce indecisiveness in fire plans**, whilst still making people prepare for different fire plans (i.e., still preparing to evacuate whilst plan is to stay and defend)?
  - ❖ How should info about fire and evacuation routes be communicated (content, framing, source) so that **everyone attends** to it?
  - ❖ How do we ensure the information leads people to **adjust** their **actions** in the **desired** manner? (and isn't just used in a confirmatory manner)



# Thank you!



Government of Western Australia  
Fire & Emergency Services Authority



# PREPARE. ACT. SURVIVE.