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Turning Good Intentions into Actions: Human Decision Making and Behaviour in the Face of Threat

David Morrison, Timothy Skinner, Illy McNeill, Patrick Dunlop, Petra Buergelt, Patrick Clarke, Lies Notebaert Colin MacLeod, & Carmen Lawrence

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Overview

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- Our interest in human decision making & behaviour
- Lessons from Black Saturday
- Multi-level Research Perspective
  - Understanding community differences
  - Understanding messages and how they are interpreted
  - Individual differences in how people process and react to information

Human Decision Making and Behaviour

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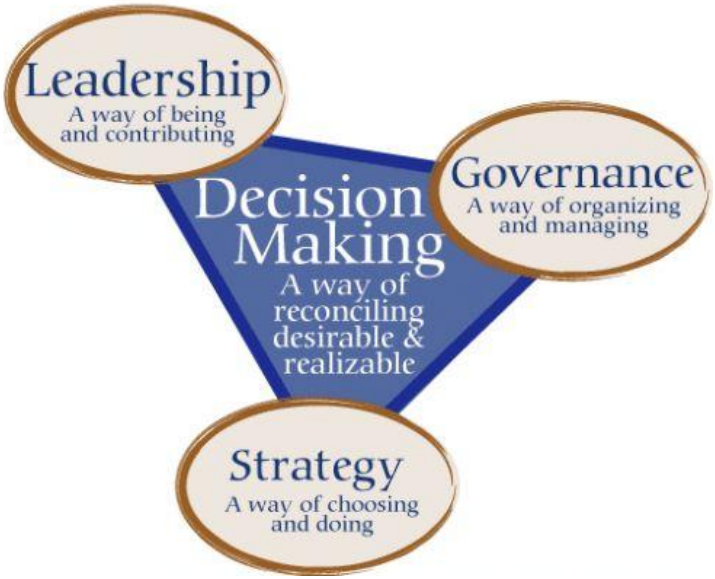
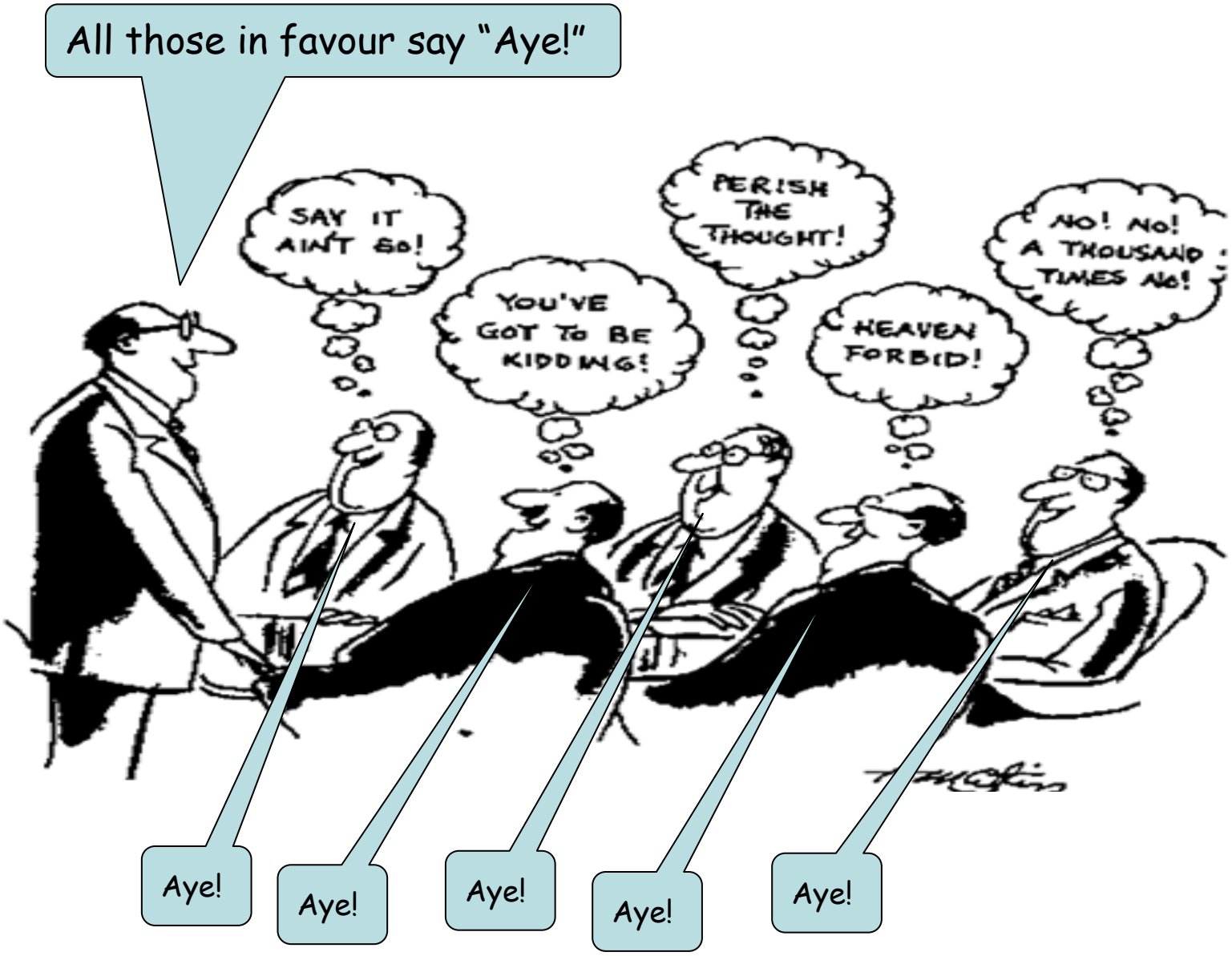


Deciding without thinking

- You hear so much about ‘don’t get in your car and drive’…But my first instinct, the first thing I did, was jump in my car and drive back over here. I was very adamant that we should be in the car …. But my first instinct was to get away from the fire. … you see it on the news and you think “idiots. Why did they get in the car?’ It might be that people aren't educated or, you know, have no idea at all. I at least, in that regard, knew what I should and shouldn’t do. But still, that flight instinct took over and I just wanted to get away.

When people don’t know what to do they will react – “I gotta do something”

Social Context



Theories of Decision Making

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- Static as opposed to dynamic
- Focused on single-level explanations
- Developed in low risk as opposed to high stakes environments

We aim to address all three
of the perceived limitations

Our Research Aims

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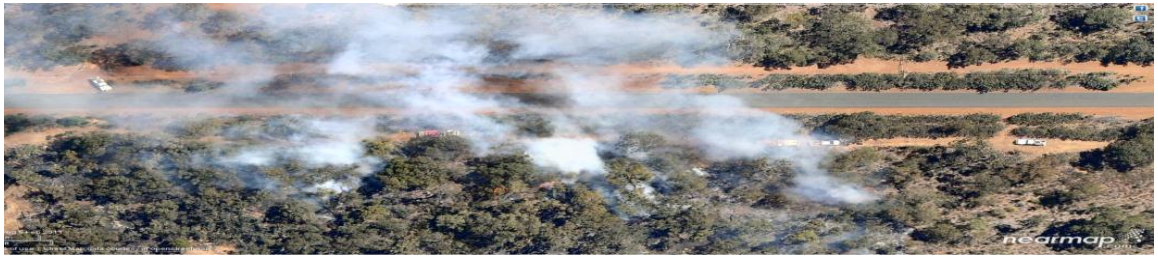
- Apply psychological knowledge to understanding:
  - Community behaviour
  - Communicating messages effectively
  - Cognition & information processing

- Reduce the risk to lives in catastrophic bushfire conditions

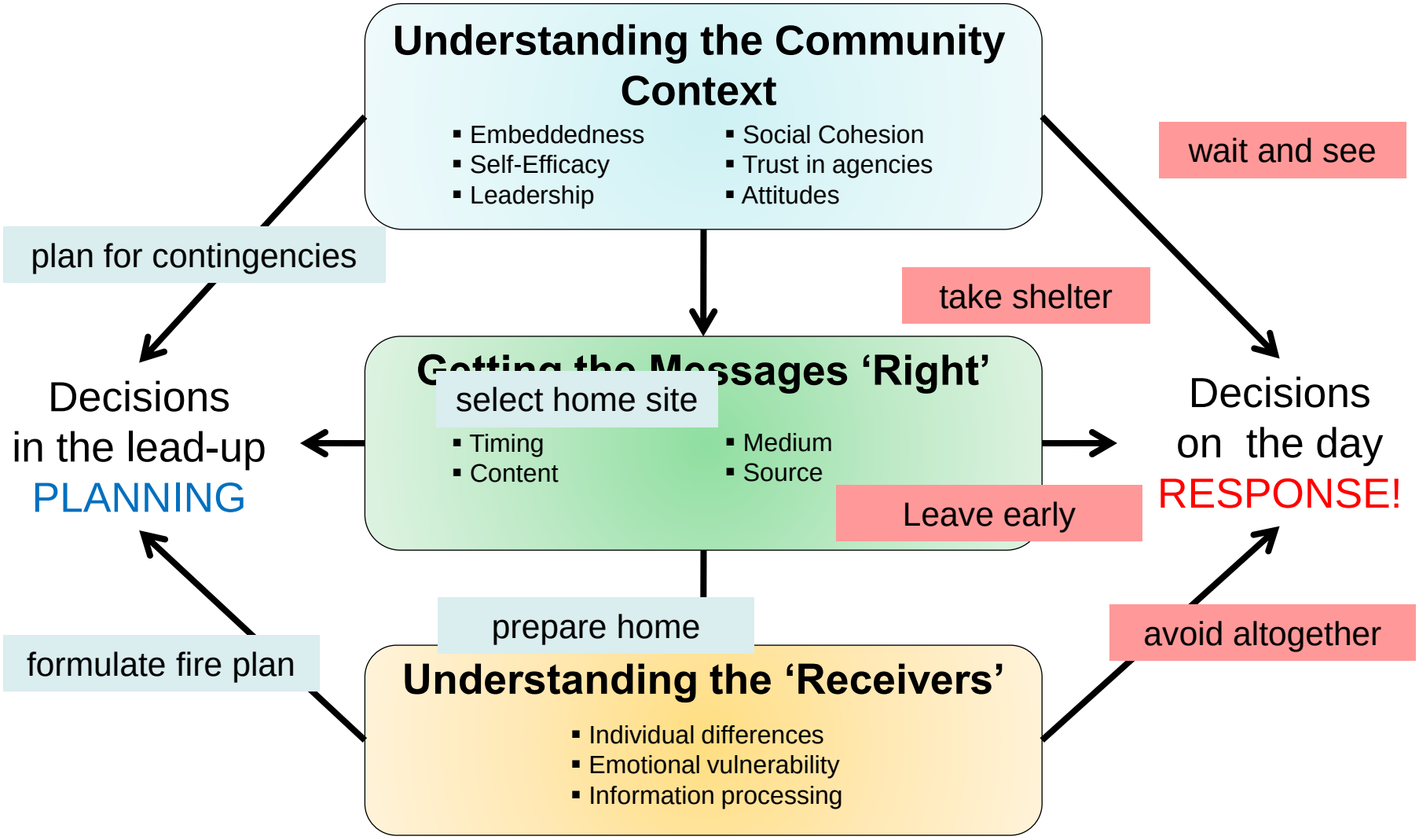
- Contribute to theory beyond bushfires

McLennan & Elliott (2010)

- "10 Lessons" learned from Black Saturday:
  - 2 identified community and social context
    - Normative beliefs about fire risk
    - What others are doing affects decision making
  - 2 identified information and its sources
    - Uncertainty is chief threat to survival
    - Information from trusted sources is very influential
  - 1 identified the importance of regulating emotions
    - Down-regulate fear and anxiety, maintain focus



Multi-Level Perspective



Broad Research Questions

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1. Why are some communities better prepared and more resilient to bushfires than others and what can be done to raise the bar? (Buergelt et al.)

2. How/when can information and warnings be communicated best to guide actions, with respect to both planning AND response? (McNeill, Dunlop et al.) Can better decision making be enabled?

3. Are some individuals more able than others to make good decisions in the lead up to, and during a bushfire crisis? (Notebaert et al.)

Research Team

Prof. David Morrison

Community Project

Prof. Carmen Lawrence

Dr Petra Bürgelt

Communication Project

Prof. Timothy Skinner

Dr Illy McNeill

Patrick Dunlop

Cognitive Project

Prof. Colin MacLeod

Dr Lies Notebaert

Dr Patrick Clarke

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Community-Level Influence on Individual Behaviours: Bushfire Readiness & Decision Making

Research Leaders:

Prof. David Morrison

Prof. Carmen Lawrence

Post-doctoral fellow:

Dr Petra Bürgelt

Context & Overall Aims

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- preparedness → influenced by both individual & community variables
- communities → significant resource for responding to disasters
- community characteristics influence how individuals:
  - interpret hazards
  - perceive risk
  - act
- lack of research → community characteristics & how they interact with people's interpretations

What community level factors influence the development of individual interpretations & capabilities that facilitate preparing & responding?

How do variables interact with each other?

Interactions: Multilevel

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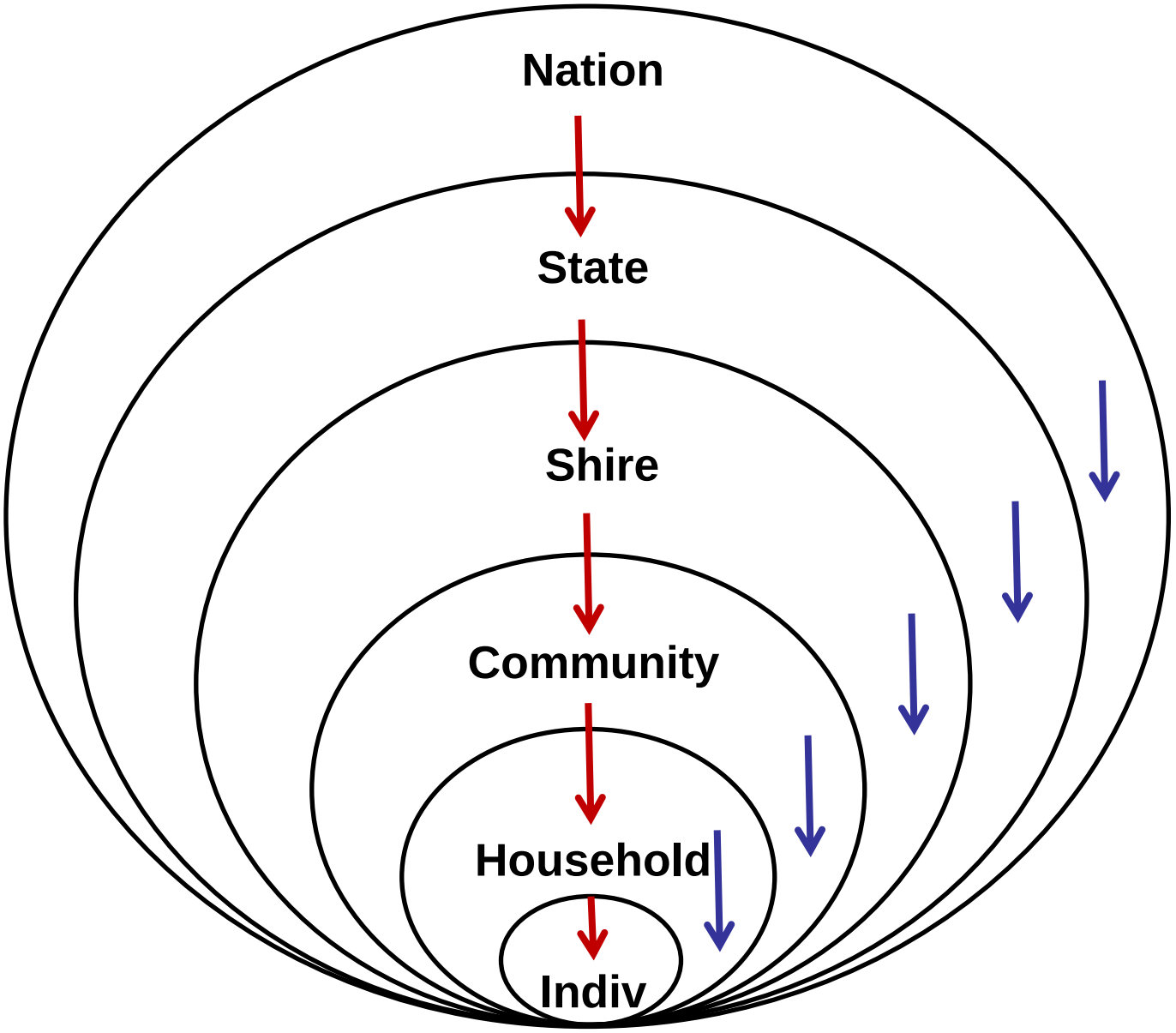

Research Design:
Mixed Methods & Longitudinal

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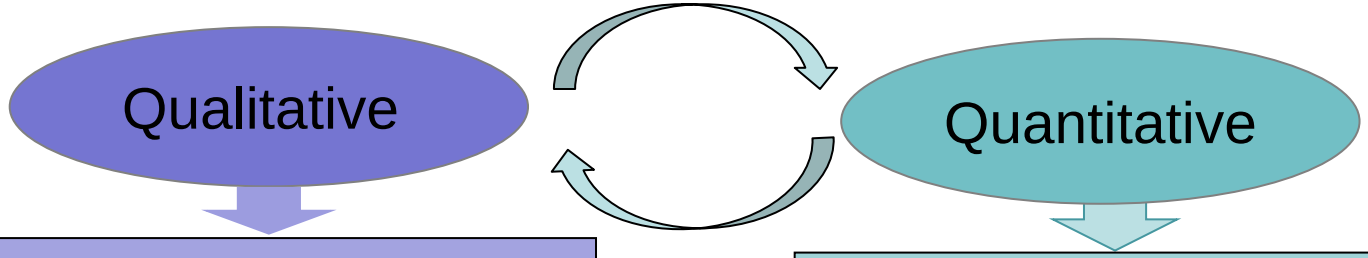

- sensitive topics
- vulnerable groups
- interactions & processes

In-depth case studies of high & low prepared communities

Interpretations, structures, processes

- key community variables
- hypothesis re IA
- Interpretations & illustrations

testing variables & RS with large populations

Design survey & distribute it to many communities

- test key com variables/RS
- Identify causal RS
- assess degree of influence

Intended Outcomes

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Community Profiler

Key community variables that cause greatest differences between communities → predictor of individual preparedness

Preparedness Measure

Involving both levels:

- Community
- Individual

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Distinguishing Effective from Ineffective Messages

Research Leaders:

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Post-doctoral fellows:

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Patrick Dunlop

Lessons from Health Psychology - Communication is critical

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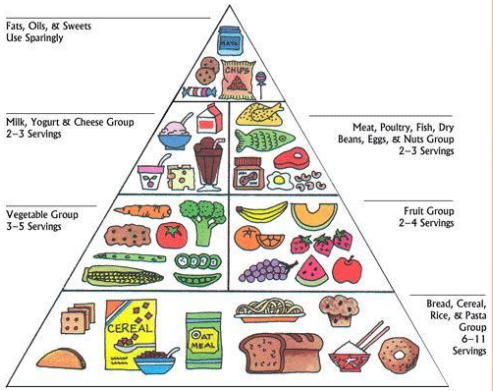
- Fundamental problem:

Why don't people do what they know is the right things for their health?



- Apply to bushfire preparedness context:

Why don't people form a fire plan or properly prepare their homes for bushfire threats?

Communication Problems

- Wrong message received
- Right message but wrong effect
  - Misunderstanding
  - Inconsistency
  - Message outcome mismatch

This happened on February 7 as well

What about Intentions?

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"I'll get around to it!"

"Yes, I'll definitely do that!"

"Of course I'll do it!"

"Sure, right after I've finished doing this"

- 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)

Plans, Goals, and Values

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Plans:

Stay and defend	Wait for more info	Leave when aware of fire

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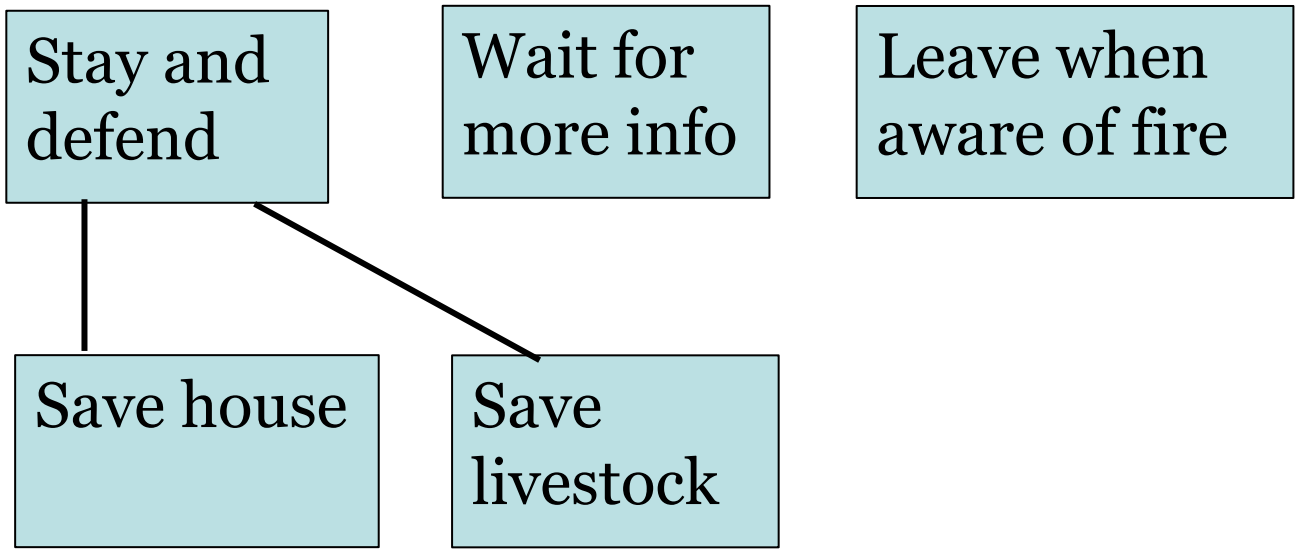
Plans:

Goals:



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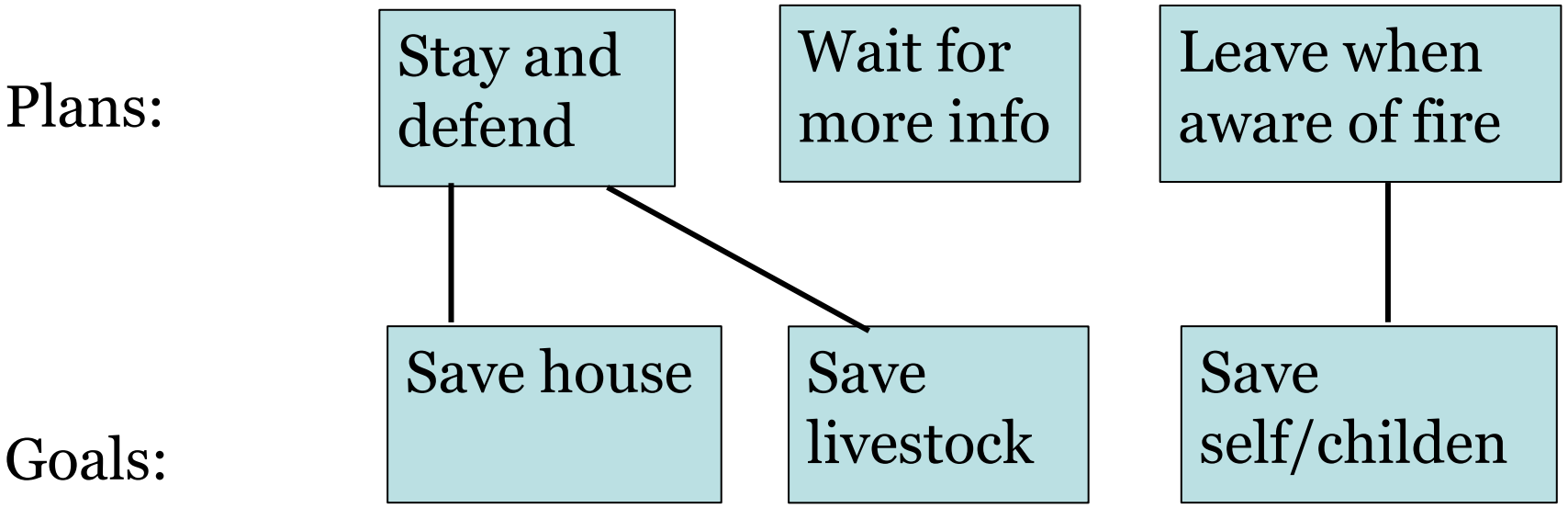

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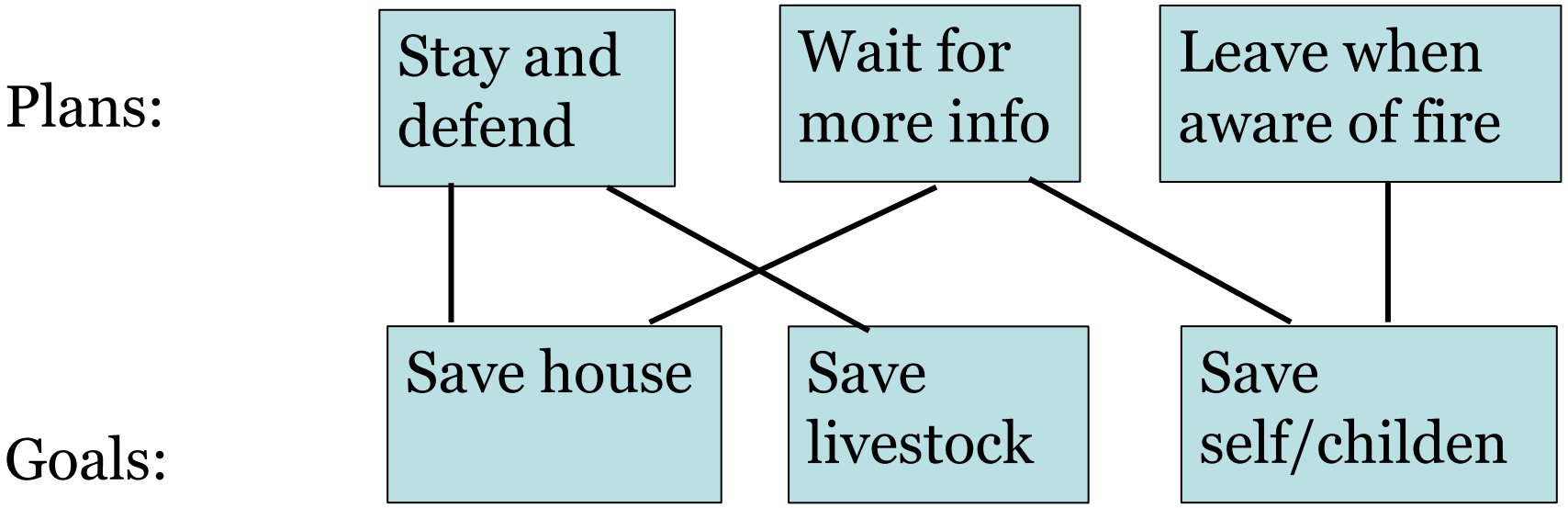

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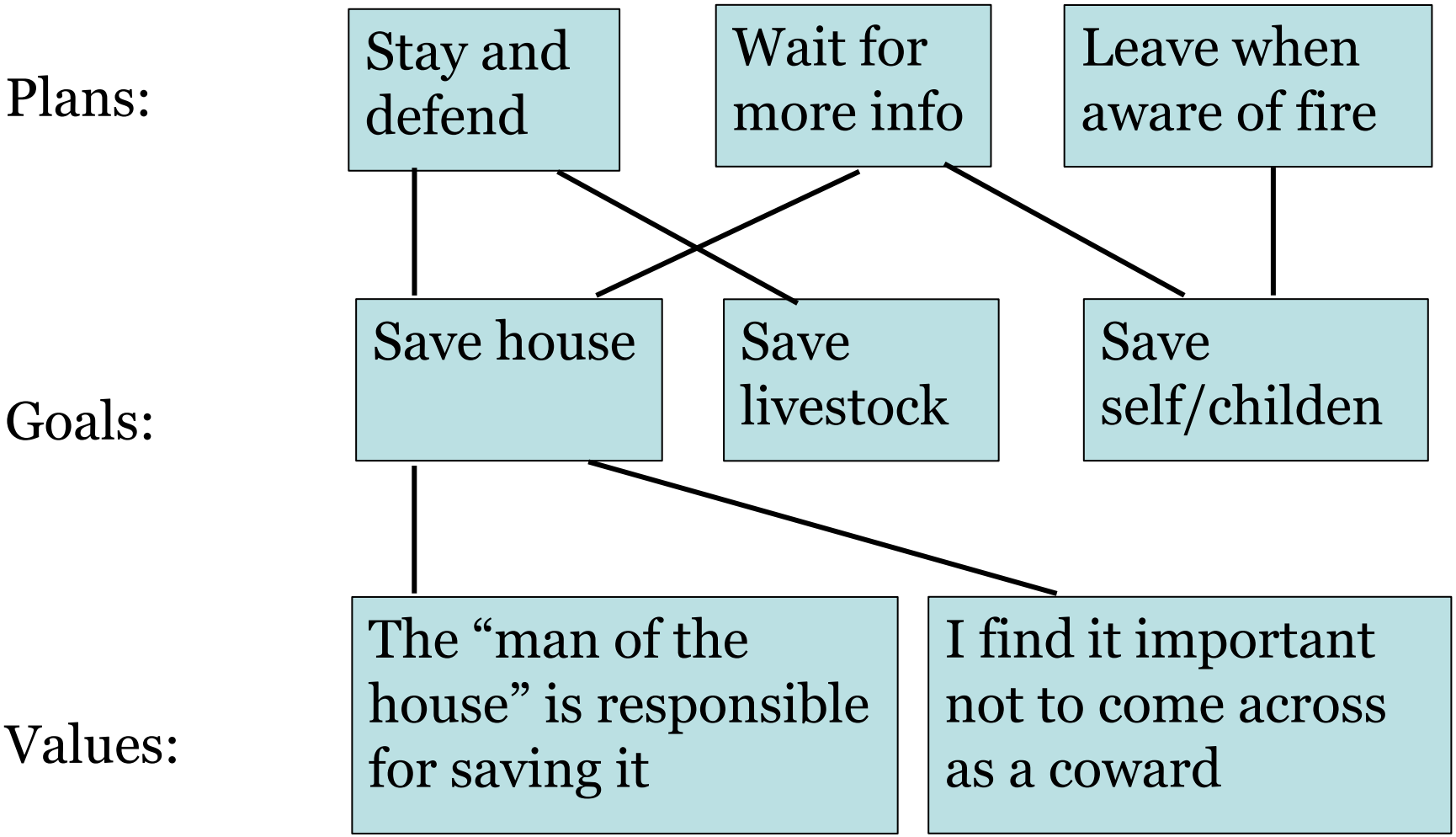

Some Facts about Goals…

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- People generally have multiple goals competing for their attention,
- People tend to pursue the goal that is strongest at that time,
- Goal strength = combination of value and achievability,
- In case of competing goals or actions, 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 Bushfires

- People generally have multiple goals competing for their attention.

Behaviour in off-season

Prepare home for fire

Go on family holiday

Pay off mortgage

Plan daughter's wedding

Values

…Applied to Bushfires

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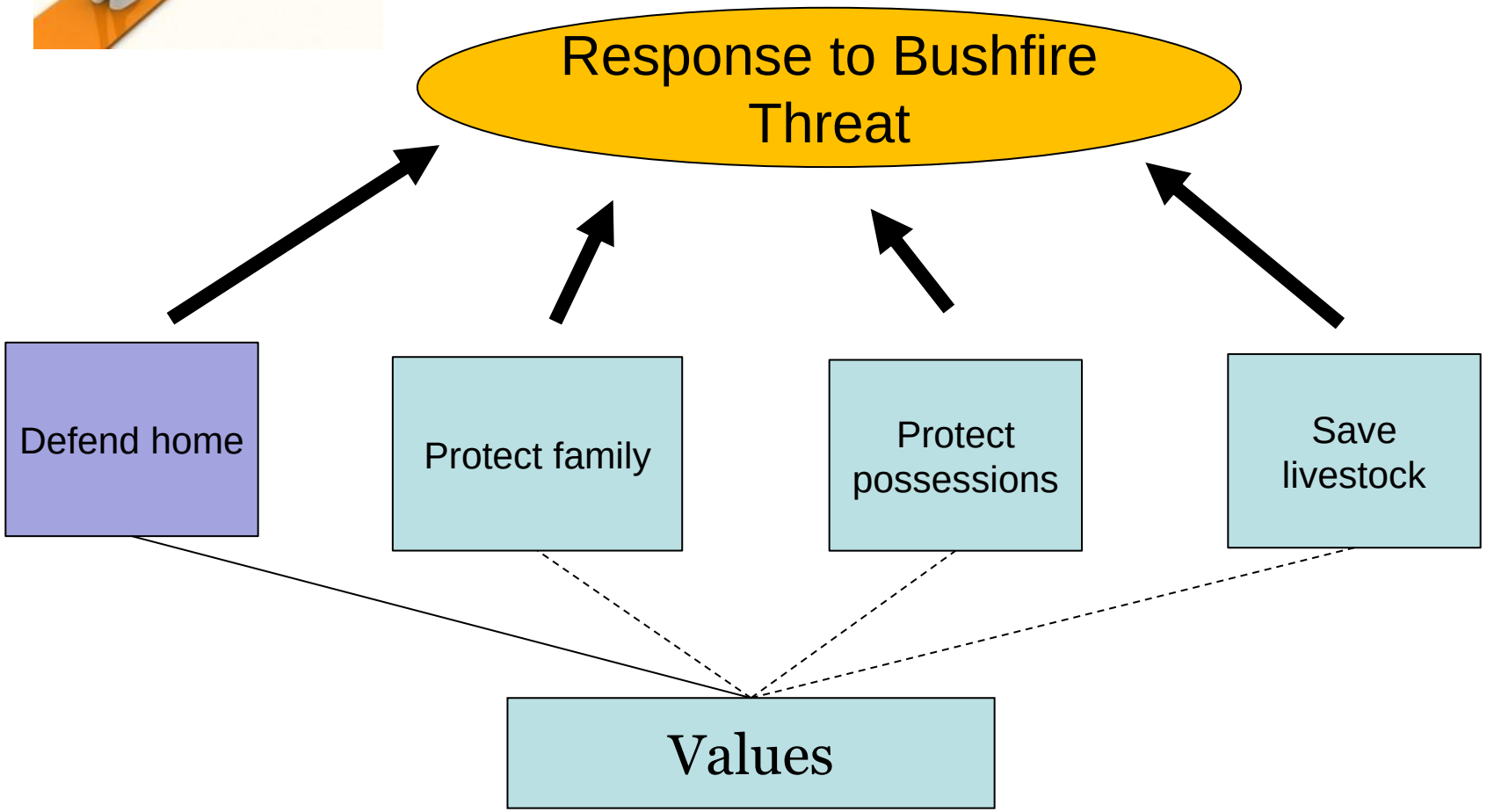

…Applied to Bushfires

- Goal strength = combination of value and achievability,
- Strongest goal will win
- If you really value your house but think there's no way you will be able to defend it, saving it will not be a very strong goal.

➢ If you don't value saving your house that much you are less likely to stay and defend, even when you see yourself as highly capable to do so:

➢ If you value your house but also really value your life, and saving your life by evacuating seems much more likely than saving your house by defending, then saving your life by evacuation will be the likelier pursuit.

Research Questions?

- How should info about fire and evacuation routes be communicated (content, framing, source) to reach those we want it to reach?
- 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)
- Should different communication sources be allowed to use their own wording?

Proposed Method

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- Multi-wave longitudinal studies of community members → Focus on preparedness.
  - Survey-based
  - Measure goal strength
  - Quasi-experimental manipulations

- Laboratory work → Focus on information processing in ‘live’ situation

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Anxiety, Worry and Action:
An Emotion-Cognition-Behaviour Perspective on Enhancing Preparedness for Threat

Research Leaders:

Prof. David Morrison

Prof. Colin MacLeod

Post-doctoral fellows:

Dr Lies Notebaert

Dr Patrick Clarke

Project Aims

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- To: improve behavioural threat management through an enhanced understanding of individual difference factors in cognition and emotion
- By: Establishing emotional and cognitive mechanisms that may enhance or impede preparedness behaviours
- And: Developing techniques to modify critical emotional, cognitive and behavioural mechanisms to enhance preparedness

Anxiety-Worry-Action Model

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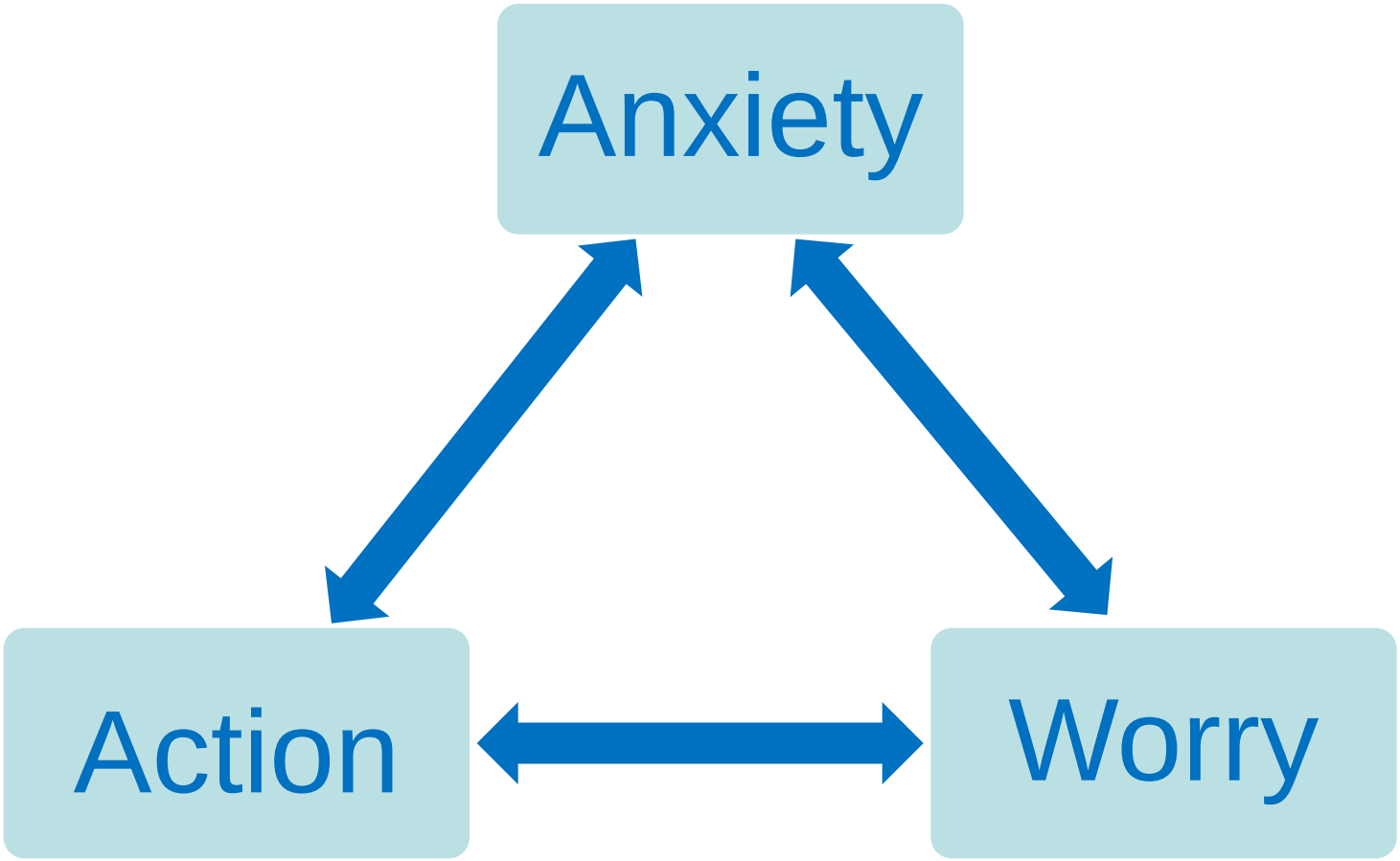


Worry – Problem solving

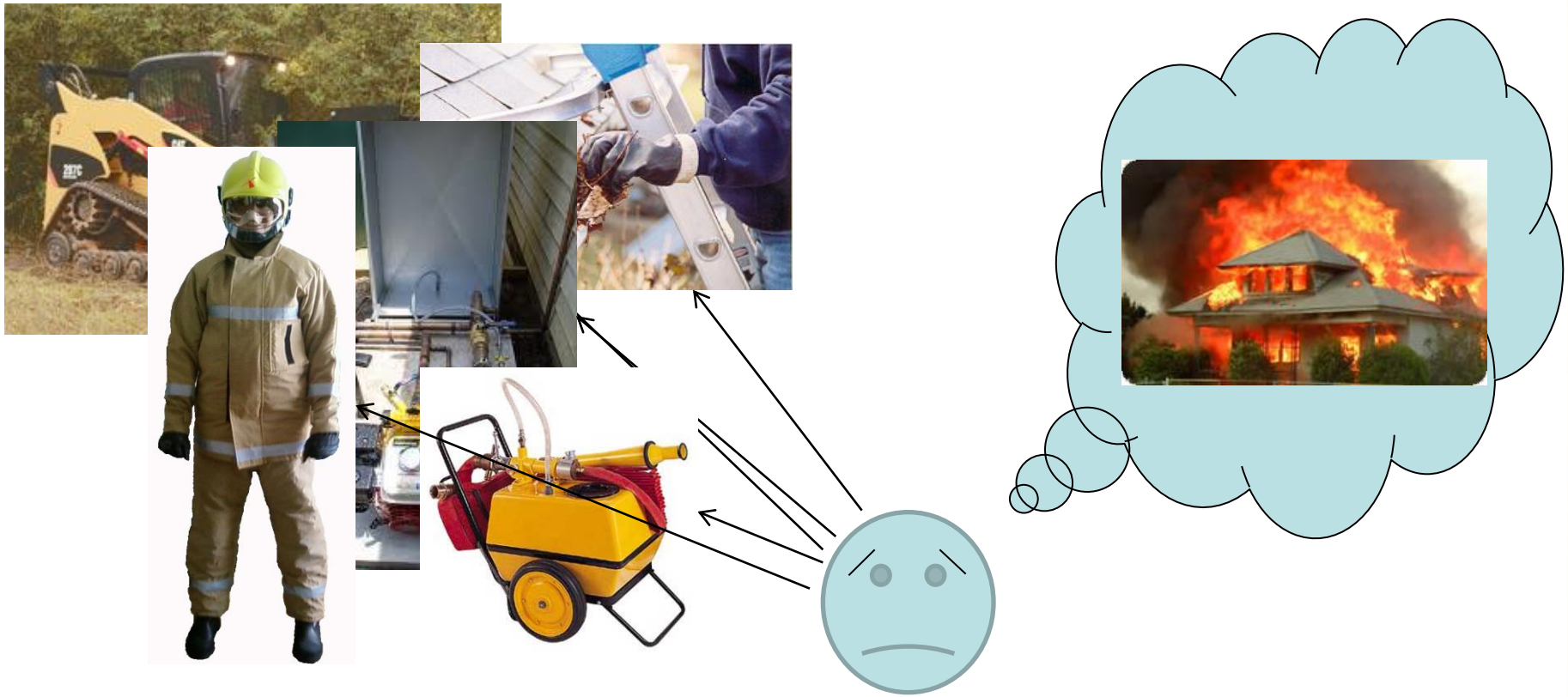
Cognitions focused on controllable variables that can help to avert the likelihood, or consequences of a negative event. May contribute to action and lower anxiety

Worry – Catastrophising

Cognitions focus on uncontrollable, disastrous outcomes occurring as a result of a negative event. May exacerbate anxiety and contribute to emotion-focused behaviours

Action: Problem-focused behaviours

- Seek solutions to ameliorate the **Risk**
  - Reduce likelihood of negative outcome



Action: Emotion-focused behaviours

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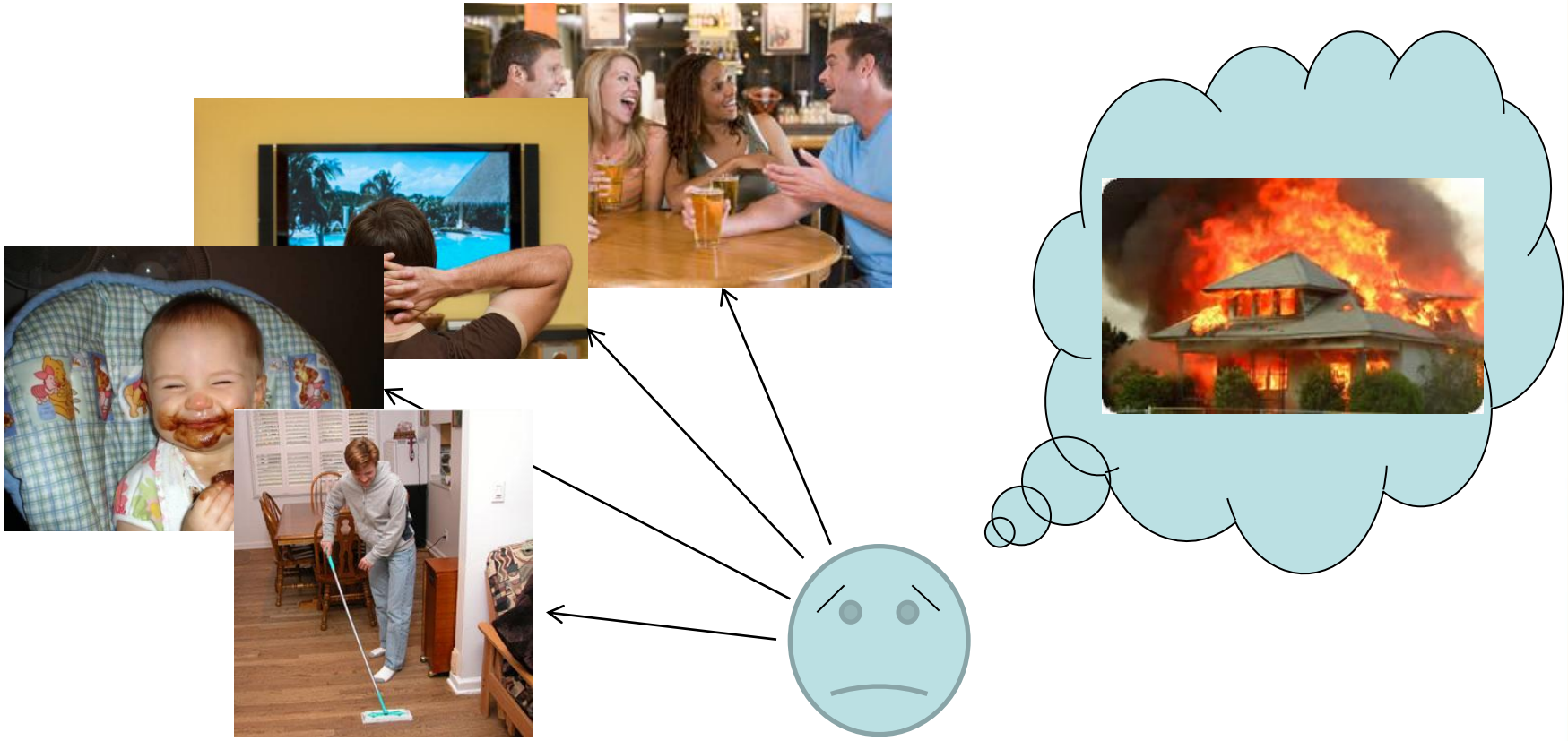
- Often involves seeking more immediate **Reward**
  - reduce anxiety and distract from worry



Current research approach

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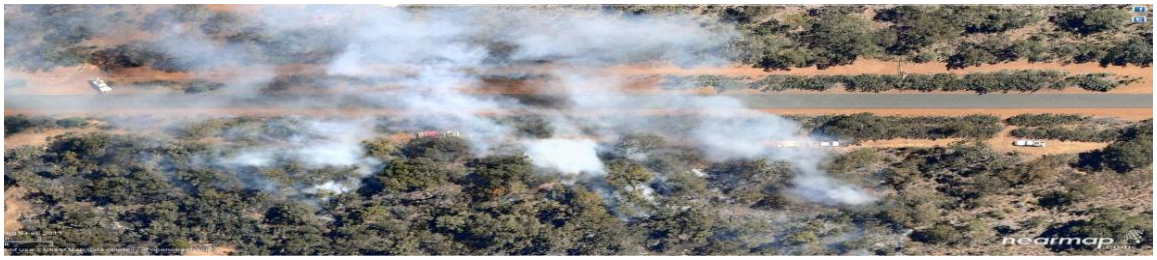
What are the individual difference factors that lead some people to deal with anxiety and worry in ways that do and do not deal with risk?



- Questionnaires → naturalistic sense of RS
- Field studies
- Lab studies → allows control to manipulate to identify mechanisms that underpin individual differences → attenuating risk vs seeking immediate gain → target for developing cognitive bias modification techniques

THANK YOU!

Community Project

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