

PREPAREDNESS FOR BUSHFIRE THREAT: THE ROLE OF SELECTIVE INFORMATION PROCESSING

Colin MacLeod¹, David Morrison¹, Patrick Dunlop¹, Carmen Lawrence¹, and Timothy Skinner²

¹School of Psychology, University of Western Australia, Western Australia

²Flinders University Rural Clinical School, Flinders University, South Australia

Preparedness

We draw a distinction between **Behavioural** Preparedness and **Emotional** Preparedness and argue that **both are important**.

Behavioural preparedness refers to the physical activities undertaken to prepare (e.g. developing fire plans, clearing fuels).

Emotional preparedness refers to being *emotionally* equipped to make rational decisions in high-stakes situations, both in the lead up to, and on the day .

Lesson 9 from McLennan, Elliott, and Beatson 2010:

“In *extremis*, an individual’s ability to:
(a) down-regulate fear and anxiety;
(b) maintain an attentional focus on emerging threats from the environment; and
(c) keep actions coupled tightly to surviving in a potentially lethal environment will largely determine survival”

Being prepared therefore includes being *emotionally* equipped to *implement* one’s fire plan, whether leaving early or defending.

There will be ambiguity and perceived threat associated with both options.

Selective Information Processing

People vary considerably on how they process and interpret ambiguous information.

Many of us have less control over our own attention than we think!

During bushfire threats, vigilance will be important for regulating emotions (but too much or too little can be problematic; see Figure 1).

Related to vigilance, selective information processing (cognitive) biases can be:

- Interpretative (see Figure 2),
- Attentional (see Figure 3).

Research Questions

Prediction

1. Does selective information processing play a role in influencing community members’ capacity to interpret warning messages correctly?
2. Does selective information processing play a role in influencing community members’ capacity to behaviourally implement their fire plans?
3. Does the manner in which individual vary in terms of their cognitive biases hold implications for their capacity to regulate their emotions when under stress?
 - What sorts of things do community members worry excessively about?

Intervention

1. Will techniques which are known to alleviate cognitive biases prove effective in improving decision making in bushfire settings?
2. Do such interventions operate by removing cognitive biases altogether or simply improving people’s ability to maintain *control* over their attention?

Methodology

Laboratory studies:

- Impact of selective information processing biases on decision making in simulations of emergency scenarios (e.g. strategic preparation, fire plan implementation),
- Manipulations: nature and timing of information.

Field studies:

- Impact of cognitive biases on self-reported behavioural and emotional preparedness.

Training people to attend to and/or avoid threats:

- To be conducted in the laboratory initially with a follow up assessment,
- Rolled out into selected communities.

Proposed Deliverables

1. Improved understanding of where cognitive biases fit in the preparatory and reactionary process.
2. A clearer distinction between preparing to stay and preparing to leave early, with an improved understanding of the *emotional* challenges associated with both.
3. Self-administered cognitive bias modification intervention to improve individual’s capacity to maintain focus on *objective* rather than *perceived* threats.

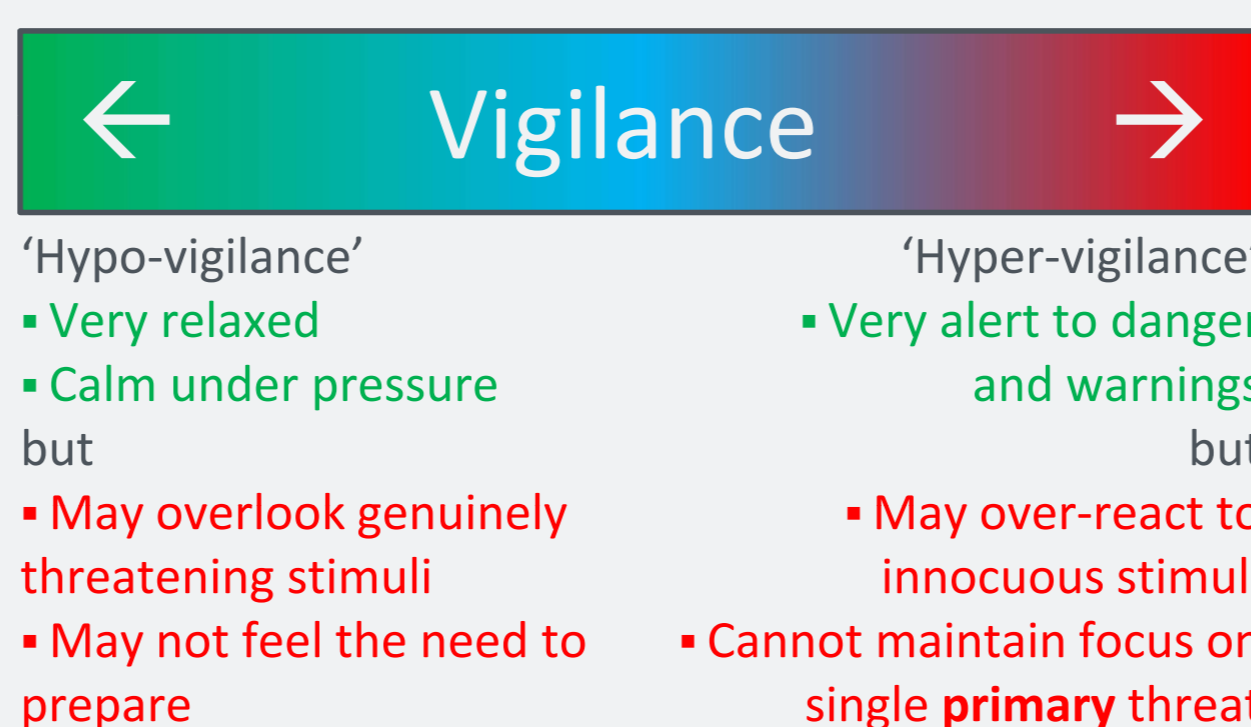


Figure 1. Graphical representation of the vigilance spectrum.

A	“The doctor examined little Emily’s growth”
B	“The doctor inspected Emily’s tumour”
C	“The doctor recorded Emily’s height”

Figure 2. Stimuli from an interpretive bias experiment. After being presented with ambiguous stimulus A, ‘hyper vigilant’ individuals tend to falsely recall the threatening statement B whereas ‘hypo-vigilant’ individuals will falsely recall statement C



Figure 3. Stimuli from an attentional bias experiment - ‘Hyper vigilant’ individuals tend to attend more to the threatening stimulus on the left