

FIRE NOTE

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APPLYING SOCIAL PSYCHOLOGY TO COMMUNITY BUSHFIRE SAFETY



SUMMARY

The Black Saturday tragedy of 7 February 2009 highlighted the need for better understanding of the psychological factors behind a range of community bushfire safety issues and challenges, including: community education and preparation, alertness and warnings, and 'stay or leave' decision making. A recent discussion paper assesses the potential contribution that various social psychological theories and models can make to our understanding of community bushfire safety issues.

ABOUT THIS FIRE NOTE

This Fire Note is based on a discussion paper entitled: 'Understanding community bushfire safety issues from social psychological perspectives'. It was prepared for Bushfire CRC Extension Project: Decision Making Under Stress. The full paper, including references, is available on the Bushfire CRC website at www.bushfirecrc.com More information about this project is available by emailing Jim McLennan at j.mclennan@latrobe.edu.au

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BACKGROUND

The research conducted after Black Saturday identified several aspects of human behaviour and decision making which jeopardise community members' safety. It also raised questions for community bushfire safety policy makers and practitioners about how best to remedy these shortcomings. Current approaches to community bushfire safety have been developed largely on the pragmatic basis of hard-won lessons from previous bushfire disasters. However, the realm of social psychological theory might also contribute valuable insights into community bushfire safety. The social psychological theories discussed here may prove useful for guiding research to answer some of the questions raised about how to improve community bushfire education and safety endeavours.

THEORETICAL APPROACHES TO HEALTH PROMOTION AND INJURY PREVENTION

Aspects of social psychological approaches that have been useful in health promotion and injury prevention could be applicable to bushfire community education and safety. These theoretical frameworks are very briefly outlined below and their relevance to bushfire safety explored (a fuller explanation of these theories is in the discussion paper on the Bushfire CRC website at www.bushfirecrc.com).

The theoretical frameworks are:

- Theory of Planned Behaviour.
- Extended Protection Motivation Theory.
- Extended Parallel Processing Model.
- Terror Management Health Model.

The researchers assessed the potential value of these theories using the following discussion questions:

1. Are any of the theories particularly relevant to current approaches to community bushfire safety in terms of policies, planning, procedures, and practices? Do the theories broadly support current



◀ Bushfire CRC researchers Mary Omodei (La Trobe University) and Josh Whittaker (RMIT University) in the field after Black Saturday.

agency approaches to community bushfire safety?

2. Do any of the theories point to possible faults in current approaches to community bushfire safety?
3. Do any of the theories suggest shortcomings or inadequacies in current approaches to community bushfire safety?
4. Do any of the theories suggest gaps in community bushfire safety knowledge that need to be addressed by targeted research?
5. Which of the theories (or combination of the theories), if any, is the most useful for agencies to explore in addressing community bushfire safety?

THEORETICAL FRAMEWORKS IN BRIEF

(See 'Definitions' box for terms in **bold**.)

The Theory of Planned Behaviour (TPB)

According to TPB, intentions are the most immediate determinants of behaviours. Intentions are, in turn, determined by **attitudes**, **subjective norms** and **perceived behavioural control**. However, the theory is also open to the inclusion of other predictors.

Extended Protection Motivation Theory (EPMT)

The EPMT perspective suggests that **adaptive** and **maladaptive responses** to health threat messages are the result of two appraisal processes: **threat appraisal** and **coping appraisal**.

Extended Parallel Process Model (EPPM)

According to the EPPM, **perceived threat** determines the degree or intensity of the reaction to a message, while **perceived efficacy** determines the nature of the reaction. The EPPM also specifies a critical point where fear control processes are expected to dominate danger control processes. This critical point is hypothesised to occur when perceived threat exceeds perceived efficacy.

DEFINITIONS

Adaptive responses: Actions that reduce risk.

Attitudes: Expectations about the outcome and desirability of a given behaviour.

Coping appraisal: Judgement of ability to deal with a threat.

Fear appeals: Attempts to elicit fear to influence attitudes, intentions and behaviour.

Group norms: The typical thoughts, feelings, and behaviour, of group members.

Maladaptive responses: Actions (or inaction) that increase or maintain risk..

Perceived behavioural control: Beliefs about the power of various factors to facilitate or impede the performance of a behaviour.

Perceived efficacy: Beliefs about the effectiveness of a response and ability to respond.

Perceived threat: Judgement about danger severity and susceptibility.

Response efficacy: Effectiveness of a particular action.

Subjective norms: Beliefs about the expectations and opinions of important others.

Threat appraisal: Judgement about danger severity and susceptibility.

The Terror Management Health Model (TMHM)

The TMHM focuses on the role of death awareness in health decisions. According to this model, the operation of health-oriented versus self-oriented motivations varies as a function of the conscious awareness of death. Specifically, health-oriented motivations are most applicable to health decisions when thoughts of death are conscious whereas self-oriented motivations are most relevant when thoughts of death are activated but non-conscious. This theoretical perspective may be particularly useful for understanding (and improving) the effectiveness of community bushfire safety messages that make death salient (both consciously and non-consciously).

APPLYING THEORETICAL FRAMEWORKS TO BUSHFIRE SAFETY

The following examples illustrate the types of questions suggested by applying the theoretical perspectives to various aspects of community bushfire safety. For the sake of brevity, these examples will focus on one or two of the community safety issues considered in the

discussion paper; these issues include education, preparation, alertness and warnings, decision-making.

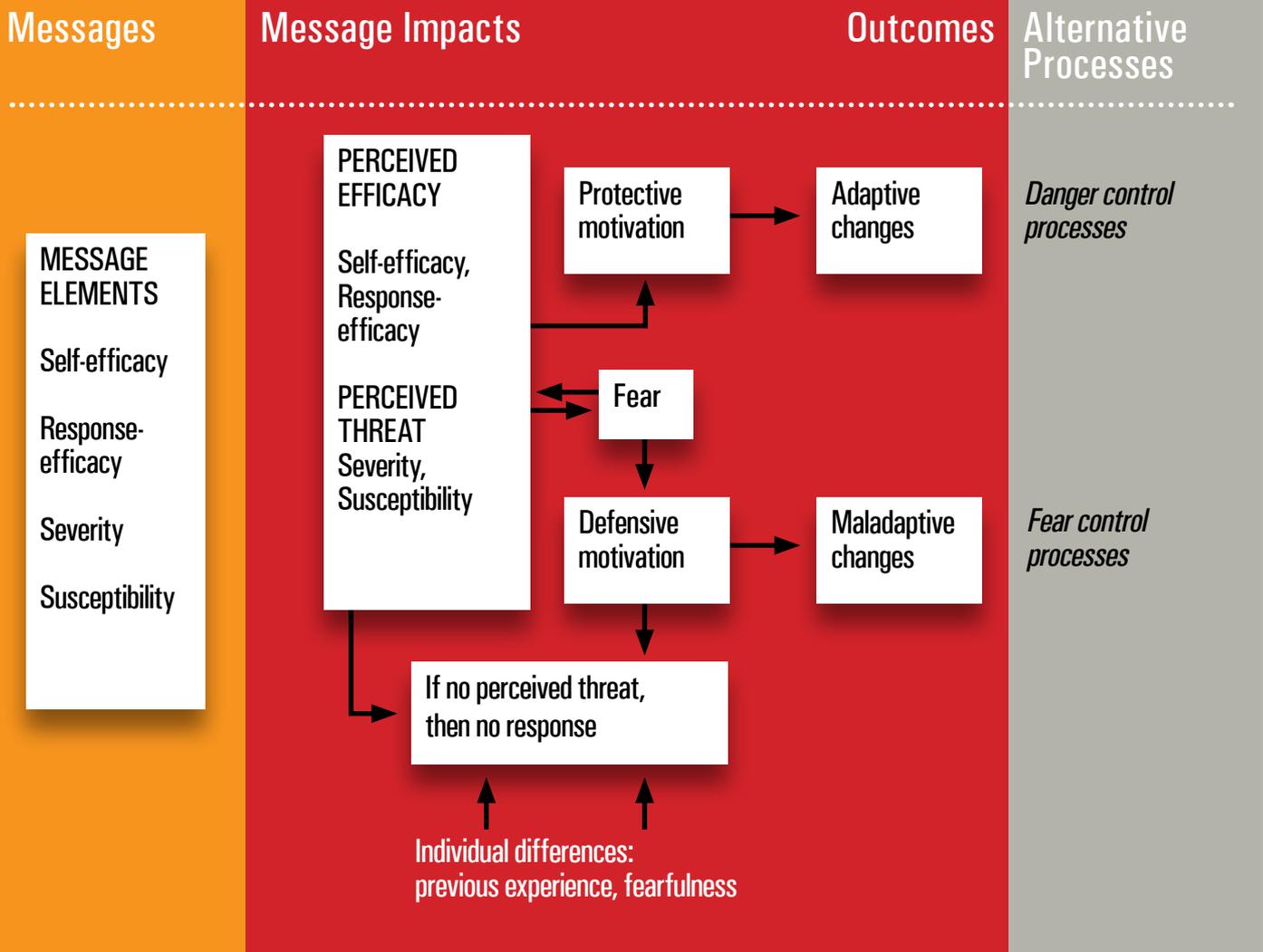
Theory of Planned Behaviour (TPB)

From the TPB perspective, attitudes, subjective norms and perceived behavioural control are important determinants of intentions that, in turn, predict behaviours. In the context of enhancing levels of alertness to safety warnings from official sources, for example, the theory points to the potential influence of attitudes toward engaging in alertness behaviours, subjective norms concerning these behaviours, and perceived behavioural control.

Questions raised by the attitudes concept include:

- Do people believe official channels (e.g. radio, websites) will provide information relevant to their location?
- Do people believe these sources will provide information that is up-to-date?

EXTENDED PARALLEL PROCESS MODEL



SCHEMATIC REPRESENTATION OF THE EPPM, ADAPTED FROM WITTE (1992).

Questions concerning perceived behavioural control might include:

- Do people believe they will have difficulty accessing information from websites if/when there are large volumes of traffic?
- Do people have the means to hear the warnings (e.g. adequate radio reception)?

Questions relevant to the subjective norm component include:

- Do 'important others' exert social pressure on community members to be actively alert (e.g. by monitoring radio emergency broadcasts)?

Other types of norms, such as **group norms**, also point to important questions for community bushfire safety research. For example, does belonging to a group (of the type of people who regularly check official warnings) increase the person's intentions to

also check warnings and therefore increase the likelihood of receiving warnings from these sources? If so, how can such group memberships be made salient?

Fear Appeals: Extended Protection Motivation Theory (EPMT) and Extended Parallel Process Model (EPPM).

Both EPMT and EPPM involve **fear appeals**. The application of EPMT to community education is one example of how theoretical approaches could guide future research concerns. Traditionally, it has been assumed that increasing people's awareness of a risk and how to manage that risk should lead them to take action as prescribed in the risk message. Severity is one risk aspect highlighted in the CFA's recent *FireReady* campaign, which included information about the current fire danger rating system and the likely consequences of fire on dangerous days. Thus, this community education effort incorporates one component of the threat

appraisal process identified in EPMT. This campaign has also included some information on the recommended actions, given the level of risk on a particular day. For example, on days rated 'catastrophic' people are advised to leave early. Insofar as people interpret the recommendation to mean that attempts to defend would be futile and probably fatal, the material may influence negatively perceptions of **response efficacy**.

Applying EPMT to the issue of crafting effective community education campaigns raises questions about whether messages addressing *all* the factors identified in EPMT would improve their persuasiveness, and lead to increases in the level of planning and preparation. For example, will education efforts that increase perceptions of *vulnerability* lead to greater uptake of the recommended actions? Are messages that elevate *self-efficacy* more effective than those that do not address self-efficacy beliefs?



◀ Pine Ridge Road, Kinglake, after Black Saturday.

Applying the EPPM to this area suggests further questions. Would efforts to heighten self-efficacy beliefs have any effect on intentions to prepare for bushfires in the absence of information about vulnerability to bushfires, and/or their likely severity? Might efforts to raise perceived vulnerability without also elevating efficacy beliefs prove problematic? These models clearly point to the need to investigate what combination of EPMT components (and the order of delivery) would be most effective for improving responses to community education.

Terror Management Health Model

The TMHM generates research questions that could also be useful for understanding and improving community bushfire safety behaviours, by considering the effects of 'death thought activation'. Applying the TMHM to the issues of community education and preparations, for example, leads to the following questions: To what extent do community education messages and warnings make the concept of death salient? What factors affect the duration of death thought accessibility? Are thoughts of death likely to be activated but non-conscious when people are in a position to prepare for bushfire? To what extent are thoughts of death activated by bushfire preparations when the threat of fire is relatively remote compared with when it is imminent?

CONCLUSION

Each of the theoretical approaches to health behaviour described in this paper can potentially be applied to one or more community bushfire safety issues to guide research to inform the development of effective interventions that change peoples' behaviours. That is, the application of these theories to guide research questions and the research produced may prove useful for creating measures and programs to improve: (a) the uptake of community education opportunities and messages; (b) the adequacy of preparatory actions; (c) alertness and responsiveness to warnings; and (d) decision making.

However, it should be noted that no single theory or model described here (or even a combination of them) is likely to be able to explain or predict all the issues. One reason for this concerns the extent to which the theories deal with the fluctuating levels of risk that bushfires pose. The psychological processes involved in the execution of behaviours relevant to bushfire safety when the chance of a bushfire impacting is relatively remote are likely to differ from those operating when the threat is considered imminent.

Although some of the theoretical approaches described above acknowledge that emotions

are likely to play a role (albeit indirect) in determining behaviour, none clearly specifies when emotions will influence behaviour directly. Evidence given to the Bushfires Royal Commission suggests that: (a) some of the 173 deaths from the Black Saturday fires need not have occurred if community members had made more realistic appraisals of the imminent bushfire threat; and (b) stress and anxiety may have impaired judgement and decision making by some of the deceased.

Another relevant issue is the state of knowledge about what precisely constitutes effective "community bushfire safety". In many community bushfire safety messages (e.g. 'leave early'), the intended behaviours were not well specified, and thus were not necessarily appropriate and achievable. Genuine advances in community bushfire safety may require substantial research efforts to establish a set of well-specified, effective, bushfire safety-enhancing behaviours to be suitable targets for persuasive, behaviour-changing community bushfire safety education programs.

Notwithstanding, we propose that the theories described in this paper can provide useful insights into the psychology of community bushfire safety.

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AFAC is the peak representative body for fire, emergency services and land management agencies in the Australasia region. It was established in 1993 and has 26 full and 10 affiliate members.