

This is an Accepted Manuscript of an article published by Taylor & Francis in *Australian Social Work* on 22 November 2020, available online: <http://www.tandfonline.com/10.1080/0312407X.2021.1874029>

Stressors and Supports in Post-Disaster Recovery:  
Experiences After the Black Saturday Bushfires

Louise Harms<sup>a</sup>, Lisa Gibbs<sup>b</sup>, Greg Ireton<sup>b</sup>, Colin MacDougall<sup>c</sup>, Kate Brady<sup>b,d</sup>, Lauren Kosta<sup>a</sup>, Karen Block<sup>b</sup>, Elyse Baker<sup>b</sup>, H. Colin Gallagher<sup>b,e</sup>, Connie Kellett<sup>a</sup>, David Forbes<sup>f</sup>, and Richard Bryant<sup>f,g</sup>

<sup>a</sup>Department of Social Work, University of Melbourne, Melbourne, Victoria, Australia;

<sup>b</sup>Melbourne School of Population and Global Health, University of Melbourne, Melbourne, Victoria, Australia; <sup>c</sup>Southgate Institute for Health, Society and Equity, Flinders University,

Adelaide, South Australia, Australia; <sup>d</sup>Emergency Services, Australian Red Cross,

Melbourne, Victoria, Australia; <sup>e</sup>Centre for Transformative Innovation, Swinburne

University of Technology, Melbourne, Victoria, Australia; <sup>f</sup>Phoenix Australia Centre for

Posttraumatic Mental Health, Department of Psychiatry, University of Melbourne,

Melbourne, Victoria, Australia; <sup>g</sup>School of Psychology, University of New South Wales,

Sydney, New South Wales, Australia

Corresponding author: Professor Louise Harms

[louisekh@unimelb.edu.au](mailto:louisekh@unimelb.edu.au)

Department of Social Work, The University of Melbourne 3010

## **Abstract**

Many studies show that longer-term poor mental health outcomes for disaster-affected people are predicted by post-disaster stressors. Despite this finding, existing recovery frameworks vary in how these stressors are conceptualised. This paper examines community members' subjective perceptions of what they found problematic and useful in their recoveries after the Australian 2009 Black Saturday bushfires, and considers them in light of these frameworks.

We report the findings from responses to semi-structured survey questions as part of the Beyond Bushfires study, three to four year after these bushfires (n=811). Participants identified the biggest problems as managing rebuilding processes, and managing their own mental health, memories of the Black Saturday fires and their concerns for family members. The four most useful supports were family, friends, rebuilding resources and their community. We found a complex interplay of the same factors operating as both stressors and supports, particularly in relation to family levels of coping.

## **Implications:**

- Disaster recovery efforts require the simultaneous management of physical rebuilding and human processes.
- Families, friends and neighbours are underestimated resources in post-disaster recovery.
- Given the complex interplay of the same factors operating as both stressors and supports, interventions are needed that maximize the positive dimensions of these factors. To manage this complexity, multiple frameworks are needed to guide disaster recovery.

**Keywords:** bushfire, disaster, recovery, stressors, support, family

## Stressors and Supports in Post-Disaster Recovery: Experiences After the Black Saturday Bushfires

In studies of post-disaster recovery, major life stressors are often found to be key predictors of poorer long-term mental health outcomes (Bonanno, Brewin, Kaniasty, & La Greca, 2010; Bryant et al., 2018; Bryant et al., 2014). While this predictive relationship is noted, the theoretical frameworks for understanding post-disaster recovery are complex, given the multidimensional nature of the disruption of disasters.

Close examination of subjective perceptions of these stressors will illuminate more about people's efforts to navigate their recoveries post-disaster. A deeper understanding of these stressors is warranted so that optimal frameworks can be developed and used to support recovery efforts, mapping the domains for intervention (Argyrous & Rahman, 2016). In turn, this will assist in targeting and prioritising post-disaster service provision that minimises the longer-term impacts of these stressors, particularly on mental health outcomes and optimises utilisation of available resources. Given this priority, we explore participants' perceptions of their biggest problems and the most useful supports after the 2009 Black Saturday bushfires in Victoria, Australia.

### **Conceptualising the Role of Stressors and Supports in Disaster Recovery**

Conceptualising disaster recovery is a complex and contentious task, given the simultaneous and sudden damage and disruption to people's inner and outer worlds. To capture these intersections, disaster recovery frameworks typically identify a range of disaster recovery capitals or capacities.

At an individual level, Hobfoll's Conservation of Resources (COR) theory, for example, proposes that individuals seek to protect and preserve valued, personal resources, to minimize resource loss and maximize gain (Hobfoll, Horsey, & Lamoureux, 2009). Disasters disrupt at

not only individual but family and community levels, creating demand on all resources. Four resource domains are typically identified – condition, object, personal and energy (Hobfoll, 2001). While this framework is cited in disaster studies, the empirical basis of these domains is not strongly established, and there are well-noted challenges in measuring these four domains (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014).

At the community level, disaster recovery and resilience have been theorised as dependent upon four resources or capacities, namely economic, social capital, information and communication related (Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008). Based on COR principles, these capacities mediate and moderate the stressors in the post-disaster environment, enabling access to the diverse range of instrumental, task and emotion-focused supports offered (Kulig, Edge, Townshend, Lightfoot, & Reimer, 2013). As with the COR model, however, while the Norris et al.'s (2008) capacity approach is positively appraised, there have been difficulties in operationalizing and implementing its evaluation (Kulig et al., 2013).

A community capitals framework (CCF) also brings a system perspective to understanding the transformations that occur within communities (Emery & Flora, 2006), particularly relevant to a post-disaster context. More comprehensive than the two previously cited approaches, typically seven different community capital components are identified, including “natural, cultural, human, social, political, financial and built capitals” (Emery & Flora, 2006, pp. 20-21), each intersecting with each other to provide an overall map of resource availability, loss or gain. The resource of social capital has been particularly examined in diverse post-disaster contexts, including the United States, Japan and Pakistan (Aldrich & Meyer, 2015), with bridging and linking social capital shown to play a critical positive role in terms of survival during a disaster and in recovery (M. Meyer, 2018).

These individual, social and community, and, to a far lesser extent, family-level conceptualisations highlight different capacities and resources, that can provide the focus of targeted post-disaster interventions. Optimally, they provide a road map for the areas of secondary stress and support that can be assessed and addressed in recovery efforts.

In this paper, we seek to establish the extent to which our findings align with or extend these approaches, drawing on the qualitative insights from a large sample of disaster-affected participants.

### **The Black Saturday Bushfires**

In February 2009, major bushfires burnt across Victoria, Australia. The worst of these bushfires occurred on 7 February, known as Black Saturday, resulting in 173 deaths, hundreds of personal injuries, the loss of thousands of homes and properties, and ongoing social and environmental loss and change (Teague, McLeod, & Pascoe, 2010).

Black Saturday involved disaster response strategies at local, state and federal government levels, followed by recovery services in the years following. The initial emergency response involved the army and emergency services, with many fire-affected areas evacuated and closed off to communities for the weeks following the fires, managed by the police. A case management service was established to assist people to navigate the complex post-disaster temporary accommodation, finance and rebuilding processes. Informal and formal recovery supports were then established, delivered via government and non-government agencies, and community led initiatives. Social workers were involved in many of these interventions (Rowlands, 2013). The Australian community also responded by donating goods and \$402 million (AUD). Notwithstanding these responses, recovery processes for affected individuals and communities have been complex and ongoing.

In Beyond Bushfires ([www.beyondbushfires.org.au](http://www.beyondbushfires.org.au)), our longitudinal study of community resilience and mental health after Black Saturday (Gibbs et al., 2013), we found at three to four years after the fires (Wave 1) that major life stressors and subsequent traumatic events (along with the death of someone close and fear for one's life during the fires) were predictive of poor mental health outcomes, including posttraumatic stress disorder (PTSD), depression, and severe psychological distress (Bryant et al., 2014). These prescribed major life stressors included moving to temporary accommodation, financial issues (insurance and employment related), experiencing other disasters, accidents or assault or violence; and changes in health, relationships, accommodation and/or employment. Another study of Black Saturday communities qualitatively examined experiences of family violence (Parkinson & Zara, 2013).

In order to more fully understand these, and potentially other major life stressors, this paper focuses on two key areas in medium to high affected communities, relating to community members' perceptions of (1) what caused the biggest problems for them in their recovery and (2) what was the most useful support.

## **Methods**

This article reports selected findings from Wave 1 of the Beyond Bushfires study (n=1016), with the full protocol described in detail in Gibbs et al. (2013). The University of Melbourne's Human Ethics Research Committee approved the project (Project ID 1852721.5). We used a telephone-administered and online survey method examining community resilience and mental health, with informed consent obtained in written, verbal or electronic form, depending upon the participation method.

## **Sample**

This article focuses on the participants who were in medium and high impacted communities (n=811) of an overall 1016 participants in Wave 1. Of these 811 participants, the majority provided responses to the two open-ended survey questions as to what caused the biggest problem (n=717) and what was the most useful support (n=698). That is, 91% of women (n=444) and 84.5% of men (n=273) in medium and high impacted communities provided qualitative description of the biggest problem they faced, and 91% of these women participants (n=442) and 79% of the men (n=256) described the most useful support for them.

The level of community affectedness was defined according to the degree of loss of life, property and infrastructure damage. High impacted communities were those that experienced both human fatalities and the loss of many houses whereas medium impacted communities included, at the upper end of the range, a small number of fatalities through to communities with no fatalities but significant amount of property damage. Low impacted communities were those which by comparison had no fatalities, and minimal or no property loss but were under threat of the fires (Gibbs et al., 2013, p. 8).

### **Data Analysis**

This large qualitative data set was analysed in Excel (D. Z. Meyer & Avery, 2009). This enabled a conventional content analysis (Hsiu-Fang & Shannon, 2005) to be undertaken, which involved the inductive development of codes and a frequency analysis of them, followed by categorisation of these codes and subsequent development of the major themes (Braun & Clarke, 2006).

The qualitative responses varied in length from single word answers to extensive paragraphs. For example, while some participants wrote extensive paragraph responses in relation to their family and friends as their most useful support, others would write just 'family and friends'. The typically brief nature of some textual responses required that coding was undertaken at

an observable or manifest level, rather than an interpretative one (Hsiu-Fang & Shannon, 2005). Codes were checked by two team members. Illustrative quotations identify the respondent by their reported sex (M for male, F for female); binary responses only were provided in Wave 1.

## **Findings**

### **Post-disaster stressors**

The three most frequently identified biggest problems were the same for men and women (Table 1) – managing rebuilding and reestablishment resources, their own mental health, and specific memories of the Black Saturday fires. The fourth and fifth most frequently identified problems for both men and women were managing their concerns for family members and coping with perceived injustices. A slightly higher percentage of women were likely to identify managing their concerns for family members as problematic, while slightly more men than women were likely to identify coping with perceived injustices.

INSERT TABLE 1 HERE

#### *Managing rebuilding and reestablishment*

More than a quarter of all participants described the biggest problem as managing the practical rebuilding or re-establishment of homes, farms and businesses. Some participants reflected on the immediate challenges of having no phone, electricity, water, clothing or accommodation in the early post-disaster weeks and months. For example:

Not having an easy supply of drinking water for the first 6 months, it took that long to get my insurance paid and my new water tank completed. (M)

Moving from house-sit to house-sit – 13 times in 8 months. (F)



Others reported problems in navigating the clearing and clean-up of properties, and the negotiation of insurances, grants and regulations as major frustrations. For example, one woman stated:

There's so many all at once, it's hard to specify just one. Insurance, dealing with the insurance side, settling the claim. Dealing with VBRRA [Victorian Bushfire Reconstruction and Recovery Authority], telling us to apply for grants and then knocking us back. The grant application process. The building, initiating the building process. Trying to find a builder who would build up here. (F)

And another:

The biggest stress was trying to get workers, contractors, things like that. To get the fences and the roof replaced and other things like electricians and plumbers, people like that. (F)

These experiences were not isolated, with many highlighting the difficulties of navigating bureaucratic and complex information sharing processes. For example:

Bureaucracy. Lack of communication both internal and external within departments, between agencies. So having to repeat the same things, fill out forms and having to continuously repeat and having to answer the same questions when all this data was being collected but not centralised. That I found extremely difficult, from the practical side of the time it takes in having to apply for things and also from the psychological side - it retraumatises people. (F)

And others noted the longer-term challenges of being without services for everyday life, such as petrol or bus services, while in the midst of trying to re-establish routines:

The services that haven't been replaced, that still haven't been replaced, like we used to have a little mini supermarket and a little bowser and that hasn't been replaced ...

We still haven't got our petrol station, and Kinglake's [service station] only been replaced temporarily. (M)

Trying to get my son to school, he went to school in Lilydale. He took the bus from Marysville, it was non-operational at the time. (F)

### *Managing their own mental health challenges*

One fifth of the respondents also spoke broadly of their own mental health challenges, the second most frequently identified problem. Some spoke of these mental health issues in formal diagnostic terms - Posttraumatic Stress Disorder (PTSD), anxiety and depression.

Others described in varying detail their shock, stress and trauma; for example:

Mental burnout, stress, trauma, depression. Sense of loss of the entire community and our way of life. (M)

Many spoke of their profound sense of grief and loss, both for others, their community and for themselves:

A profound feeling of loss of identity. (F)

You're a sort of ... you're a lost person, you don't know anything anymore, you're starting all over again, you're depending on friends. (M)

The emotional devastation of seeing the place look like a bomb had hit it.

Also just being witness to other people's immense pain and being there for them. (F)

Their mental health was also reflected as reactive to the many changes, captured in one woman's statement:

Dealing with the emotions of the changed environment, changed friends and extended community, change to ordinary daily routine and life. (F)

Many reflected on the impact of their mental health on their decision making – that at a time of intensive decision making, they were least able to engage in it. For example:

There was [sic] too many decisions to make in a distressed state with so many forms and having to repeat your story over and over again to many different people, and not being in a frame of mind to be objective enough to make these decisions. (F)

#### *Managing memories of the fires*

As part of reflecting on the mental health impacts outlined above, many reported very specifically that, three to four years after Black Saturday, managing the persistent memories of the fires and immediate aftermath was a particular concern. For some, it was reflecting back on the frustration of not being able to access their property in the immediate aftermath, until the forensic processes were completed:

Not being able to get back to the house, not being able to go back to attend horses on the property. (M)

Having Kinglake blocked off, and being told if you go through a roadblock to get milk and nappies for my 3 year old you can't go back. (M)

For others it was the stark physical horror of the fires' devastation – described in sensory terms and of revisiting places where people had died:

The blackness, everything was black, the whole environment was a charred mess, the smell was horrible. We had to go out of town just to have a break from the blackness. (F)

The hardest thing was leaving our property and driving past burnt out houses, because of so many of them you knew that someone had died inside.  
(M)

Others described the challenges of dealing with their own recollections and those of others:

Recurring visions of the smoke and that, a bit of trouble sleeping. (M)

Reliving the memories in my mind from the day. (M)

People's fire horror stories and feeling helpless. (F)

These recurring memories were an additional difficulty during the extended period of recovery, and highlight the enduring nature of the trauma of this disaster.

#### *Managing concerns for family members*

Other problems were related to family, primarily in the form of concerns about family members' mental health. Many reported concerns about partners, children and older parents, particularly in relation to watching their stress and grief reactions. For example, one mother wrote:

Our son's state of mind after losing his 'wife-to-be', and her sister. (F)

And another:

The fact that my youngest daughters' best friend and family had been killed in the fires and I had to tell her, so we needed to tell her that, and deal with that (F)

One father wrote:

My daughter had a fear of dying and fires. Any sort of fire she saw. I'd have to say to her no, no, it'll be alright. It has put a fear of fire into my daughter and my son. (M)

Other difficulties were related to concern for others, watching out for them, or worrying about those older or younger than themselves. To illustrate:

Trying to make sure that close ones around me, family and friends, were still OK, family in particular. (M)

Worry about elderly father. (F)

Others reported tensions in relationships, including the breakdown of relationships:

Keeping my marriage together – which has since failed. (F)

Separation of my partner. I was up here and she down there and she didn't want to come back up here. (M)

For some, these tensions related to blame and the fires, for example:

Mutual blame within the family as to whether we were prepared enough or not prepared enough. (F)

### *Perceived injustices*

A theme that emerged in many responses, and slightly more so for the men, was that of perceived injustices. For some, it was the perceived unfairness in the allocation of recovery resources that were being navigated:

The recovery was worse than the fires. The attitude and opposition from VBRRRA, the lies and platitudes from government and photo seeking politicians and an incompetent shire council. All seemed to be working against the community. (M)

The impact of externally imposed recovery structures and processes that ignored the value of existing community organisations, local capacity and experience. (F)

Some of these were related to other people around them, where others were perceived to be undeserving of the funding they received. To illustrate:

The other distressing thing was our neighbours, the ones we don't get along with, the house that they actually live in, they don't own it, ... and they got the money for it. (M)

Feelings that people who didn't deserve compensation got it and people who did deserve it did not get anything. (M)

Others felt excluded from those around them in the hierarchy of affectedness that was perceived to be in place:

The lack of recognition that people who had somewhere else to live were still hurting a lot, we were part of the community, we were affected too. We lost all of our photos, all of our history disappeared. We had no recognition. We'd had the place for 35 plus years, people who had been there for 2 months and were renting, they got everything and we got nothing. (F)

Another woman similarly commented on these complex social hierarchies that formed:

The negative emotional consequences... the bitterness and in-fighting in the community. The competitiveness, and the comparing of one's loss to another. The feelings of guilt, and the sense that while the wider community of Australians were pulling together, the narrow community of [town name] was separating in hostility towards each other.

These experiences highlight the complexities of relating to others in the context of a highly traumatised and disrupted community.

### **The Most Useful Support Post-Disaster**

The four themes of the most useful support were similar for men and women (Table 2), with the support of family, friends and neighbours most frequently identified, followed by formal organisational support, and tangible rebuilding resources.

INSERT TABLE 2 HERE

#### *Support from family*

Family members were described most frequently as the most useful source of support by a third of all respondents, men and women alike. Many participants simply wrote 'family', while others designated particular family members, such as 'husband and family' or short phrases such as 'family, just being there' or 'spending time with family'. Many also responded by referring to 'family and friends' and the interconnectedness of this level of support.

Many others wrote in far greater detail about the specific support of family. Some spoke of their self-reliance as a family unit, and as a familiar source of support:

Each other – I think cause we (family) were all known quantities. We made our own support. (M)

Family, just being there. We're pretty self-reliant so we just go on with things. Because we didn't lose the place where we live, we were able to do that. (F)

Others provided more detail about their family engagement and the interconnectedness with their family and friends. For example:

Family - just getting ourselves together. Gave us a number of goods, money to help us out. Just there to talk things over with you. (M)

My husband and my family, my kids. 'Cause we all went through the same sort of stress and fear so we all understood each other. (F)

The familiarity of family relationships meant that the complex emotional reactions to the fires could be safely expressed, according to many, and as illustrated in this woman's comment:

My parents. Because parents love is unconditional, they were the only people in the world I was allowed to be really angry with and they really copped it. I was spinning out of control, especially my Mum, she really copped it.

#### *Support from friends and neighbours*

Friends and neighbours were also described by nearly one third of all women and just over one fifth of all men as the most useful support. While many just stated 'friends or neighbours' (or as noted above, 'family and friends') more extensive comments highlighted the importance of a sense of a shared experience, of a reciprocity of listening and understanding that existed amongst each other:

Just family and friends support – helped whenever they could. (M)



Family and friends – just the fact that they would listen and they showed that they cared. (F)

Others spoke about the very practical nature of support – and mental health support. What was important was both the informality and availability of this support.

### *Formal organisational support*

Formal organisational support was also reported by more than a quarter of all men and women as useful. Participants identified specific organisations that had been helpful as well as services provided such as Centrelink, Rotary, the Salvation Army and the various relief centres that were established locally. Most of this formal organisational support was established specifically in response to the fires and their impact.

Many spoke of the emergency response organisations that were involved very early on – including the army, police and Country Fire Authority – and the way in which they tangibly contributed support:

The army were wonderful in as much that they set up food for people. We had no power and they set up kitchens and were very good. I think because they were used to drama, they were calm. (F)

The community was infiltrated by the army and the CFA. Incredible support for the people who needed it. (F)

Others spoke of the organisations and services set up for the recovery phase, many remaining up to two years in the affected communities:

The ongoing support from everyone, from the Salvation Army to the Fire Refuge Centre in Yarra Glen. (F)

Yarra Glen Bushfire Recovery Centre ... was BRILLIANT. Whatever basic, day-to-day things we needed we could just go and take. No overly bureaucratic admin, no questions asked, just show us your tag indicating eligibility and take what you need. I know some people abused this service but that also provided an opportunity for those people to receive some counselling in a very non-threatening way. (M)

Two fifths of these respondents mentioned case management as the most useful organisational support. Most simply mentioned 'case manager' or 'case worker', often in the context of identifying family and friends also. Others provided detail as to the efficacy of this formal support:

The case worker – he was trained in how to guide you through all the bureaucracy and how to access all the assistance, an absolute necessity. (M)

Case manager that was very well informed and made sure we were told the smallest thing to the largest thing that may help us. (F)

But for some that wasn't easy to find from the outset:

Having to go through three case managers before finding one competent one.  
(M)

### *Rebuilding and reestablishment support*

Given managing rebuilding and re-establishing processes were the most frequently perceived problem, it was not surprising to find that when these resources were provided, they were highly useful. Participants identified the usefulness of financial support first and foremost – the financial assistance provided as grants both formally by federal government through Centrelink and the Victorian Bushfire Appeal Fund, as well as insurance payouts. Participants

also highlighted the importance of voluntary efforts and donations through the Australian community – through churches, Rotary and other groups:

Money and support from relatives, friends and grants. (M)

Money. The grants. Being able to shelter the family, being able to buy supplies. (F)

Friends and family were also critical, providing temporary accommodation, even if not taken up:

Offers of accommodation from friends whilst we rebuilt our home. (M)

So many phone calls and so many offers to come and help clean up. I'm on two acres of bush and basically everything was burnt to the back door ... To be able to stay with other friends and family, to not smell it. (F)

For many, the priority of fencing and property re-establishment and feeding livestock was met through formal and informal supports. These were some of the priorities:

Visiting groups removing fencing and rebuilding fences. Fodder being delivered for cattle. (F)

To have water supplied to my place because I didn't have any water. (M)

Participants highlighted the very basic nature of these needs that were evident in the days, weeks and months after the fires – water, power, food and clothing, and supplies to keep their surviving livestock alive.

*Community support*

The previous findings have reflected already the strong appreciation for the support at community levels. We found that, in addition to speaking about friends and neighbours, there was also distinctive reference to community as an entity in its own right. One fifth of all respondents named community in this way, some simply with the word 'community' and others through elaborating the reciprocity in this network of support, such as:

Being with people who went through the same thing. (F)

Community dinners, everyone in the community getting together and having a chance to tell their story and be there for one another. (M)

While similar in many ways to the support provided by friends and neighbours, the entity of community was important, seemingly reflective of a sense of belonging beyond individual relationship networks to a wider network of reciprocal support.

## **Discussion**

Our study sought to examine perceptions of the most problematic and most useful supports after the Black Saturday fires. Our findings highlight the importance of understanding the real and complex secondary stressors in a post-disaster environment, where the rebuilding of lives involves not only the re-establishment of the built environments in which people live and work, but the complex psychosocial demands that arise in these contexts of extreme change, loss and trauma.

We found that the Black Saturday fires, in the three to four years afterwards, were still impacting heavily on all seven capital components of people's lives. That is, people were describing problems with all aspects of their natural, cultural, human, social, political, financial and built capitals reflecting the relevance of the Community Capitals Framework. The primary areas of focus for their problems were in terms of attention to rebuilding

requirements – the built capitals were the source of ongoing major concern for people in post-disaster communities.

Consistent with many other studies, our findings affirm the profound challenges in re-establishing a new normal, a familiarity and routine, and their complex intersection with mental health that endure for years after disasters (Bryant et al., 2018; Taylor & Goodman, 2015). In particular, we found there was concern for their own human capital and that of others in terms of mental health (Kaniasty, 2012). Given the known longer-term mental health impacts of disaster, this was not unexpected. However, while formal supports were useful, informal supports were perceived to be the most useful supports, highlighting the critical role of family, friends and communities in supporting each other through the aftermath of a disaster. This combination of bonding, bridging and linking social capital further demonstrates the relevance of social capital theory to disaster recovery.

We also found there were very few differences for men and women in terms of what they perceived to be most problematic and supportive, although noting that a sense of perceived injustice was more commonly reported by men. These similarities in the main highlight the reality that families or households share the process of recovery and rebuilding.

There was also a high degree of synergy between the sources of problems and of the most useful support – the very resources that are creating most problem through their loss or change, were simultaneously some of the key sources of support; for example, re-establishing properties and homes. This complex synergy requires further consideration, to ensure that policies and interventions will best support the positive aspects of these and minimise the negative (Alston, Hazeleger, & Hargreaves, 2019; Kaniasty, 2012; Winkworth, Healy, Woodward, & Camilleri, 2009).

The key finding from this study, however, was the central role of family both as a stressor and as a support. Family breakdowns, family violence, and concerns about the mental health and wellbeing of each other were reported, as were experiences of enhanced family support and care. The complexities of family life post-disaster were central (Caruana, 2010). The primacy of family (and also friends) as helpful in recovery is partly acknowledged in Hobfoll et al.'s description of resources being "tied to the nexus of individual-nested in family-nested in group-nested in tribe" (Hobfoll et al., 2009, p. 269). However, for the most part family level issues tend to be subsumed under the broader umbrella of social capital in theoretical frameworks, with no reference to family in recent reviews (Kulig et al 2013) and little empirical attention (McDermott & Cobham, 2012).

This relative oversight of the closest relational context in which people recover also translates into frameworks and policy at international, national and state levels. In the Sendai Framework for Disaster Risk Reduction (United Nations Office for Disaster Risk Reduction, 2015) there is no mention of family. In the Australian context, there is no mention in the National Disaster Recovery Strategy of family and the Council of Australian Governments' Disaster Resilience Strategy (2011) contains only one reference to family:

Resilient communities also share the importance of social support systems, such as neighbourhoods, family and kinship networks, social cohesion, mutual interest groups, and mutual self-help groups (Council of Australian Governments, 2011, p. 4).

Similarly, only one reference to family is found in Victoria's Emergency Management Resilience Recovery Strategy, in relation to family violence.

## **Practice, Policy and Research Implications**

These findings have clear implications for disaster recovery frameworks and service delivery generally. Firstly, optimising the rebuilding and reestablishment processes was the major priority for these participants. Maximising flexibility and minimising bureaucratic processes were key ways seen to improve outcomes. Secondly, mobilising resources at family, friendship and neighbourhood levels is a critical part of this rebuilding and recovery effort after any disaster. Our study suggests it is counterproductive not to engage them as optimal supports in the recovery system. In addition, minimising interventions that cut across or diminish these resources is vital. This would include maximising opportunities for family and neighbourhood involvement in decision-making for recovery efforts. Thirdly, while families can be a key service delivery mechanism in the support of others, our findings suggest that there is also a need to better support the supporters. Ensuring there are adequate family-centred approaches to disaster recovery, alongside individual and community level ones is recommended. Case management at family levels, or inclusive assessments of family needs (such as child care to enable parents to attend to rebuilding tasks) would be two examples of more family-centred approaches. Our findings suggest that mental health issues, including traumatic memories, and anger at perceived injustices seem to maintain and prolong disaster impacts, and that therefore empowering formal and informal family supports is critical. Part of this empowerment and support could come through recognition in policy and practice that families are both households and extended networks of relationships, as reflected in these findings.

## **Strengths and limitations**

The findings are limited by the variation in degree of description and the limited ability to interpret responses beyond a manifest meaning level. However, the strength of this study is

the unique large scale of qualitative data that was obtained, and the opportunity to inductively examine perceptions of stressors and supports at three to four years after a major disaster.

## **Conclusion**

The Beyond Bushfires study identified consistent themes in participants' views on what provided additional stress or support 3-4 years after a major bushfire in Victoria, Australia. These themes aligned with existing individual, social and community-level theoretical frameworks of post-disaster recovery. However, none of the commonly used theoretical frameworks adequately highlighted the primary role of family as a source of stress and support. This demonstrates the complexity for social workers and many others involved in disaster recovery of theorising recovery experiences and the importance of testing frameworks against lived experience. We propose that the family, in particular, as a source of both stress and support, should be more centrally considered in post-disaster recovery frameworks and interventions.

## **Acknowledgements**

The authors gratefully acknowledge the contributions of research participants and the support from community organisations and local governments. The authors also acknowledge the current Beyond Bushfires investigators who are not co-authors on this paper but are important contributors to the overall study: John Richardson, Phillipa Pattison, Dean Lusher, Vikki Sinnott, Robyn Molyneaux, Fiona Li and Louise Mitchell.



## Funding

This study was funded by an Australian Research Council Linkage Grant (LP100200164) including financial and in-kind contributions from Linkage partners Victorian Department of Health, Australian Red Cross, Australian Rotary Health, Australian Government Department of Human Services (Centrelink), Phoenix Australia: Centre for Posttraumatic Mental Health, and six Primary Care Partnerships: Central Hume, Bendigo Loddon, North East, Outer East, Central West Gippsland, Lower Hume. Additional salary support from the Jack Brockhoff Foundation is also acknowledged.

## References

- Aldrich, D. P., & Meyer, M. (2015). Social capital and community resilience. *American Behavioral Scientist*, *59*(2), 254-269. doi:10.1177/0002764214550299
- Alston, M., Hazeleger, T., & Hargreaves, D. (Eds.). (2019). *Social work and disasters: A handbook for practice*. Abingdon: Routledge.
- Argyrous, G., & Rahman, S. (2016). *A monitoring and evaluation framework for disaster recovery programs*. Carlton: Australia and New Zealand School of Government.
- Bonanno, G., Brewin, C., Kaniasty, K., & La Greca, A. (2010). Weighing the costs of disaster: Consequences, risks and resilience in individuals, families and communities. *Psychological Science in the Public Interest*, *11*(1), 1-49.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77-101.
- Bryant, R. A., Gibbs, L., Gallagher, H. C., Pattison, P., Lusher, D., MacDougall, C., . . . Forbes, D. (2018). Longitudinal study of changing psychological outcomes following the Victorian Black Saturday bushfires. *Australian & New Zealand Journal of Psychiatry*, *52*(6), 542-551. doi:10.1177/0004867417714337

- Bryant, R. A., Waters, E., Gibbs, L., Gallagher, H. C., Pattison, P., Lusher, D., . . . Snowdon, E. (2014). Psychological outcomes following the Victorian Black Saturday bushfires. *Australian and New Zealand Journal of Psychiatry, 48*(7), 634-643.
- Caruana, C. (2010). Picking up the pieces: Family functioning in the aftermath of natural disaster. *Family Matters, 84*, 79-90.
- Council of Australian Governments. (2011). *National Strategy for Disaster Resilience: Building the resilience of our nation to disasters*. Barton: Council of Australian Governments.
- Emery, M., & Flora, C. (2006). Spiraling-Up: Mapping community transformation with Community Capitals Framework. *Community Development, 37*(1), 19-35.
- Gibbs, L., Waters, E., Bryant, R. A., Pattison, P., Lusher, D., Harms, L., . . . Snowdon, E. (2013). Beyond Bushfires: Community, resilience and recovery - A longitudinal mixed method study of the medium to long term impacts of bushfires on mental health and social connectedness. *BMC Public Health, 13*(1036), 1-10.
- Halbesleben, J., Neveu, J., Paustian-Underdahl, S., & Westman, M. (2014). Getting to the 'COR': Understanding the role of resources in conservation of resources theory. *Journal of Management, 40*(5), 1334-1364.
- Hobfoll, S. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology: An International Review, 50*(3), 337-421.
- Hobfoll, S., Horsey, K., & Lamoureux, B. (2009). Resiliency and resource loss in times of terrorism and disaster: Lessons learned for children and families and those left untaught. In D. Brom, R. Pat-Horenczyk, & J. Ford (Eds.), *Treating traumatized children: Risk, resilience and recovery* (pp. 150-163). New York: Routledge/Taylor & Francis Group.

- Hsiu-Fang, H., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288. doi:10.1177/1049732305276687
- Kaniasty, K. (2012). Predicting social psychological well-being following trauma: The role of postdisaster social support. *Psychological Trauma: Theory, Research, Practice, and Policy, 4*(1), 22-33.
- Kulig, J. C., Edge, D. S., Townshend, I., Lightfoot, N., & Reimer, W. (2013). Community resiliency: Emerging theoretical insights. *Journal of Community Psychology, 41*(6), 758-775.
- McDermott, B., & Cobham, V. E. (2012). Family functioning in the aftermath of a natural disaster. *BMC Psychiatry, 12*(55), 1-7.
- Meyer, D. Z., & Avery, L. M. (2009). Excel as a qualitative data analysis tool. *Field Methods, 21*(1), 91-112.
- Meyer, M. (2018). Social capital in disaster research. In H. Rodriguez, W. Donner, & J. Trainor (Eds.), *Handbook of disaster research* (pp. 263-286). New York: Springer International Publishing.
- Norris, F., Stevens, S., Pfefferbaum, B., Wyche, K., & Pfefferbaum, R. (2008). Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *American Journal of Community Psychology, 41*, 127-150.
- Parkinson, D., & Zara, C. (2013). The hidden disaster: Domestic violence in the aftermath of natural disaster. *Australian Journal of Emergency Management, 28*(2), 28-35.
- Rowlands, A. (2013). Disaster Recovery Management in Australia and the Contribution of Social Work. *Journal of Social Work in Disability & Rehabilitation, 12*(1-2), 19-38. doi:10.1080/1536710X.2013.784173
- Taylor, D., & Goodman, H. (2015). *Place-based and community-led: Specific disaster preparedness and generalisable community resilience*. Retrieved from Melbourne:

<https://vcoss.org.au/wp-content/uploads/2018/05/Place-Based-and-Community-Led-Specific-Disaster-Preparedness-and-Generalisable-Community-Resilience.pdf>

Teague, B., McLeod, R., & Pascoe, S. (2010). *2009 Victorian Bushfires Royal Commission: Final Report*. Retrieved from Melbourne:

[www.royalcommission.vic.gov.au/Commission-Reports/Final-Report.html](http://www.royalcommission.vic.gov.au/Commission-Reports/Final-Report.html)

United Nations Office for Disaster Risk Reduction. (2015). *Sendai Framework for Disaster Risk Reduction 2015-2030*. Geneva: United Nations.

Winkworth, G., Healy, C., Woodward, M., & Camilleri, P. (2009). Community capacity building: Learning from the 2003 Canberra bushfires. *The Australian Journal of Emergency Management*, 24(2), 5-12.