

ABSTRACT

Place attachment is conceptualised as the bonding of people to a place that influences their perceptions of those places. This research focused on verbal and visual experiences of residents' homes and surrounds to explore whether place attachment in a bushfire-prone community mediated perceptions of risk. The analysis draws from qualitative data that used a visual and mobile method called 'Photovoice', coupled with in-depth interviews, to investigate the relationship between place attachment and perceptions of bushfire risk in hazard-prone settings. Located in the Blue Mountains, west of Sydney, New South Wales, this research established that place attachment, as mediated by longevity in place and familiarity to place, provided the context for certain perceptions and experiences of bushfire risk. The information garnered from this research can be important for more effective bushfire risk communications that are targeted and tailored to account for residents' attachments to home.

Can place attachment mediate perceptions of bushfire risk? A case study of the Blue Mountains, NSW

Charishma Ratnam, Dr Danielle Drozdowski and Dr Rosalie Chapple, UNSW Australia, consider attachments to place that helps people assess risk and communities rebuild and reconnect following disaster.

Introduction

Perceptions, experiences and assessments of bushfire risk form part of balancing risk and benefits in hazard-prone places such as the Blue Mountains, NSW (Slovic 2000). An appreciation of how elements of places are considered by people in areas under threat from natural hazards is an overlooked component of the most notable risk literature (Douglas 1992, Beck 1995, Slovic 2000). While risk-related research acknowledges person-place bonds, there is a gap in knowledge that must be bridged to better understand how these attachments to place influence action, and inaction, in risk-prone settings (Brenkert-Smith 2011, Diaz, Steelman & Nowell 2016). To address this gap, this paper considers how people perceive and experience places on various spatial and temporal scales, and how these experiences enabled (or not) both personal and contextual understandings of landscapes. Broadly, in this paper landscape definitions are drawn from Brenkert-Smith (2006) as encompassing physical, ecological and social meanings, which are mediated by the experiences of people living in them.

This research highlights how a focus on attachments to place enable a fuller spectrum of risk to be assessed, which also includes community rebuilding and community reconnecting with place (Billig 2006, Hughes 2014). This paper contributes to ongoing social research on bushfire risk communications (Stelman & McCaffrey 2011, Eriksen & Prior 2013, Diaz, Steelman & Nowell 2016). Considering attachments to the Blue Mountains visually were important to more nuanced understandings of people's connections to place in risk-prone environments

The concept of place attachment

The concept of place attachment is regarded as a complex and multi-faceted social construct (Anton & Lawrence 2014). It stems from the understanding that person-place bonds give rise to our connections to place, which are important in constructions of personal and group identities. Initially developed by Relph (1976) and Tuan (1977), the term emphasises that 'place' involves experiences, emotional connections and the construction of place. In a person's place-based experience, an attachment is formed as part of

knowing a specific place (Relph 1976). The concept of place attachment is essential in the way people are able to create a connection to their physical and social constructions of where they live. Place attachment has become closely tied to various community and individual perceptions, emotions and behaviours, particularly when these ties become threatened (Prior & Eriksen 2013).

Risk perception

There are many factors influencing perceptions of risk including behavioural and cultural theories of risk perception that intersect with the concept of place. Work by Douglas (1987, 1992) shows that risk perception is socially and culturally constructed. Furthermore, the perception of a hazard is a function of social learnings and cultural adherences (Douglas 1992). Beck (1995) suggests that risk awareness aims to make the unexpected consequences of a society's decisions foreseeable through preventative actions and arrangements. Slovic (2000) suggests that environmental risk is improved by understandings of risk and decision-making processes. Improving decision-making involves understanding probabilities of risk events, how hazards are perceived, as well as the balance of risks and benefits of planning (Slovic 2000). In Australia, we encounter natural hazard risks of floods, cyclones, droughts and bushfire. Of these events, bushfires are reported to be associated with the greatest sense of loss (Anton & Lawrence 2014).

This paper looked at how bushfire risk mediates people's attachments to place and home in the Blue Mountains region of NSW. The key objective was to explore place attachment and sense of home in an Australian community confronted by bushfire risk. Concomitant to this was the investigation of whether place attachment mediated perceptions of bushfire risk by residents of the Blue Mountains.

Methods and study area

In 2015, ten Blue Mountains residents were recruited to participate in this research. These participants were involved with a severe bushfire in the Blue Mountains in October 2013. During those fires, the majority of the participants were evacuated from the region given the serious threat. The 2013 fires burnt for ten consecutive days and destroyed 200 homes in Blue Mountains townships (Fitzgerald, Chapple & Blignault 2015).

The participants were aged between 18 and 54 and lived in the townships of Bullaburra, Wentworth Falls, Leura, Katoomba and Blackheath in the Blue Mountains region. An ethnographic approach was used for this research because the focus on everyday routines allowed for a nuanced way to explore meanings of place(s) in a spatial landscape (Wang & Burris 1997, Crang & Cook 2007, Till 2009). An ethnographic approach allows researchers to understand experiences and to interpret culture, society and environments through knowledge about place(s) (Pink 2001). Gaining insight into how participants interpret place informed the qualitative methodology

undertaken. The qualitative mixed methodology combined Photovoice¹ with a 'walk-along' interview, followed by a formal in-depth interview.

Visual methods provided different insights into how the participants perceived their attachments to home. Photovoice allowed participants to photograph their environment and encouraged discussion about community issues (Wang & Burris 1997). The traditional form of Photovoice was adapted for this research and included a walk-along interview component (Degen & Rose 2012). Participants were asked to determine their walking routes and take photographs of places and things they deemed significant parts of their home. Such places of meaning and attachment could be inside or outside their home (bedrooms, kitchen, backyard or areas in their surrounding suburb). Probe-style questions prompted participants to reflect on specific risk-related memories of the place(s) while they were walking and taking photographs on a tablet device. The walk-along method allowed observation of the participants' sensory experiences and memories of places while being mobile in and through places of significance (Waterton & Dittmer 2014). This meant participants explored the places and landscapes they were discussing while walking and allowed them to link their understandings of place and landscape for the researcher (Hein, Evans & Jones 2008). There was no limit to the number of photographs taken during the Photovoice part of the process. However, for the follow-up in-depth interview, participants were asked to select up to five photographs that they thought visually reflected their connections to place and home.

The second stage of semi-structured interviews helped create a narrative to extend the visual perspectives of place attachment and bushfire risk in the Blue Mountains captured in the walking interviews. Participants were encouraged to speak about experiences and observations of bushfires over time. The mobile and in-depth interviews were recorded, transcribed, coded and analysed in NVivo 10. Photographs were coded using NVivo 10 for combined analysis with the interviews.

Results and discussion

This research revealed how the use of visual aids and physical interaction extracted some nuances of place attachment connected to perceptions of risk.

Photographs taken during the Photovoice stage were specifically characteristic of participants' connections to place when considering bushfire risk-related perceptions and events. Participants stated they would only leave their homes during a bushfire event. Further, they stated they still had the intention of returning to the area post-fire. Many of the participants interviewed temporarily left the Blue Mountains during the 2013 fires, recognising an increased understanding of risk awareness. Such

¹ Photovoice is an analysis method combining photography with participant interaction (e.g. commenting on photographed scenes that highlight research themes).



Figure 1: Mountain range in front of a participant's home that was fire-affected in the early 2000s.

Image: Participant 9

a heightened awareness of bushfire risk was similarly conveyed in the 'Fire Stories' project conducted by the Blue Mountains World Heritage Institute (Fitzgerald, Chapple & Blignault 2015). The attachment felt and experienced by participants was a driving factor for returning to the Blue Mountains after a bushfire event. Participants' longevity in the Blue Mountains contributed to creating a sense of place that overrode the risk associated by bushfires because the area was considered home before a place of risk. For example, when asked: 'how do you think living in a bushfire-prone area has influenced how connected you feel to your home?', one participant stated:

I don't think the fact that there's a bushfire risk would change how we feel about living here.
(Participant 1, Blackheath resident)

The mobile approach of walking revealed that moving through places prompted moments of familiarity and evoked memories and lived experiences (Figure 1). One participant, while walking out to the veranda that faced onto the vast mountains (and taking a photograph), stated:

I think I feel more connected because I've nearly lost it a few times. You're always going to have a connection to your home, growing up. Coming home [after a bushfire event] and [your home] being there, you just feel so relieved and grateful.
(Participant 9, Katoomba resident)

This research uncovered connections between participants' bushfire risk perceptions and their senses of place. There were strong connections to place and home in these considerations of bushfire risk. These linkages revealed attachments to place as people were prompted to walk through and photograph places deemed to be their 'home place'. For example, one participant stated:

I'm not scared to be here, and I wouldn't consider moving because of [bushfires]... I love living here and it's just our space. (Participant 5, Bullaburra resident)

Another participant expressed an attachment to place when considering bushfires by stating:

Bushfires just become the norm... then when you realise where it has hit, that's when you realise how connected you are to the place.
(Participant 4, Leura resident)

While the bushfire risk prevails, residents have built a stronger sense of place and home, constructed by forging attachments to place, which were expressed through their movement in the mobile part of the method. Place attachment was evidenced as a contributing factor that encouraged residents to return to the area after bushfire threats and events.

Many participants conveyed that familiarity and longevity in a place provided more experience in handling bushfire threats and fire events. Being surrounded by risk, directly and indirectly, has contributed to participant awareness and acknowledgement of risk. Participants were asked: 'do you have a better understanding of bushfire risk after living in this area?' Many participants specifically mentioned the 2013 bushfire event as providing a key understanding of risk in their households:

Previously, I had an academic knowledge of that. The Winmalee year, I had an experiential knowledge of it.
(Participant 2, Katoomba resident)

Another explained: 'Before the [2013 bushfires], it was very scary. Even though we weren't directly affected, the whole of the community was affected and lots of people I knew were impacted' (Participant 5, Bullaburra resident).

The openness of the community to share stories and bushfire experiences enabled a better understanding of bushfire risk and the expansion of a more 'resilient fire-adapted community' (Paton 2007,



Figure 2: Fire retardant trees in a participant's backyard.

Image: Participant 2

Fitzgerald, Chapple & Blignault 2015, p. 20). The experiences expressed by participants stimulated how they can manage future bushfire events by preparing their homes. This includes clearing ground fuels around properties and establishing fire evacuation plans among households that are constantly revised (Lion, Meertens & Bot 2002, Paton 2007, Middleton & Leahy 2015).

While walking, participants pointed out parts of the house that were associated with their preparedness:

The whole top shelf [of the wardrobe] is... just important documents... that's all we'll grab.
(Participant 9, Katoomba resident)

Risk preparation of homes, particularly outside environments was a key point of discussion:

The recent fire warning that happened in Katoomba; they said it would come up here. We were thinking 'the leaves in the gutter' so trying to work on making the house more fire safe and of how close we are to the bush as well. (Participant 3, Leura resident)

We've cleared [parts] and changed things around so we can be more prepared if a fire came through.
(Participant 10, Wentworth Falls resident)

Features of the garden in relation to the perception of risk it carried were photographed by one participant (Figure 2).

These trees are actually fire retardant. So if one of our properties, either myself or my neighbour's went up, that would be a good fire break.
(Participant 2, Katoomba resident)

Insights gained through this research can inform community engagement activities to improve bushfire risk awareness, preparedness and response. Building this engagement can be accomplished by augmenting the way information is delivered by government agencies, community fire units and local councils. While bushfire

risk remains, the strength of attachments by participants to place and the home prevails based on their longevity in, and familiarity with, the Blue Mountains. This was evidenced by participants walking through and visually and verbally identifying these places of connection.



Participants cleared debris from property structures and fenced off part of their backyard to minimise fire risk.

Image: Participant 10

Conclusion

An important outcome of this research related to how attachments to place were articulated through movement, narrative and visual images. These expressions showed that while the bushfire risk in the Blue Mountains remains, and will likely increase in the future, participants have built a strong connection to place that builds an acceptance of this risk. Their longevity in the Blue Mountains and familiarity with the place has enabled a better understanding of risk. Participants' experiences with bushfires have built resilience and preparedness in Blue Mountains communities. The longevity of residents in place highlighted that bushfire risk is part of living in the Blue Mountains. For the participants, it is a place of the home along with acceptance of it being a place exposed to bushfire risk and threat.

References

- Anton C & Lawrence C 2014, *Home is where the heart is: The effect of place of residence on place attachment and community participation*, *Journal of Environmental Psychology*, vol. 40, pp. 451-461.
- Beck U 1995, *Ecological Politics in an Age of Risk*, Polity Press, Cambridge.
- Billig M 2006, *Is My Home My Castle? Place Attachment, Risk Perception and Religious Faith*, *Environment and Behaviour*, vol. 38, no. 2, pp. 248-265.
- Brenkert-Smith H 2006, *The Place of Fire*, *Natural Hazards Review*, vol. 7, no. 3, pp. 105-113.
- Brenkert-Smith H 2011, *Homeowners' perspectives on the parcel approach to wildland fire mitigation: The role of community context in two Colorado communities*, *Journal of Forestry*, vol. 109, no. 4, pp. 193-200.
- Crang M & Cook I 2007, *Doing Ethnographies*, SAGE Publications Ltd, London.
- Degen M & Rose G 2012, *The Sensory Experiencing of Urban Design: The Role of Walking and Perceptual Memory*. *Urban Studies* vol. 49, no. 15, pp. 3271-3287, SAGE Publications.
- Diaz J, Steelman T & Nowell, B 2016, *Local Ecological Knowledge and Fire Management: What Does the Public Understand?*, *Journal of Forestry*, vol. 114, no. 1, pp. 58-65.
- Douglas M 1987, *Constructive Drinking: perspectives on drinking from anthropology*, Cambridge University Press, Cambridge.
- Douglas M 1992, *Risk and Blame*, Routledge, London.
- Eriksen C & Prior T 2013, *Defining the importance of mental preparedness for risk communication and residents well-prepared for wildfire*, *International Journal of Disaster Risk Reduction*, vol. 6, pp. 87-97.
- Fitzgerald A, Chapple R & Blignault I 2015, *Evaluation of the Fire Stories film in the Blue Mountains, Australia. A report of the Blue Mountains World Heritage Institute*. At: www.fire.bmwhi.org.au.
- Hein J, Evans J & Jones P 2008, *Mobile Methodologies: Theory, Technology and Practice*, *Geography Compass* vol. 2, no. 5, pp. 1266-1285.
- Hughes L 2014, *Be Prepared: Climate change and the NSW Bushfire Threat*, *Climate Council of Australia*, pp. 1-30.
- Lion R, Meertens R & Bot I 2002, *Priorities in Information Desire about Unknown Risks*. *Risk Analysis: An International Journal* 22(4): 765-776.
- Middleton P & Leahy B 2015, *Bushfire Ready Neighbourhoods: From informed and aware to engaged and prepared. How Tasmania Fire Service used evidence-based practice to transform community education*. AFAC Case Study. AFAC, Melbourne, Victoria, and Tasmania Fire Services, Hobart, Tasmania.
- Paton D 2007, *Preparing for natural hazards: the role of community trust*, *Disaster Prevention and Management: An International Journal*, vol. 16, no. 3, pp. 370-379.
- Pink S 2001, *Doing Visual Ethnographies*, SAGE, London.
- Prior T & Eriksen C 2013, *Wildfire preparedness, community cohesion and social-ecological systems*, *Global Environmental Change*, vol. 23, no. 6, pp. 1575-1586.
- Ratnam C 2015, *Placing Home: How assemblages of place through mobility, materiality and nature influence attachment and risk in the Blue Mountains, NSW*, Honours Thesis, University of New South Wales, Sydney.
- Rolph E 1976, *Place and Placelessness*, Pion, London.
- Slovic P 2000, *The Perception of Risk*, Earthscan Publications Ltd, London.
- Steelman T & McCaffrey S 2013, *Best practices in risk and crisis communication: Implications for natural hazards management*, *Natural Hazards*, vol. 65, no. 1, pp. 683-705.
- Till K 2009, *Ethnography in Thrift R (eds.)*, *International Encyclopedia of Human Geography*, pp. 626-631, Elsevier, Oxford.
- Tuan Y 1977, *Space and Place: The Perspective of Experience*, University of Minnesota Press, Minneapolis.
- Wang C & Burris M 1997, *Photovoice: Concept, Methodology, and Use for Participatory Needs Assessment*, *Health Education & Behavior*, vol. 24, no. 3, pp. 369-387.
- Waterton E & Dittmer J 2014, *The museum as assemblage: bringing forth affect at the Australian War Memorial*, *Museum Management and Curatorship*, vol. 29, no. 2, pp. 122-139.

About the authors

Charishma Ratnam is a PhD candidate in Human Geography at UNSW Australia. Her thesis focuses on issues of place attachment and settlement in the Sri Lankan refugee community in Sydney.

Dr Danielle Drozdowski is a Senior Lecturer in Human Geography at UNSW Australia. Her research focuses on the interlinkages between place, memory and identity. She is interested in the use of innovative ethnographic research methods to understand place and mobilities.

Dr Rosalie Chapple was the co-founder of the Blue Mountains World Heritage Institute in 2004 and is currently a Research Associate and Board Director. She is also a lecturer in environmental studies at UNSW Australia.