Save me, save my dog

Increasing natural disaster preparedness and survival by addressing human-animal relationships

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***ABSTRACT**: The willingness of people to risk their own lives during disasters to save those of animals has been well documented. Existing research characterises animals and pet ownership as risk factors for early evacuation from—and survival of—natural disasters. However, given high pet ownership levels in industrialised countries, this paper considers how animals might alternatively be reconfigured as protective factors. It offers some preliminary thoughts on how this might be achieved with innovative communication initiatives informed by post-structural approaches to human-animal relations. Specifically, the paper encourages communicators to take advantage of human-animal relations by addressing the human-animal relationship.*

Introduction

In the catastrophic 'Black Saturday' Victorian bushfires of 2009, Juliet Moore leapt from the safety of a police rescue helicopter to return to her dog Poncho, Dr Chris Towie died saving his pet dogs, and sisters Melanie and Penny Chambers died trying to save their horses. In the Queensland floods of December 2010 and January 2011, farmer David Kelly was last seen alive heading off with his dog to save his cattle.

Clearly, the relationships that people have with animals are one of the few things that are not burned by bushfires or drowned by floods. The willingness of people to risk their own lives to save animals has been documented in a nascent field of research that characterises pet ownership and animals as risk factors for early evacuation

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and survival from natural disasters. However, this paper considers the extent to which pets and animals might be reconfigured as protective factors. It offers some preliminary thoughts on how this might be achieved through the development of innovative communication initiatives based on theoretical and conceptual approaches to human-animal relations that advocate the indivisibility of humans and animals and the need to address their relationship (Belk, 1988; Haraway, 2007).

Taking advantage of human attachments to animals and pets is essential, given increasing rates of pet ownership and increasing incidence of extreme weather events attributed to climate change. This paper is conceptual, based on a review of literature. It proposes a new framework within which to reconceptualise animals and attachments from risk factors to protective factors. The ways in which this could occur are discussed in relation to the phases and forms of disaster media and communication materials. The paper concludes with an outline of future research and methodologies necessary to empirically evaluate the proposal that animals and animal-attachment could be reconfigured as protective factors for human survival of natural disasters. As ideas are discussed throughout the paper, the terms 'animals' and 'pets' are used interchangeably, with 'animal' being inclusive of 'pets', 'livestock', 'wildlife', and 'companion animal'.

Natural disasters in Australia

In a country subject annually to 'droughts and flooding rains'[1], natural disasters are an unavoidable part of Australian life. Furthermore, they are expected to intensify in frequency and magnitude with climate change (Van Aalst, 2006). The loss of lives, property, and infrastructure from natural disasters costs an average of AUS$1.14 billion annually (Middelmann, 2007). However, the human cost and emotional impact of these losses is even greater. At least 552 civilians died in bushfires in Australia between 1900 and 2008 (Haynes, Handmer, McAneney, Tibbits, & Coates, 2010) and an unprecedented number of 173 people died in the tragic 'Black Saturday' Victorian bushfires alone. At least 2,213 persons have died as a result of flooding in Australia from 1788 to September 1996 (Coates, 1999) and another 35 died in the Queensland floods of 2010 and 2011 (Queensland Police Service, 2011). There is every reason to believe that a significant number of such fatalities could have been prevented.

Risking lives to save animals

In order to develop effective communication strategies to promote disaster survival behaviours and decision-making processes, researchers have identified risk factors such as community size (Cross, 2001),

homelessness (Wisner, 1998), socio-economic status (Waymer & Heath, 2007), and mobility impairment (McGuire, Ford, & Okoro, 2007). The impact of pets on disaster evacuation and recovery has only concerned a handful of researchers (Heath, Kass, Beck, & Glickman, 2001; Heath, Voeks, & Glickman, 2001; Zottarelli, 2010). This is despite high levels of pet ownership in industrialised societies, for example 63% in both Australia and the U.S. (ACAC, 2006; Leonard & Scammon, 2007). In fact, pet ownership and animal interactions are an important part of everyday life in Australia, with 91% of Australian pet owners reporting feeling 'very close' to their pet (ACAC, 2010, p.73), to the extent that many animal owners, carers and even 'good Samaritans' would put their own lives at risk to save those of animals in times of emergency and disaster. More than 8% of fatalities from the Australian flood data presented above resulted from people's attempts to save 'stock, property or pets'—even when the animal or pet was not their own (Coates, 1999, p. 406).

Further afield, the research by Heath, Kass, and others concluded that Californian animal owners were less likely to evacuate than non-owners (2001). Their study on flood evacuation behaviour found ownership of pets the greatest reason for failure to evacuate in houses without children, with the risk of failing to evacuate increasing twofold for every additional companion cat or dog in the household (Heath, Kass, et al., 2001). Howlett and Turnbull cite a USA study finding that more than 80% of animal owners would risk their lives to save their animal (2009, p. 3). Heath, Voeks, and Glickman reported that, when animal owners do evacuate, they are likely to return to try to rescue their animals (2001). Frequently, efforts to save or return to pets endanger the lives of others (Irvine, 2006), including family, friends, neighbours, and rescue and relief personnel.

For many, this 'risky' behaviour and the human-animal relationships that underlie it are inappropriate. While some may sympathise with the view that human life is the most valuable form of life on this planet, others consider it 'speciesist' (Irvine, 2009). However, for people who own, care for, farm, or otherwise rely on or relate to pets or animals, the desire to save them is neither misguided nor post-speciesist; it is a compelling and visceral response to a relationship that gives positive benefits to individuals, society, and humankind (see Smith, 2012). In fact, there are interesting evolutionary dimensions to animal-saving behaviour. Humans may be the only species to systematically care for non-human animals as 'pets' (distinct from inter-animal symbiotic relationships). While this behaviour may not be immediately

identifiable as something that contributes to the survival of the species, saving livestock or dogs does contribute to food resources and human protection.

For some, risking one's life to save a 'non-human' animal is no different from risking one's life to save another human or a child, although attempts to do the latter are often more successful and better reported (although instances of animals saving human lives make headlines). Higher rates of effective evacuation behaviour among households with children (and without animals) (Heath, Kass, et al., 2001) can be considered a function of logistics and opportunity. Children are relatively easier to move from the path of a disaster than pets, because there is usually sufficient space in vehicles for all children in a household. Social-marketing strategies and behaviour-change interventions for saving children can be easily designed in a generic 'one-size-fits-all approach' with a focus on assisting children into vehicles and out of danger, or placing them in the safest areas when evacuation is not possible.

Animals, on the other hand, are harder to move: they require leashes, a carrier for each animal, trailers, and (especially in relation to horses) travel experience. Owning insufficient carriers has been identified as a significant impediment to pet evacuation (Heath, Kass, et al., 2001), particularly for cats (Heath, Voeks, & Glickman, 2001). There may be more animals in a household than can be easily accommodated in available transport devices and, while it may be possible to 'cram' dogs and cats into carriers designed for single animals, most horse trailers cannot accommodate more than the number of animals for which they are designed. Moreover, when responding to early warnings of disasters, finding alternative accommodation for larger animals such as horses, alpacas, and llamas can be challenging. Without significant forethought, they cannot be easily handed over to friends or family to care for until danger passes. As a result, owners of large animals may delay or abandon early evacuation to stay and protect their animals. The management of horses before and during disasters can be particularly challenging (Main, 2010). They are less portable than traditional companion animals but their owners and carers share similar, if not the same, relations of companionship (Thompson, 2011) that provoke rescue behaviour.

In addition to the value of animals in human lives, the lives of animals for their own sakes matter during natural disasters. However, from a more anthropocentric perspective and in relation to post-disaster

recovery and rebuilding, they also matter because of the psychological impact of animal loss (Gerwolls & Labott, 1994; Planchon & Templer, 1996). While the emotional impact of the loss of human life is widely acknowledged, the loss of animals can also result in significant grief and psychological trauma (Lowe, Rhodes, Zwiebach, & Chan, 2009). When animal loss occurs alongside a traumatic event such as a disaster, the impact can be overwhelming (Zottarelli, 2010). In the case of a natural disaster, humans often experience 'post-disaster distress' (Lowe et al., 2009), especially following 'enforced abandonment' (Hunt, Al-Awadi, & Johnson, 2008) of animals, or feelings of blame for not having made the necessary precautions for the life of their animal. They may also experience feelings of guilt because their grief at losing an animal is less socio-culturally valued than the grief of losing a human. This trauma is not specific to those who have close relations with domestic companion animals. Farmers can also experience psychological trauma from the loss of livestock (Hall et al., 2004). The biological disaster of an outbreak of FMD or 'mad cow' disease in the U.K. in 2001, which involved the slaughter of more than four million cows, pigs, and sheep, also resulted in more than 80 suicides by farmers and other affected people (Irvine, 2009, pp. 14–15).

As a result of the complex relationships that many people have with animals (Bekoff, 2007), and the reported benefits of animals to humans' physical and emotional health and wellbeing (Smith, 2012), it would be unwise (and unethical) to direct research into attempts to convince people to abandon their pets during natural disasters. According to the Pets Evacuation and Transport Standards Act (PETS) in the USA, companion and service animals should be included in disaster planning. The Act also prevents rescuers from insisting that people leave their pets behind during disasters (or refusing to rescue people unless they do) (Irvine, 2006, p. 2). In Australia, the 2009 Victorian Bushfires Royal Commission urged that people be challenged to ask 'how would they protect their pets and livestock or would they leave them'? (2010, p. 7). But how should we communicate this message to pet owners, carers, and good Samaritans? Whom, exactly, are we talking to? How do they talk about disaster and how and when should we talk to them?

Some answers can be found in the ways that the fields of media and communications have categorised disaster messaging according to phases and forms. Disasters have been categorised according to the three phases of 1) preparedness, 2) impact, and 3) response/post-disaster/recovery. Media and communication about disasters have

been similarly conceptualised. There has been considerable research about pre- and post-disaster phases in relation to when people receive information about disasters, with a relative neglect of the impact phase (Perez-Lugo, 2004). The ideas presented in this paper have been developed with a particular interest in the pre-disaster phase. However, the overall goal is one of informing disaster preparedness, which has a flow-on effect of reducing or avoiding impact and alleviating the emotional and practical burden of the response/recovery phase through promoting early evacuation.

Animal owners and carers currently receive information about disasters from print media (newspaper and information sheets) as well as television, radio, and the Internet. Despite increased use of television and social media, these forms of communication are still reliant on electricity sources, which are vulnerable to disasters (Ewart, forthcoming 2013; Perez-Lugo, 2004). As a source of information that can be powered by batteries, radio continues to play an important role in disaster communication. For example, Ewart found that talkback radio played a role in keeping people informed of events and forming 'community' during disasters and emergencies (Ewart, forthcoming 2013), while Perez-Lugo found that radio provided emotional support and community connectivity during the impact phase (2004). Thus, the implications of the theories below need to be considered in relation to all forms of media, including traditional radio communication, as well as cutting-edge social media.

Animals are people, too

The literature on animals and disasters is limited but relatively broad. It spans the impact of pet ownership on failure to evacuate (Heath, Kass, et al., 2001; Heath, Voeks, & Glickman, 2001); the negative anthropogenic causes of mass animal deaths during natural disasters—especially in relation to intense animal farming or production (Irvine, 2009); emergency accommodation for animals; public health implications of abandoned pets and pets in shelters; implications for responders and emergency services personnel (Hall et al., 2004; Schaffer, n.d.); implications for animal rights advocates (Irvine, 2006); the planning, management, and administration of animals during disasters (Irvine, 2007, 2009; Leonard & Scammon, 2007); the emotional impact of pet loss following disasters (Hall et al., 2004; Lowe et al., 2009); risk factors for pet evacuation failure (Heath, Voeks, & Glickman, 2001); and risk factors for losing a pet during a disaster (Zottarelli, 2010). There are two major limitations to this

body of research. First, the research is fairly reactive. That is, there is a lack of literature that considers the pre-disaster phases of planning and prevention. This is significant, given that planning, prevention, and early evacuation behaviours are essential for reducing demands on emergency services and accommodation. Second, and as noted above, this research approaches animals narrowly and negatively as risk factors. These two limitations represent areas of significant potential for improving the survival rates of animal owners, carers, and 'good Samaritans' during disasters. The desire to save animals could be leveraged to motivate people to develop better emergency preparedness and response compliance (Leonard & Scammon, 2007). That is, the construction of animals as a risk factor for disaster survival could be reconfigured as a protective factor. Approaching animals and 'animal attachment' (or 'duty of care' or 'rescue impulse') in this alternative way, and using that attachment to increase natural disaster preparedness and early evacuation behaviour, could simultaneously address two limitations in the literature.

The interdependence of human and animal health and safety has been identified in relation to natural disasters, where Irvine (2009) notes that a reduction in intensified farming leads to a concomitant reduction in the risk of environmental pollution following natural disasters. As such, public health and animal welfare are simultaneously addressed. At an individual level, by educating people about the risk their animals face due to poor household preparedness for disasters, and by emphasising the benefits of early evacuation for the chances of animal survival, animal owners or carers could be encouraged to engage in protective behaviours that increase their own survival chances by default. The impact may be most marked among those who are less motivated to save their own lives, such as fatalists, risk-acceptors, and single-person dwellers.

However, while research has identified a need for 'pre-disaster education of pet owners' (Heath, Kass, et al., 2001, p. 659), there has been no development of a framework for the delivery of education, information, and communication messages. In particular, there is a need for a theoretically informed approach to delivering messages in a way that supports the reconfiguration of pets from risk factors to protective factors and that can be applied to all three phases of disaster communication and using all forms of communication, especially radio. Conceptual and philosophical approaches to human-animal relations can provide solid foundations. So-called post-structuralist approaches to human-animal studies (Thompson, 2010) and research intersecting

with that field (Wolfe, 2003) emphasise the relation between human and animal. Donna Haraway elegantly captures the essence of these approaches by describing human-animal relations with a metaphor of 'mortal and fleshy knottings' and a statement that 'the relation [is] the smallest unit of being and of analysis' (Haraway, 2007, p. 165). Russell Belk's (1988) consideration of the importance of the non-human to human identity explores the ways in which such human 'knottings' (to use Haraway's term) and 'relations' with pets can be so intricate that pets might best be understood as 'special cases' of extended human selves. He theorises the ways in which animals become extensions or parts of human selves as well as members of the family. This is established empirically, not only in relation to typical pets such as dogs but also non-traditional companion animals such as horses (Belk 1996). Similarly, Brown (2007) considers animals as 'self-objects' that are integral to human identity, sometimes surpassing the ability of other humans to provide a sense of self.

The implication of applying the 'extended-self' concept to people's willingness to risk their own lives to save animals is that their behaviour can be interpreted as a desire to save themselves. The concept provides a means to explore the extent to which, and in what ways, human and animal health and safety needs can be simultaneously addressed by promoting natural disaster *preparedness*. In relation to developing more effective public health interventions, this would involve focusing on the relation between human and animal. This reconciles the existing literature on pets and disasters, which tends to be either anthropocentric or zoocentric. While some research is interested in the impact of pets on human behaviour during natural disasters, and vice versa, there has been no attempt to address the relationship between humans and animals. This could be achieved by considering and addressing human and animal simultaneously. The aforementioned lack of literature on pre-disaster planning and prevention, together with a lack of consideration of the human-animal relation, could be addressed and reconciled by addressing a significant methodological bias identifiable in the literature: that animals are either risk factors or at risk. Reconfiguring human-animal relationships as protective factors for early evacuation and survival presents an opportunity to address these limitations and biases.

While Belk's approach is more anthropocentric than that of Haraway, both authors emphasise relations between humans and animals and demonstrate that animals are indivisible from human selves. Together, their work warns that treating humans and animals as separate

could undermine the success of emergency-preparedness in public health campaigns seeking to improve planning, evacuation, and survival among animal owners and carers. This is the case with most current emergency-preparedness public health campaigns that tend to treat human and animal safety during natural disasters as separate by providing information divided according to human and animal 'targets'. Print information for animal owners discusses what provisions animals require before a disaster and what medical attention they may need afterwards, while information for humans typically discusses evacuation behaviours for humans only. However, the idea of animals as extended human selves suggests that segregated information initiatives may fail to address fully the importance of the animal to its owner's sense of self. By treating human and animal as inseparable, we may be able to address their health and safety simultaneously, thereby using the *relationship* between human and animal. This may entail considering the target audience in terms of 'cat owner' or 'horse owner', rather than producing initiatives separately addressing humans or animals. The challenge is to develop effective communication materials that are sensitive to the phases of disasters and that function across multiple forms of media when humans have relationships with more than one type of animal, that is, when the human identity is co-constituted by multiple types of animals with different disaster preparation and planning needs.

This challenge may be met by encouraging animal owners and carers to take an equal stake in developing the kinds of two-way symmetrical communications that Grunig (1992) idealised, whereby communication providers and consumers are involved in a conversation. As Perez-Lugo notes, 'people look for contacts with different media and for reasons other than getting official information' (2004, p. 217). In particular, she discusses 'the ability of the media to unite people with similar interests' (2004, p. 212). As such, the media could be used not only to communicate disaster-preparedness information to people who own, care for, or could come into contact with animals during disasters, but also to provide a platform from which these people can communicate with one another and be involved in developing their own means of addressing the human-animal relation (form and language).

Discussion

This paper has proposed the reconfiguration of pets from disaster risk factors to protective factors by emphasising the relationship between humans and animals and what might be understood as

their mutually constitutive 'human-animal' identity. In order to more critically examine this idea, empirical research is required. As noted above, post-structuralist approaches to human-animal relations have emphasised the indivisibility of humans and animals. However, they also urge a consideration of the ways in which that same human-animal is enmeshed within, and constitutive of, a broader network of associations and an unavoidable socio-technical context.

To support the objective of increasing natural disaster preparedness, survival, and early evacuation, it is therefore necessary to consider the human-animal in relation to a broader context of dimensions including type of disaster, the geography where the human-animal is located, type of animal, and human demographics (as well as emergency services personnel and procedures). For example, the human-animal may be impacted differently by fire or flood in relation to warning time, disaster path, and options for increasing survival. These factors are likely to vary according to different geographical locations. Urban, peri-urban, and rural areas are each associated with particular manifestations of and responses to natural disasters. Furthermore, while we know that pet owners are at risk of being less likely to evacuate than non-owners (Heath, Kass, et al., 2001) and more likely to return (Heath, Voeks, & Glickman, 2001), there is little to no literature on humans risking their lives to save non-pets such as livestock and wildlife. However, pilot research by Due, Every, and Thompson (currently under review) analysing representations of animals in the Australian news media following the 2009 Victorian fires found that people also risk their lives to save non-pet animals with which they have no prior close relationship. Moreover, what people need to know about protecting, transporting, relocating, or 'early evacuating' a dog or a cat is different from that required for protecting or evacuating livestock such as a horse or alpaca. What people need to know about rescuing wildlife is 'another kettle of fish' altogether. Finally, the human-animal also varies according to human demographics. Given that research has identified that factors such as gender, occupation, urban or rural location, farming background, and type of animal all impact animal attachment (Irvine, 2009; Taylor & Signal, 2009), there is reason to suggest that these factors also impact the human-animal's vulnerability to natural disasters. Given these basic dimensions to the impact of human-animal relations on natural disaster reaction and response, there is a need for sensitive information and communication strategies that can encourage survival under all conditions.

As opposed to more homogenised forms of communication such as television, Moody (2009) identifies the ability of talkback radio to provide localised information tailored to the needs of specific communities. Given that animal attachments and interactions are dimensional according to the aforementioned socio-cultural and geographic demographics of specific communities, radio or social media may be able to play a highly specialised role in communicating disaster information targeting local articulations of human-animal relations. Moreover, as 'the role of the media shifts according to different phases of the disaster' (Perez-Lugo, 2004, p. 216), these localised articulations can also be expected to change. There is therefore an attendant need to understand the nature of these changes and their impact on information and communication requirements.

Methodologically, further empirical research is required to assess the usefulness of the theories considered in this paper and to extend their understanding and application. Existing research considering the impact of animals on human behaviour during natural disasters is characterised by deductive survey approaches (Heath, Kass, et al., 2001; Heath, Voeks, & Glickman, 2001). These methodologies have failed to provide the qualitative depth associated with inductive approaches such as *in situ*, ethnographic interviewing (Spradley, 1979). Moreover, existing knowledge has been derived from surveys based on deductive design. There is therefore a need for research to involve mixed-methods approaches that provide a rich qualitative understanding of all the dimensions intersecting with, impacting on, and impacted by, human-animal relations during and in preparation for natural disasters. Such research can also be used to inform the design of quantitative research tools with increased ecological validity.

Conclusion

This paper has proposed a reconfiguration of pets from disaster risk factors to protective factors by addressing the relationship between humans and animals. Critically evaluating this proposal with empirical research could yield multiple benefits for theory and practice. The focus on human-animal relations provides an opportunity to extend an understanding of 'extended human selves', while the focus on disasters provides a rare avenue to consider human-animal relations under pressure and in extreme circumstances, where individuals with animal attachments feel that their sense of self or identity is under threat of being eroded, fragmented, or lost due to tragic circumstances or difficult decisions (such as leaving an animal behind).

More importantly, there is significant and as yet unrealised potential for helping to save the lives of humans as well as animals. It is simply a matter of determining whom exactly we are talking to, how they talk about disasters, and exactly how we should communicate with them.

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Notes

1. From the poem *My Country*, written in 1908 by Dorothea MacKellar.

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