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What do people who have been affected by a disaster consider to be helpful and unhelpful in their recovery?

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**What do people who have been affected by a disaster
consider to be helpful and unhelpful in their recovery?**

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Abstract

Disasters are highly disruptive events that have the capacity to result in a wide range of complex, interconnected and compounding impacts for those affected. Disaster recovery is an under-researched but developing field. While much of the recovery research to date has examined disaster impacts in isolation to each other, those affected by disasters face a multiplicity of impacts simultaneously. Additionally, the voices of those with lived experience have often been missing from existing research.

To address this, this study took a deliberately broad approach, asking people affected by disasters what they considered to be helpful and unhelpful in their recovery. A constructivist, qualitative approach underpinned the study. A novel data collection method was used, where participants were asked to write a letter to themselves about what they found to be helpful and unhelpful in their recovery. A second phase of the study explored participants' research experience.

Following an overview of relevant literature, this thesis first reports on the background and methodology of the study, and then presents the results as five separate papers, each addressing the main research findings. The first finding is that people affected by disasters have a wide range of conceptualisations of what recovery means. The second is that there was a range of things participants found to be helpful and unhelpful after disasters, but broadly they could be linked to existing principles, with practical implications for future disasters. The third finding is that a hierarchy of affectedness is formed in the aftermath of disasters, and an expansion of existing models to explore this concept is presented. The fourth paper investigates the experience of people holding dual roles in recovery; being employed as recovery workers while also being personally impacted by the disaster. These individuals offer a unique perspective on experiences of recovery. The final paper presents findings related to experiences of participating in research on potentially distressing events with an unusual data collection method. Implications for policy, practice and future research are identified, with a strong focus on how support to those impacted by disasters can be improved.

Declaration

This is to certify that:

- i.) The thesis comprises only my original work toward the Doctor of Philosophy and due acknowledgment has been made in the text to all other material used.
- ii.) The thesis is less than 100,000 words in length, exclusive of tables, maps, bibliographies and appendices.

Signed:

Kate Brady

Preface

This thesis includes five papers written for publication in collaboration with supervisors Professor Lisa Gibbs and Professor Louise Harms. A declaration of thesis with publication and co-authorship consent documentation is provided in the appendices of this thesis.

Third party copyediting was provided by Dr. Haydie Gooder of Gooder Editing and Research. Dr. Gooder is not knowledgeable in the academic discipline of this thesis and provided proof reading and copyediting services in line with Australian Standards for Editing Practice.

The publication status of chapters five, six, seven, eight and nine have been presented in article format and are unpublished material not yet submitted for publication.

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To **Andy Kwan** – what a guy. When I said “I got accepted to do a PhD. I think I'm going to do it”, you said “Cool. I don't really understand what's involved but I'm

sure you'll be great at it, and we've got loads of free time - how hard can it be?" A car accident, hand reconstruction, a baby daughter (now a pre-schooler), a bunch of unanticipated medical complications and tiresome procedures, a dog, 6 goldfish, 3 house moves and (surprise!) premature twin sons (born just a few days ago) later, you've still convinced me it was a good idea to keep doing it, provided lots of encouragement and made it work financially and time wise even when it would have been a lot easier to suggest that I pull the pin on it all, so thanks.

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Part 1

Not knowing what we were in for... we were sitting on the bed and we could hear glass breaking and I walked to the back of her bedroom, which was facing the bay, just to measure the water and see how high it was. And in the back the water came up so fast it was unbelievable. As I turned and told them to hold hands, that we was gonna have to get in the water, the roof came down on all of us... and my lungs started to fill up with water and I kept asking Jesus, "Please don't let me go like this."

I had to get my family out.

I got out and they didn't.

I'm a big guy, I'm 268 pounds, I exercise and stay healthy and I just, I could not do a thing. It was just their time to go is the only way I can understand this.

Losing a family is, I don't think there's any words for it. It kinda makes you wonder what life's all about... many, many questions I have not received answers for yet, I just don't know how I feel these days. I wake up and go to the office and do my job and come home. I've got the house full of their belongings that I don't know what to do about. You know, as a father, and a dad, and a husband and everything, you always plan for the future of everybody and it's just the opposite now. I have nobody to plan for, or work on retirement for, or save for buying a house... it's just me.

(DeSilvey, 2006).

Chapter 1 Introduction

Disasters affect every country in the world. Between 2006 and 2015, there was an annual average of 376 recorded disasters per year globally (Guha-Sapir, Hoyois, Wallemacq, & Below, 2017). In 2016 alone, approximately 565 million people were impacted and USD\$154 billion were recorded in economic losses from disasters caused by natural hazards. These numbers are generally agreed to be under reported (Guha-Sapir et al., 2017). Disasters have the ability to kill and injure people and animals, separate and displace families, destroy livelihoods, cripple infrastructure, and alter communities and landscapes. They can indelibly impact every facet of our lives, what we have always held to be true and how we view the future. The disruptive impacts of disasters can be felt throughout our health, relationships, homes, work, environments, economies, social structures, political systems, cultural practices and belief systems. Despite this being well established, and knowing that a significant portion of the global population will be impacted by at least one disaster at some point in their lives, we know relatively little about how people recover from these events, and the processes that they go through to recover.

While there has been a dramatic increase of research in the field of disaster recovery in recent decades, spurred on by watershed points in history such as the September 11 attacks (2001), Indian Ocean tsunami (2004), Hurricane Katrina (2005), Victorian “Black Saturday” bushfires (2009) and the Canterbury earthquakes (2010/2011), there is still so much we don’t know and so many questions left unanswered. Due to the widespread nature of the impacts of disasters and associated interventions, disaster recovery research is intrinsically multi-disciplinary. The existing research takes place at different scales; individual, family, household, neighbourhood, community and societies more generally. Researchers have naturally gravitated to their areas of scholarly interest and expertise to focus on specific issues that arise as a result of disasters, often in isolation. Existing studies have moved us forward leaps and bounds in our understanding of how disasters impact specific components of individuals’ and communities lives and have pointed to how people impacted by

disasters can be better supported in their recovery. However, one of the challenges of these expert deep dives into the component parts of disasters is the challenge of seeing the interconnected nature of the *effects as a whole*. While understanding the component elements is certainly important, unless we better understand how disaster affected people experience many or all of these elements simultaneously, we fail to understand the compounding, cascading nature of the disruptions and changes disasters spark.

As researchers and practitioners, we are therefore becoming increasingly adept at understanding *specific* elements of disaster impacts and recovery. However, those impacted by disasters are not afforded the luxury of pulling out a singular component of disaster impact and examining it in isolation to the other disruptions. As a result, researchers, practitioners and policy makers would greatly benefit from listening to disaster impacted individuals in order to gain a better understanding of the breadth of the impacts that disasters have had on these individuals' lives. This would enable us to further understand the enablers and barriers to recovery (as identified by people affected by disaster) as well as be better placed overall to comprehend and consider the complex, multifaceted and tangled nature of the effects of disasters.

1.1 Positioning the researcher

While there is a long history in academia of researchers seeking to be objective, I take the position that researcher neutrality is an almost impossible feat, especially in areas where the researcher is deeply enthusiastic, passionate and brings with them their prior experiences related to the topic of their research.

In order to address this, I will attempt to outline the biases I bring to this work and the formation of the project. This will be reflected on here in two ways; first, through a personal story which shaped my approach to the project design and then through a reflection about my positionality as a researcher with ten years of experience as a disaster recovery practitioner.

1.1.1 Personal story

In 2006, my boyfriend of several years had a lingering chest infection for some weeks. One wet, cold Friday afternoon in June, I insisted he go to the doctor, who sent him to get an x-ray the same day. The radiologist ordered us directly to the emergency room (ER), explaining that the infection had progressed to pneumonia and he would need to be treated quickly. I settled in to the ER waiting room hard plastic chair with a book and a resentful attitude that he hadn't taken the infection more seriously earlier, assuming we were likely to spend the weekend hanging about in the hospital while others were triaged ahead of him.

It's fair to say that it didn't go the way I had anticipated. Within an hour of arriving at the hospital, he started thrashing wildly and was swiftly intubated and induced into a coma in the ER, with the doctors trying to explain to me that he would die if they waited to get him to the Intensive Care unit (ICU) to do it despite it being only two floors above in the same wing of the hospital. His lungs were completely full of fluid, they explained; he was drowning. Within the next few hours the doctors told me and his now gathered family that his lungs could not currently work unaided by a ventilation machine, his kidneys were very close to not functioning at all, and not only was his heart about three times the size of what it should have been, they were worried it would stop altogether. There was a very good chance that he was going to die that evening, they calmly told us. Even if he did wake up, they didn't know if he would ever recover.

He didn't die, though he spent some time in ICU and then the better part of two months in various other wards in the hospital before being released home to continue his treatment as a day patient. He was diagnosed with end stage renal failure and heart complications as a result of these kidney problems. Over the next few years he was in and out of the hospital to have appointments and procedures with various heart and kidney specialists, physiotherapists, pharmacologists, occupational therapists, social workers and researchers.

One of the things that really struck me was that as we moved further and further away from that cold, wet Friday in June, the approach to his care became more and more fragmented. When he was a patient in the ER and ICU, he was considered to be a whole person with multiple, inter-related issues impacting him simultaneously, and he was treated as such by a range of health professionals and support workers. The social workers understood his physical condition would impact his ability to work and pay rent. The occupational therapists and physiotherapists understood that the need to sedate him would affect his musculoskeletal and circulatory functions. The pharmacologist worked with other specialists to get the complex array of medications balanced. As his support people, we were offered counseling, spiritual support, break out rooms to try to rest in, and discount passes for the hospital car park.

The further away we got from the time in ICU, the more he was treated in component parts, with no interaction between the specialists. The kidney and heart doctors would only look at their organ of choice, and would give conflicting advice, which at times was contra-indicated for the other organ. They wouldn't speak to each other to discuss his care, they would insist it was up to us to negotiate with the other doctor, as 'it wasn't their area', despite the fact they were all medical doctors in the same hospital. The researchers only wanted to know about one tiny sliver of the experience and wouldn't provide information about how that single component may be connected to other parts of the experience because it was 'outside their scope'. It was the same with the rehabilitation staff and the welfare support services – after those first few months, he was never looked at as one person with a lot of interconnected issues that he experienced simultaneously. Rather, he was seen as just a series of issues which various specialists would focus on and try to explain. It drove me mad, and the stress of trying to negotiate this arduous, seemingly unnecessary process over the subsequent years for him as an outpatient, and then as a dialysis patient and eventually as a transplant recipient was far more draining for both of us than the drama of the acute issues in the ER and ICU.

Fast forward a few years, and I was working in my first disaster recovery role as the Recovery Coordinator for the Australian Red Cross following the 2009 “Black Saturday” bushfires in Victoria. It struck me that the further we got from the days of the fires, the less connected everything was. People who were considered to be ‘completely affected’ on the first days and weeks by the government, media and support agencies were broken down into their component issues by services as the months and years progressed. Insurance companies didn’t speak to the builders they contracted, homeowners had to negotiate between these companies. Health services that had been able to jump the administrative barriers between their services in the acute crisis phase went back to not being able to share information or work together. As a result, patients were forced to become the intermediary between health professionals and services.

Departments full of lawyers and financial specialists issuing grants advised recipients to get ‘independent tax and legal advice from a professional’ about the grants as advice was ‘outside their role’. Case managers who were there to support individuals on their way through recovery couldn’t babysit children while their client tried to do a job interview to replace the job they had lost as a result of the fires, despite knowing the child care centre had been destroyed, because it was outside the boundaries of their role. Financial assessors were bound by the narrow rules of their institution or a particular pocket of the law, rather than being able to look at a person or a family as a whole. Researchers looking at the fire’s impact were diving deep into a single issue, while their participants faced hundreds of issues simultaneously. Hundreds, maybe thousands of specialists, all focusing on their own component part. I watched this drive people mad, and heard many people talk about how, in many ways, the fire was easier to cope with than all the mess that came after.

I understand why these specialists only look at what they know. I do it myself professionally, every day, in order to keep my workload manageable and to stick to what I know. I understand from a research perspective that pragmatically, if not ideologically, it’s not possible to look at the full picture all the time. This is why we create project scopes and boundaries. Despite this, I often wonder why

we don't talk more about the burden that our compartmentalising, to make these tasks manageable for us, puts onto those who live with all the different components simultaneously. As a result, when I began this research I stayed away as much as possible from deciding what elements to focus on in the experiences of those who had been impacted by disasters and let participants identify the areas that stood out for them in amongst all the many, inter-related impacts they experienced simultaneously.

1.1.2 Researcher positionality

In qualitative inquiry, researchers are encouraged to engage in self-reflexive practices and position themselves in relation to the participants and the topics under examination (Sherry, 2008). This is especially important for researchers using methods such as constructivist grounded theory, where a researcher's own biases and experiences are incorporated into the considerations of the study (Charmaz, 2008, 2011, 2014). Researcher positionality has a number of components, including the individual researcher's world view, which may be shaped by their values, beliefs and life experience (Holmes, 2014), and their position in relation to the topic and participants being researched, sometimes referred to as 'insider outsider status' (Kerstetter, 2012). This is discussed in more detail in the next section.

1.1.2.1 Insider outsider status

The concept of identifying oneself as an 'insider' or an 'outsider' to research subjects as a way of undertaking researcher positioning has been used by sociologists, ethnographers and others (Kerstetter, 2012). Historically, the concepts of an 'insider' and 'outsider' researcher have been dichotomised, with researchers being categorised as one or the other (Dwyer & Buckle, 2009; Kerstetter, 2012).

An insider researcher is often characterised as someone who is uniquely positioned to gain access to, and understanding of, a particular group of people because, in addition to being a researcher, they belong to that group (Kerstetter, 2012; Sherry, 2008). While insider researchers may have unique and deep knowledge of a particular issue or group of people, pre-existing and ongoing

relationships with participants and may have easy access to recruitment, they have historically been criticised by some as being unable to clearly analyse the research findings because they are too close to an issue or participants, and may be unable to see past their personal experiences (Kerstetter, 2012; Sherry, 2008). Additionally, because of their insider status, participants may not discuss or identify some information because they assume the researcher already knows it (Dwyer & Buckle, 2009).

An 'outsider' researcher is one who is not part of the group that they are studying. While often valued for their ability to be more objective, 'outsiders' are also critiqued for not truly being able to 'understand' the people or phenomena they are studying because of a lack of personal experience (Kerstetter, 2012).

The views on the benefits and deficits of insider and outsider researchers have changed over time. Historically, positivist paradigms encouraged researchers with an insider status to avoid using this status because of the 'unnatural' impacts it would have on the research process (Dwyer & Buckle, 2009).

Increasingly, however, the dichotomy of insider or outsider is being seen as too stark (Dwyer & Buckle, 2009; Kerstetter, 2012), with arguments made that many researchers occupy a 'space in-between': "Surely the time has come to abandon these constructed dichotomies and embrace and explore the complexity and richness of the space between entrenched perspectives" (Dwyer & Buckle, 2009, p. 62). The 'space in-between' is a description of being neither a complete insider, nor a complete outsider as a researcher, but somewhere in the middle. While there have been some attempts at developing frameworks for researchers to position themselves in which go beyond simple 'insider / outsider' labels (Banks, 1998), some commentators on this topic advocate for researchers to reflect on their status, position and experience in relation to the groups they are researching, and importantly, to articulate it as a part of exploring their own biases and position (Charmaz, 2011, 2014).

1.1.3 Relevance for this study

An important consideration for any researcher hoping to position themselves in relation to the group that they are researching is to identify what makes the group they are researching a community of interest (Dwyer & Buckle, 2009).

The participants in this research study formed a community of interest. They self-identified that they had been impacted by a disaster, felt confident to participate in English and were willing to take part in research with an unusual data collection method. In a simple analysis, they form a group. However, a closer look at the characteristics of the participants reveals a much more varied group – there is limited homogeneity to their experience. Some of the participants were children when they experienced a disaster event, for example, while others were adults. Some of the participants worked in the recovery and felt like this had an impact on their personal lives. Some did not work in the recovery efforts but felt the impact of the disaster on every facet of their lives. Some worked in recovery but were also members of the geographic community where the disaster hit and were personally impacted.

To position myself as a researcher to that community of interest, it is important to state that I have not been personally impacted by a disaster. While I grew up in a bushfire prone community, my formal interest in disasters commenced in 2009 when I was appointed the Recovery Coordinator for the Australian Red Cross following the 2009 “Black Saturday” bushfires. I was later promoted to the roles of National Recovery Coordinator, then National Recovery Advisor for the Australian Red Cross, the role in which I am currently employed. In this role, I have contributed to a number of domestic and international disaster recovery policy documents, guidelines and resources.

A simple analysis of the participating community would indicate that I am an outsider because I have not personally experienced a disaster. However, my work in disaster recovery has impacted my personal life in a number of ways, and I had pre-existing relationships with a number of the participants from this study before it commenced; in fact, some of them encouraged me to apply to study. Thus, an equally simplistic analysis of the criteria of an insider researcher could also position me there. I was drawn to the literature about the ‘space in between’ because I could not easily reconcile my position in either space of insider or outsider. Reviewing the literature, it was the words of Dwyer and Buckle (2009, p. 61), ‘we ... occupy the space between, with the costs and benefits this status affords’ that strongly resonated with me as a researcher.

Additionally, the reflections of Easthope (2018) exploring her dual roles of senior practitioner and researcher in a disaster context offered solace that I was not alone in struggling to position myself.

While I have not personally experienced a disaster, and do not claim to understand what it is like to have personally experienced a disaster, I have worked as a disaster recovery practitioner for more than a decade. In my professional role, not only have I become a close colleague of a number of the research participants (prior to their participation), but, as noted earlier, I also hold a formal senior role at Australian Red Cross, a service provider that a number of the participants had used, (including one participant who was critical of its role in disaster recovery). My professional role and experiences mean I cannot claim objectivity, as I am linked professionally, in pre-existing and ongoing relationships, to a number of participants. Arguably this means there is an existing power dynamic between me and some of the participants who are either service users of or formal colleagues to the Australian Red Cross. However, these relationships are further complicated as my relationships with some of the participants extend beyond my professional relationships to friendships, mentors and confidantes. The very nature of disaster recovery work often creates close working relationships in intense and unusual environments which cross personal / professional boundaries through the type of time spent together, the unusual settings, and the need to rely on each other in stressful environments. I consider some of the participants to be dear friends and trusted advisers. But as close as some of my relationships are with some of the participants, for others there is no relationship existing outside that of researcher and participant. I do not know them beyond their participation, and they do not know me beyond the written information and videos on the research website and a generic follow up email.

Thus, for some participants, I am very close to being an outsider but for some professional technicalities. For others, I am mostly an insider. For some, I am in-between.

1.2 Summary of research aims

This research seeks to improve our understanding of what people affected by disasters in Australia and New Zealand considered helpful and unhelpful when recovering from the complex impacts from these events. While most disaster research seeks to look deeply into a single or small number of identified aspects of disaster recovery, this project takes a broader approach by encouraging participants to identify key barriers and enablers to recovery for them. Because of the wide range of impacts identified, this research does not focus on a specific element of the disruption, but instead seeks patterns in what participants found to be helpful and unhelpful in recovering from their disaster experience.

This study was designed to address three research questions:

- 1) What do people who have been impacted by a disaster consider to be helpful and unhelpful in their recovery?
- 2) What was the participant experience of research into a potentially traumatic event?
- 3) What was the participant experience of a novel data collection method?

1.3 Structure of the thesis

This dissertation is presented as a thesis with five publications. In order to avoid confusion, the thesis is structured in three parts.

Part one of the thesis incorporates chapters one to three, and is focused on outlining the background to the study, including the methodology:

Chapter one is this introduction chapter, positioning the researcher and outlining the research questions for the study.

Chapter two provides an overview of existing literature specifically looking at how disasters and disaster recovery are conceptualised, the impacts of disasters, and points of intersectionality.

Chapter three outlines the methods used for this study, and provide an account of the methodology, theoretical perspectives and epistemology which underpin the research.

Part two of the thesis incorporates chapters four to nine, and is focused on presenting the findings generated from this study:

Chapter four introduces the findings from this study and reports on sample characteristics.

Chapter five is presented as a paper reflecting on how disaster-affected people conceptualise recovery.

Chapter six is presented as a paper reflecting on what people affected by disasters consider helpful and unhelpful in their recovery.

Chapter seven is presented as a paper outlining the concept of hierarchies of affectedness in post-disaster settings.

Chapter eight is presented as a paper focused on the experiences of recovery workers who have also been personally affected by a disaster.

Chapter nine is presented as a paper that explores participant experiences of disaster recovery research using a novel data collection method.

Part three of the thesis incorporates chapter ten and the thesis appendices:

Chapter ten presents the discussion and conclusion of the thesis, including an outline of the contributions of this research, strengths and limitations of this study and proposals for areas of future research.

The appendices include the research and thesis documentation.

1.4 Thesis map

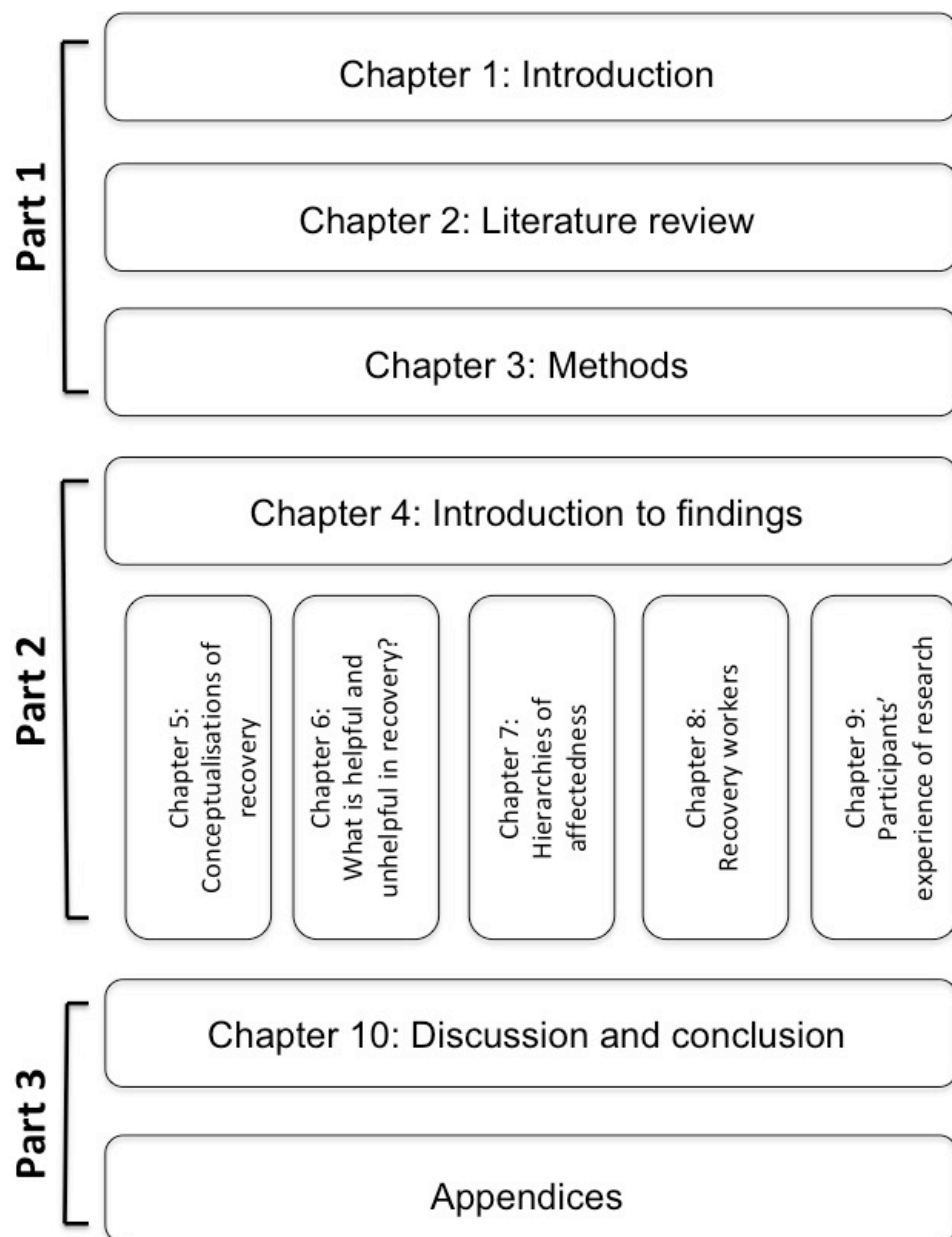


Figure 1 - Thesis map

Chapter 2 Literature review

2.1 Introduction

Disaster research is multi-disciplinary, spanning such fields as health, sociology, geography, engineering, economics, town planning, religious studies, political science and anthropology. This range of disciplines makes an exhaustive review on all aspects of existing literature and theory nearly impossible. For the purposes of this thesis, the literature review is structured by first exploring existing commentary regarding what a disaster and disaster recovery is, and establishing how these terms will be used in this dissertation. This is then followed by a review of the human impacts of disasters, including issues of intersectionality. Finally, literature regarding the role of social and political influences in disaster recovery is reviewed.

2.2 What is a disaster?

Exactly what constitutes a disaster is a contested topic in existing literature, and there is a long tradition of debate amongst disaster scholars over the definition, especially those based in the United States. Historically, there was a push from prominent researchers to try to reach a common understanding to aid the newly forming field of disaster research (Quarantelli & Dynes, 1977). It now appears to be widely accepted that there may never be a universally understood meaning of the word, despite the extensive exploration (Britton, 1986b; Perry, 2006; Quarantelli & Dynes, 1977; Ray-Bennett, 2007).

In his overview of the disaster definition debate, North American disaster sociologist Perry (Perry, 2005, 2006) notes an agreed definition of disaster may be impossible to come by, and acknowledges that some scholars have little interest in furthering the debate. However, he insists that it is important for researchers to position their work in relation to existing work. He argues that at a time of such proliferation in the disaster research arena, to not do so denies the field the ability to compare, integrate, and build on the work that is taking place (Perry, 2005).

Below is an outline of existing literature regarding definitions of disasters. Unsurprisingly, the core focus of different “types” of definitions has depended on the discipline, role and agenda of those doing the defining (Eyre, 2006; Perry, 2006b; Ray-Bennett, 2007). Following this, the definition and scope for this project is outlined.

2.2.1 Defining disasters

In his overview of disaster definitions, Perry (2006) helpfully outlines three main categories into which disaster research may fit. The categories proposed by Perry can be considered as a spectrum spanning three broad stances; 1) disasters as a hazard, 2) disasters as an event with social impacts, 3) disasters as a purely social phenomena (see Figure 2).



Figure 2 - Disaster definition spectrum (modified from Perry disaster research categorisations 2006)

2.2.1.1 Disasters as a hazard

The *disasters as a hazard* perspective has been traditionally common among physical geographers, geophysical scientists, medicine and engineering disciplines (Shaluf, 2007). Also referred to by some as “conventional” or “dominant” definitions (Ray-Bennett, 2007), the focus of researchers within this category is primarily on the hazard agent. For example:

Natural disasters are catastrophic events resulting from natural hazards. Natural hazards result from internal (beneath the Earth’s surface), external (topographical),

weather-related (meteorological/hydrological) and biological phenomena. Natural disasters are beyond human control. Natural disasters are often termed an “Act of God”. Man-made disasters, on the other hand, are those catastrophic events that result from human decisions. Man-made disasters can be sudden or long-term disasters. Sudden man-made disasters are known as socio-technical disasters (Shaluf, 2007, p.687).

While there may be some focus on social impacts, definitions that come from this perspective generally focus on tangible or physical elements of the hazard and their impact, and often stress a distinction between “man-made” and “natural” disasters (Perry, 2005).

2.2.1.2 Disasters as an event with social impacts and disruptions

Referred to by Perry (2006) as the “classical period”, definitions in this category consider disasters to be hazard events which have social impacts and cause disruptions. Key elements of definitions in this category include specific reference to: the hazard agent; the broad social impacts; the disruption to essential functions of society, and the concept that the threat of impact could have consequences (Perry, 2005). Researchers who locate themselves within this category are often from sociological, anthropological, health, and increasingly geography disciplines. While the hazard agent is acknowledged as important, these definitions do not generally consider the hazards as the core element of explaining what the disaster is, instead having a heavier emphasis on impacts (Britton, 1986a).

A useful comparison presented by Alexander (2005) serves to highlight the difference between these first two stances when he compares the Sherman landslide of 1964 and the Aberfan landslide of 1966. As a result of an earthquake in Alaska, the Sherman landslide moved more than 29 million cubic metres of rock across a glacier at 180 kilometers per hour into an uninhabited valley.

Despite the impressive scale and size of the landslide, it went unnoticed until a routine flight went overhead. By comparison the Aberfan landslide, the result of the collapse of a mining slag heap, was a physically much smaller event, with approximately 190 times smaller amounts of mass moving approximately 30 times slower than the Sherman landslide. Crucially however, in Aberfan the moving mass landed in the small town below the mine, particularly impacting the local school, killing 144 people including 116 children. This resulted in what is considered to be one of the United Kingdom's most tragic disasters, with intergenerational impacts (D. A. Alexander, 2005a). When using the hazards disaster perspective, the Sherman landslide would be considered to be the larger event, but when looking at these events with a focus on the impacts and disruption, the Aberfan landslide is a considerably more significant disaster. The difference between these two types of definitions is a hazard occurring, compared to a hazard occurring (or threatening to occur) *and* intersecting with life, resulting in social impacts and disruptions.

2.2.1.3 Disasters as a purely social phenomenon

Conceptualising disasters as purely social phenomenon can be considered a further extension of the definitions that consider disasters as events with social impact. Often coming from a sociological discipline, researchers who fit within this area place little emphasis on the hazard, instead favouring a purely social focus. Perry notes, "The disaster is characterized as a social disruption that originates in social structure and might be remedied through social manipulation" (Perry, 2006, p.11). Amongst the many researchers who fit into this category, the most well known and influential is arguably Quarantelli, whose earlier work was situated in the more "classical period" definitions, but whose later work emphasised disasters as entirely within the social realm, with little to no emphasis on an event, physical place or time (Perry, 2006).

2.2.2 Positioning this research

The first category outlined (disasters as a hazard), while lending itself to easy taxonomies of disaster events, has attracted criticism for being too narrow, too

focused on the tangible outputs of hazard events, and for leaving little or no room to understand context or allow for the exploration of the impacts of disasters on those affected (Britton, 1986a; Eyre, 2006; Quarantelli & Dynes, 1977; Ray-Bennett, 2007). In some cases, this stance has been actively rejected as being out of date (Kelman, 2019; Mascarenhas & Wisner, 2012). The emphasis on the “man-made” versus “natural” nature of hazards also offers very little, in that such stark distinction does not easily allow for explorations of how the vulnerability of people to “natural” hazards is often through “man-made” arrangements, such as emergency management planning, mitigation measures, town planning, resource allocation or pre-existing social vulnerabilities. Nor does it accommodate explorations of the increasingly complicated origins of hazards, for example increases in weather related hazards as a result of climate change (Glasser, 2019; Mendelsohn, Emanuel, Chonabayashi, & Bakkensen, 2012; O’Brien, O’Keefe, Rose, & Wisner, 2006; UNISDR, 2017). As summarised by O’Brien and colleagues: “hazards may be natural in origin, but it is the way in which societies have developed that causes them to become disasters” (O’Brien et al., 2006, p. 65). Therefore, this category of definition does not provide an adequate scope or framework to set the scene of disasters and their impact for use in qualitative research exploring the long-term impacts of disasters,

Conversely, while there are some merits in viewing disasters as a purely social phenomenon where the pre-existing conditions of a community are well acknowledged, the limited focus on the hazard events and hazard related impacts restricts the usefulness of the scope in practical application. Disaster research has the potential for very practical implementation. By removing a focus on the emergency event altogether, the practice applicability also becomes reduced.

Ultimately, the definitions that fall into the middle of the spectrum are the most useful here – the strong focus on social impact, combined with the acknowledgement of hazard and disruption are helpful features as a way of providing scope for this research.

2.2.2.1 Disaster definition for this research

Disasters in this study will be defined as:

Events which are precipitated by a hazard agent, and cause or threaten to cause social impacts, disruption and loss at an individual and community level.

Other disaster features such as speed of onset, predictability, capacity of local emergency systems, and accidental versus deliberate actions are often used to further categorise events and understand their potential impact but will not be adopted for this study.

2.3 What is disaster recovery

Recovery is acknowledged as the most under-researched component of disasters (Berke, Kartez, & Wenger, 1993; Burton, Mitchell, & Cutter, 2011a; Nicholls & Healy, 2008; Olshansky, 2005; Peek, Morrissey, & Marlatt, 2011; Phillips, 2009; C. B. Rubin, 2009; G. P. Smith & Wenger, 2007). Debate around the meaning of recovery is still underdeveloped and evolving (Abramson, Stehling-Ariza, Park, Walsh, & Culp, 2010; Jordan & Javernick Will, 2013) though there is agreement that disaster recovery is a complex process which takes a long time (Alesch, Arendt, & Holly, 2009; Eyre, 2006; Leadbeater, 2013; McNaughton, Wills, & Lallemant, 2015; Nicholls, 2012).

2.3.1 Defining disaster recovery

In policy documents and practice guides, disaster recovery is often explicitly defined in relation to the function and responsibilities of government, emergency management organisations and others with roles in post-disaster settings. Three broad categories of disaster recovery conceptualisations are outlined below. These are recovery as: 1) activity; 2) restoration; and 3) change.

2.3.1.1 Recovery as activity

In conceptualisations that focus on activity, recovery is generally explained in relation to the function, actions and responsibilities of organisations and service roles in post-disaster settings.

Definitions that use activity as a proxy for recovery are reflected in government policy (by way of illustration, see Commonwealth of Australia, 2012; Ministry of Civil Defence & Emergency Management, 2019; United Kingdom Cabinet Office, 2013). For example, in Australia, the National Strategy for Disaster Resilience defines disaster recovery as: “The coordinated process of supporting emergency-affected communities in reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical wellbeing” (National Strategy for Disaster Resilience, 2012, p. 22). Additionally, some researchers use rebuilding activity as a proxy for recovery progress (Burton, Mitchell, & Cutter, 2011b; Stevenson, Emrich, Mitchell, & Cutter, 2010). These considerations reflect early academic definitions where recovery was considered a predictable phase of emergency management (Jordan & Javernick Will, 2012; G. P. Smith & Wenger, 2007).

The historical development of the phases of emergency management (known variably as mitigation, preparedness, response and recovery) and their corresponding definitions, have been well documented (Phillips, 2009). In 1978, the National Governor’s Association of the United States of America devised a four phase emergency management model, with the aim of dividing the work of emergency management agencies into stages to ensure coordination through these phases (Phillips, 2009). A number of other countries subsequently adopted similar models (Crondstedt, 2002). The absence of debate or deliberation regarding what recovery is may have led to the phase of emergency management being used as a proxy definition for the process of recovery experienced by individuals and communities impacted by disasters.

While emergency management organisations increasingly acknowledge the need for community led recovery (Alesch et al., 2009; Australian Institute of Disaster Resilience, 2018; Commonwealth of Australia, 2012; Leadbeater, 2013; Ministry of Civil Defence & Emergency Management, 2019; Owen, 2018), much of the official terminology and guidelines remain focused on the actions of governments and other agencies. It is worth noting that some governments have been working to develop more community centric understandings of disaster recovery, with the Australian and New Zealand governments revising their approach in recent years. It is reasonable to predict that this will be reflected in official definitions in the near future.

Where disaster recovery is conceptualised as an activity, there is generally a focus on *process* rather than *outcome*. This implies that by undertaking activities to address the direct consequences of disaster events, recovery has taken place.

2.3.1.2 Recovery as restoration

A second category of disaster recovery conceptualisations have a restoration focus where recovery is targeted at getting individuals and communities back to pre-disaster status.

Some researchers explicitly point to restoration as being the hallmark feature of recovery. Phillips (2015) and Cutter (2014) acknowledge recovery as a multi-faceted social process with a strong focus on restoration to pre-disaster levels. Further, Olshansky and Hopkins (2012) outline recovery as involving residents building new homes or relocating, business repairs and repair of public infrastructure, amongst other things. They consider the compression of time where these things occur in post-disaster settings as unique (Olshansky et al., 2012). While Nigg (1995) clearly articulates that recovery should be considered to be broader than physical reconstruction, and in particular focuses on social processes, she does so in reference to restoring social processes to pre-disaster status (Nigg, 1995).

A number of prominent recovery researchers do not explicitly define what they mean by disaster recovery, and instead describe recovery in relation to restoration. These include psychologist Hobfoll and colleagues (2007), who refer to the “restoration of social and behavioural functioning” and economist Chamlee-Wright and colleagues (2007; 2011), who describe recovery as slow, ineffective or fragile in circumstances where limited signs of restoration are present in affected communities. Abramson and colleagues (2010) also discuss the interaction of multiple factors that inhibit or support individual recovery from a public health perspective, ultimately focusing on restoration to pre-disaster status.

Increasingly, there has been a recognition by emergency management organisations, governments and researchers that there should be a goal to not simply return to “what was” but to aim for a better, or less vulnerable status (Jordan & Javernick Will, 2013). The phrase “build back better” has become synonymous with disaster recovery programs and initiatives, for example the UNISDR 2017 disaster recovery guidelines, titled “*Build Back Better*” (UNISDR, 2017). Alesch and colleagues (2009) argue that the phrase “build back better” by political leaders following high profile disasters has become so commonplace that the absence of it in post-disaster commentary now would seem out of place. Smith and Wenger (2007) incorporate elements of both restoration and activity with the concept of improvement and alteration in their definition of recovery: “the differential process of restoring, rebuilding, and reshaping the physical, social, economic, and natural environment through pre-event planning and post-event actions” (G.P. Smith & Wenger, 2007, p. 237).

Where disaster recovery is framed as restoration to a pre-disaster status, there is generally a focus on the intended *outcome* for individuals and communities impacted. While there may be some focus on improvements, there is a general aim for life to resemble what it “looked like” prior to the disaster.

2.3.1.3 *Recovery as change*

A third category of recovery concepts are linked by an assumption that recovery from a disaster is a complex social process where no particular outcomes are assured, but some form of “new normal” will eventuate. This type of conceptualisation is based on the premise that for some individuals and communities, disasters create profound impacts and disruptions, which ultimately change the way that they experience life and perceive their future. Recovery, in this sense, where people’s lives have changed so much as a result of the disaster, acknowledges that the aim of restoration to a pre-disaster life may be impractical, irrelevant, or in some cases impossible (Alesch et al., 2009). Peek (2011) acknowledges that recovery for individuals may be lower, higher or equal to their pre-disaster functioning. Alesch and colleagues (2009), argue that irrespective of whether people are better or worse off than “return to what was normal”, they reject the concept of restoration as recovery:

Some disaster researchers have suggested that recovery is pretty straight-forward: one repairs, restores, rebuilds or replaces the built environment, and before long, the community essentially returns to where it was before. Again, we weren’t convinced... We came to believe that recovery, if it means restoring things to what they were before the event, almost never happens. (Alesch et al., 2009, p.3)

Considering recovery as *change* is reflected in findings where researchers have demonstrated that for some disaster affected people, impacts to life as a result of the disaster are so significant that there is no way to get back to how things were before the disaster event. Cox and Perry (2011) detail the profound, life changing disorientation that people impacted by fires in Canada experienced. In Australia, Gibbs and colleagues (2016) identify that some community members decided to relocate permanently following the 2009 Victorian bushfires because of how significantly their lives had been altered as a result of the disaster:

Losing a community and not really getting them back, that whole messy feeling of kind of wanting it back, it's never going to be the same. When you go up there, there's a horrible twisted pulling thing of feeling like you're home but not fitting in and it's not home. (Participant quote in Gibbs et al., 2016, p.338)

This is resonant with findings in a number of studies of families who relocated permanently following Hurricane Katrina in the United States. Some participants considered that the disaster had caused such a dramatic upheaval in their lives that there was no possibility of going back to how life was prior to the hurricane, even if they moved back to their old communities:

Nobody can go back to the way it was before. Everyone's affected. I mean, our lives changed. And that's the whole thing—recognizing that and moving on. We've just got to move on. (Participant quote in Peek et al., 2011, p.1390).

This was echoed in a different study by Morrice (2013) about relocation after Hurricane Katrina. She argues that there is a misunderstanding that recovery is the same as getting back to how things were prior to the disaster.

While her work regarding the impacts of September 11 focused on resilience in a post-disaster context rather than an attempt to define recovery, the elegant words of Walsh (2002) regarding the aftermath of the disaster are relevant when considering recovery as change:

Resilience entails both suffering and perseverance, “struggling well” to work through emerging difficulties as we strive to integrate the fullness of the crisis experience into the fabric of our individual and collective identity... we must question old assumptions and grapple with a fundamentally altered conception of ourselves in relation to others in our shared world. (Walsh, 2002, p. 35)

This reflects a shift in post-disaster resilience literature from a goal of “bouncing back” to the notion of “bouncing forward” in recognition that disasters are accompanied by change (Walsh, 2002).

As with restoration-focused ideas of recovery, where recovery is centred around change, there is a focus on *outcomes* for impacted individuals and communities, rather than *process*.

2.3.2 Summary

Considering the breadth of experiences individuals and communities report after disasters, it is worth considering that conceptualisations of recovery may be different based on the experience of the disaster. For some, the concept of restoration to pre-disaster status may be an appropriate target, while for others, this may be irrelevant or impossible due to the magnitude of change experienced.

While not routinely signposted or explicitly defined, conceptualisations of disaster recovery can be grouped into three broad categories: recovery as activity, restoration and change. Where recovery is discussed in relation to activity, the focus is often on *process*. In contrast, restoration and change focused recovery concepts often focus on *outcomes* for those impacted. The voices of those impacted by disasters have been largely missing from the limited discussions regarding conceptualisations of recovery.

2.3.3 Positioning this research

Disaster recovery in this research will be defined as:

a lengthy, complex, multifaceted social process following a disaster event, with no assured outcomes. Individuals and communities can be expected to have a range of experiences in the aftermath of disasters. As illustrated in Figure 3,

recovery can be conceptualised as a dynamic spectrum of possibilities from full restoration to pre-disaster status through to complete change.

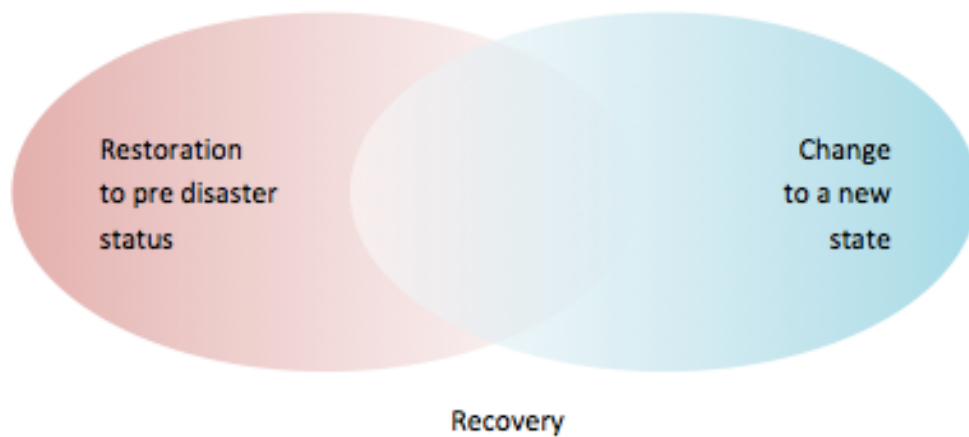


Figure 3 - Conceptualisations of recovery

2.4 Overview of the impacts of disasters

In order to understand what is helpful and unhelpful after disasters, it is useful to consider the complexity of impacts these events can cause. Disasters have impacts and disruptions at individual, family, community and societal levels; these effects are often intertwined and work to compound each other. There is a wealth of literature examining different types of impacts from disasters. Traditionally, literature reviews are restricted to specific topics or points of interest directly linked to the study data. However, because of the breadth of interconnected effects of disasters, it is important to provide an overview of impacts that may be experienced by those affected by disasters. While the impacts of disasters are separated out below for clarity, many of these impacts are interrelated.

Any definition of recovery needs to consider “who” or “what” is recovering and thus acknowledge the multi-level aspects of this concept including: city or regional level (Aldrich, 2012a; Chamlee-Wright, 2007); community level (Cox &

Perry, 2011; Gibbs et al., 2016; Leadbeater, 2013); micro-community level (Chamlee-Wright & Storr, 2009); family or household level (Peek et al., 2011; Tobin-Gurley & Peek, 2010); and individual level (Abramson et al., 2010; Bryant, 2009; Gibbs et al., 2016; McNally, Bryant, & Ehlers, 2003). Much of the literature and definitions fail to distinguish between these “levels” perhaps because of the interplay between them and yet this risks overlooking their potentially competing needs.

Disasters impact people differently. A range of factors influencing how the impacts of disasters are experienced are outlined in the topics discussed below, including race, ethnicity and culture (Fothergill, Maestas, & Darlington, 1999; Lambert, 2014; Maantay & Maroko, 2009; Sastry & Gregory, 2013; Spence, Lachlan, & Griffin, 2007), gender (Enarson, 2000, 2013a, 2013b; Enarson & Fothergill, 2007; Morrow, 1999; Parkinson & Zara, 2013; Peek & Fothergill, 2008; Sety, 2012; West & Orr, 2007; Whittaker, 2019; Whittaker, Eriksen, & Haynes, 2015; Zara & Parkinson, 2013; Zara, Parkinson, Duncan, & Joyce, 2017), age (Cherry, Allen, & Galea, 2009; Evans, 2010; Gorman-Murray, McKinnon, & Dominey-Howes, 2016; Kousky, 2016; Morrow, 1999; Ngo, 2001; Peek & Fothergill, 2008; Picou & Marshall, 2007), sexual orientation (Dominey-Howes, Gorman-Murray, & McKinnon, 2014, 2016; Gorman-Murray, McKinnon, & Dominey-Howes, 2014; Gorman-Murray et al., 2016; McKinnon, Gorman-Murray & Dominey-Howes, 2017; Richards, 2010) and socio-economic status (Enarson, 2006; Evans, 2010; Fothergill et al., 1999; Fothergill & Peek, 2004; Morrow, 1999).

Additionally, disasters can create primary and secondary stressors; that is, stressors that directly arise as a result of the disaster, or indirectly (Lock et al., 2012). While most disaster literature does not delineate between primary and secondary stressors, understanding the interplay between these two stressor levels can be crucial to understanding the impacts of disasters. In their attempt to develop a typology of disaster related secondary stressors, Lock and colleagues identify nine different categories of secondary stressors, noting that

some of these are entities in their own right, while others are the result of previous issues or primary stressors not being mitigated or even being exacerbated by recovery systems and processes (Lock et al., 2012). They identify secondary stressor categories as: economic, loss of physical resources, infrastructure and housing, difficulties with compensation, health related stressors, education, media reporting, family, social stressors, loss of leisure and recreation, and changes to world view (Lock et al., 2012).

2.4.1 Mental health

There is considerable literature exploring the mental health impacts of disasters (Whittle, Walker, Medd, & Mort, 2012), with a particular focus on psychopathology, in particular post-traumatic stress disorder (Harms et al., 2015). The first systematic studies of the psychological and psychiatric consequences of disasters were undertaken at the beginning of the 20th century in Europe. Significant research has been undertaken in the decades since regarding the mental health consequences of disasters.

Widescale psychological distress in disaster impacted populations is common (R. A. Bryant, 2009; R. A. Bryant, Gibbs, et al., 2017; Forbes & Creamer, 2011; Lock et al., 2012; McFarlane, Atchison, Rafalowicz, & Papay, 1994) and psychological and behavioural disturbances following a disaster event can be some of the longest lasting and most debilitating of the impacts (Schultz, Russell, & Espinel, 2005). However for most people, this distress, while potentially disruptive to everyday life, relationships and productivity, is usually short lived, rarely debilitating, and generally fades over time (Forbes et al., 2010). Most people who experience distress after a disaster do not require clinical intervention to cope, and generally recover well from these negative psychological symptoms (D. A. Alexander, 2005a; Bisson & Lewis, 2009; Calvo, Arcaya, Baum, Lowe, & Waters, 2015; McNally et al., 2003; Neria & Sullivan, 2011; Norris, Friedman, & Watson., 2002; Priebe, Marchi, Flego, Costa, & Galeazzi, 2011; G. J. Rubin, Brewin, Greenberg, Simpson, & Wessely, 2005; G. J. Rubin & Wessely, 2013).

While the majority of people who are impacted by a disaster will not develop psychopathology, many people will experience a range of symptoms such as sleep disturbances, difficulty concentrating, mood swings, and hypervigilance which may not be debilitating, but may cause significant disruption and negative impacts to the quality of life of these individuals (Black, Agteren, Iasiello, Carey, & Faggotter, 2018; Forbes et al., 2010). Additionally, as noted above, the post-disaster environment is characterised by ongoing secondary stressors, which are often not reflected in disaster mental health literature, but can cause considerable stress and disruption to wellbeing (Lock et al., 2012; Whittle et al., 2012).

However, in a significant minority of people, reactions following disasters become problematic and develop into a diagnosable psychological or psychiatric disorder (Bisson & Lewis, 2009; Norris, Friedman, & Watson., 2002). The most commonly diagnosed psychopathological disorders after disasters are post-traumatic stress disorder (PTSD), anxiety disorders, depression disorders, and complex grief (Bisson & Lewis, 2009; R. A. Bryant, 2009; McNally et al., 2003; Neria & Sullivan, 2011; G. J. Rubin & Wessely, 2013). While mental health diagnoses may diminish over time, the mental health consequences of disasters may persist for many years after an event (R. A. Bryant, Gibbs, et al., 2017).

It is common for there to be a delay between the disaster event and presentation of people with psychological symptoms (D. A. Alexander, 2005b). There are a range of factors which may increase an individual's risk of developing a diagnosable mental health condition in the aftermath of the disaster. Some of the risk factors associated with high incidence of negative mental health impacts include: the individual believing that they were at risk of death or injury; witnessing death or injury (Brewin, Andrews, & Valentine, 2000); being impacted by a disaster which had a high death toll; significant community or family disruption (Green et al., 1990; World Health Organization, 1992);

experiencing high levels of anger (Forbes et al., 2015); material loss; uncertainty; relocating multiple times (Goto, Wilson, Kahana, & Slane, 2006); pre-existing mental health conditions (North & Pfefferbaum, 2013); belief that experiencing stress reactions is a sign of personal weakness (McNally et al., 2003); being unable to contact loved ones during the disaster event (Goto et al., 2006; Richardson et al., 2016; G. J. Rubin et al., 2005); separation from social support networks (Reardon, 2015); bereavement of family members, friends and community members (Harms et al., 2015) or a pet (Hunt, Al-Awadi, & Johnson, 2008), and disaster events involving malevolence, human negligence or violence (World Health Organization, 1992). People who are engaged in disaster recovery work may also be at greater risk for developing psychopathology (Cukor et al., 2011; Ehring, Razik, & Emmelkamp, 2011; Johnson et al., 2005; Perrin et al., 2007; Stellman et al., 2008; Wisnivesky et al., 2011), with risk factors for people in these roles including role commencement dates close to the disaster event (Perrin et al., 2007), work related stressors, low social support (Ehring et al., 2011), and disruptions to work, family and friends (Stellman et al., 2008).

There are indicators in multiple studies that positive social connections and support after disasters may be a protective factor against ongoing negative mental health conditions (Brewin et al., 2000; R. A. Bryant, Gallagher, et al., 2017; Gallagher et al., 2019; Hobfoll et al., 2007; Hobfoll & Walfish, 1984; North & Pfefferbaum, 2013; Reardon, 2015). There are challenges to being able to accurately measure the full scale of mental health impacts after disasters, but in their case study based research into the 2010-2011 Queensland floods and the 2009 Victorian bushfires, the Australian Business Round Table for Disaster Resilience and Safer Communities estimated ongoing negative mental health effects to be the most far reaching intangible costs of these disaster events. The report also found that the burden of these intangible costs fell disproportionately to women (Deloitte Access Economics, 2016).

2.4.2 Physical health

The physical health impacts of people affected by disasters are wide ranging and far reaching, with physical and mental health closely connected and interdependent. While the number of injuries and illnesses that occur as a direct result of the initial hazard event are often reported, the long-term and secondary physical health impacts to disaster affected individuals are often more complex, hidden and may not be reported.

Within the existing literature the causes of physical health impacts of disasters can be grouped into four types. First, and most often reported, is exposure to hazards and their effects. Second, are changes to the environments people are in after the hazard. Third, are the somatic symptoms of psychological stress. Fourth, are the disruptions to health care service access and other support networks that impact people after disasters. These categories are expanded on below.

2.4.2.1 Impacts of the hazard

Injury, illness and death directly attributable to hazards are some of the most cited impacts of disaster. As a result of hazard exposure, people are killed, injured, disabled or may become susceptible to a range of health complications. The cause of death as a result of a hazard varies widely depending on the attributes of the hazard. For example, drowning, blunt object trauma, electrocution and motor vehicle accidents caused by heavy weather and difficult terrain are cited as the main causes of death from cyclones (Schultz et al., 2005). The main causes of death during the 2009 Victorian bushfires, however, were recorded in the Coroner's report as effects of the fire, including asphyxiation, carbon monoxide poisoning and burns (Teague, Mcleod, & Pascoe, 2010). Exposure to hazards can also result in injuries or long-term illness, which again vary depending on the hazard. Injuries such as cuts, puncture wounds, sprains and fractures are common during cyclones (Schultz et al., 2005). Exposure to radiation following events such as industrial accidents may, amongst other

things, manifest as thyroid cancer, uterine bleeding, decreased immune function, leukemia or major organ failure (International Federation of Red Cross Red Crescent, 2000; Italiano & Murtha, 2013). People who were in New York City on September 11, 2001 recorded eye irritation, respiratory problems, hearing damage, cardiovascular issues, heartburn and reflux (Brackbill et al., 2006; Lin et al., 2005; Wisnivesky et al., 2011). This literature reflects the wide ranging, context specific nature of the physiological impacts hazards can have on those exposed.

2.4.2.2 The post-disaster environment

Conditions that people may be exposed to in a post-disaster environment can have profound and long lasting impacts on health. These impacts are many and varied and affect both physical and mental wellbeing. Despite common myths that dead bodies after disasters are likely to transmit diseases, in most cases cramped living conditions and changes to levels of hygiene are more likely to result in the transmission of communicable diseases, bacterial infections and vector born diseases (J. T. Watson, Gayer, & Connolly, 2007), to which babies and young children may be particularly susceptible (Kousky, 2016). Changes to living conditions and reductions in available housing stock may also increase the incidence of family violence (Sety, 2012). Additionally, limited housing availability and damage to property may result in people potentially being exposed to animal bites, mold spores in contaminated buildings and toxic waste (Schultz et al., 2005). People may have increased carbon monoxide exposure as a result of generators and other engines being used as alternative power sources (Centre for Disease Control and Prevention, 2012). Oral hygiene related dental problems have been reported in children after disasters as a result of changes to diet and more urgent concerns for families taking precedence (Kato et al., 2019). Even where health threats from post hazard exposure are not realised, fear of environmental exposure may result in reduced outdoor activities and parents restricting children's physical activities (McCurry, 2012). Reduced access to food, resulting in lower intake of calories, vitamins and nutrients in post-disaster settings may impact on children developmentally, especially if this is an ongoing

issue (Kousky, 2016). While death, injury and disease in post-disaster environments are more prevalent in developing countries than developed countries (Ahern, Kovats, Wilkinson, Few, & Matthies, 2005), they pose significant risk to anyone living in an environment impacted by a disaster.

2.4.2.3 Physical symptoms of psychological stress

In addition to other physical ailments, people who are psychologically impacted by disasters may display signs of physical complaints (Leitch, Vanslyke, & Allen, 2009; McFarlane et al., 1994). People who only suffer minor physical injuries (or none at all) at the time of a disaster may develop illnesses after a period of time linked to the stress of the impact (Holen, 1991) and stress from fear of contamination (McCurry, 2012). People who are unwilling to acknowledge or unclear about the psychological impacts they may have suffered often present to general practitioners or other health care providers with physical symptoms (Ford, 1997; McFarlane et al., 1994). These symptoms may include headaches, backaches, gastrological and dermatological issues (McFarlane et al., 1994), other neurological symptoms such as amnesia, fainting, unusual spells and double vision (Escobar, Canino, Rubio-Stipec, & Bravo, 1992). People who are exposed to a disaster are more likely to have medically unexplained physical symptoms than people who have not been (van den Berg, Grievink, Yzermans, & Lebet, 2005). Women who are pregnant during disasters may be more likely to experience stress related complications and stress related abnormal labours (Zahran, Peek, Snodgrass, Weiler, & Hempel, 2013). Health care providers may be unaware of disaster related stress or unable to make a causal link, meaning that the physical symptoms may be misdiagnosed and persisting mental health conditions may go left untreated (McFarlane et al., 1994). This is especially true for people who are displaced (Yzermans et al., 2005).

2.4.2.4 Disruptions to health care access and other forms of support

Destruction of physical infrastructure and the death, injury and relocation of health services personnel can impact the ability of health services to function

following a disaster, while loss of medical records can hamper efforts to provide medical support in receiving communities (Picou & Marshall, 2007). Additionally, increased demand on services and displacement of people impacted can result in a disruption to health service access. This can result in a lack of access to medication (Picou & Marshall, 2007), interrupted health monitoring (e.g. antenatal care) (Zahran et al., 2013), disruption to the management of chronic conditions, exacerbation of preexisting conditions (Kousky, 2016; McCurry, 2012; Rath et al., 2007) and preventable complications to injury or illness (Mensah et al., 2005). Locations with poor levels of health care service prior to a disaster are most likely to be at risk of health care service disruption afterwards (J. R. Davis, Wilson, Brock-Martin, Glover, & Svendsen, 2010). People who have experienced disruptions to social networks may also experience reduced access to health services, as a result of limitations to transport and other assistance required to access health care (Zahran et al., 2013).

2.4.3 Substance use

In post-disaster settings, self-reported increase in the use of alcohol, cigarettes and other drugs amongst the impacted population is documented (Adams, Boscarino, & Galea, 2006; Boscarino, Kirchner, Hoffman, Sartorius, & Adams, 2011; Cerdá, Tracy, & Galea, 2011; Parslow, Jorm, O'Toole, Marshall, & Grayson, 2000; Pfefferbaum & Doughty, 2001; Stewart, Mitchell, Wright, & Loba, 2004; Vlahov, Galea, Ahern, Resnick, & Kilpatrick, 2004). However, the findings from these studies are mixed (North, Ringwalt, Downs, Derzon, & Galvin, 2011), and there is limited longitudinal research looking into this issue (Boscarino et al., 2011). Many of the existing studies were designed with a focus of investigating the link between mental health psychopathology and substance use increases in disaster affected populations (North et al., 2011). There is mixed evidence as to whether trauma exposure is a predictor of increases in substance use (Cerdá et al., 2011; Parslow et al., 2000; Stewart et al., 2004; Vlahov et al., 2004). There is some evidence to suggest that an escalation in drinking and other drugs is linked to post-traumatic stress disorder symptomology (Pfefferbaum & Doughty, 2001;

Stewart et al., 2004), and an exacerbation of life stressors (Cerdá et al., 2011; Vlahov et al., 2004). However, there is little evidence to support that this increase represents an escalation in new substance use disorders, but more likely either increases in substance use which do not necessarily represent problematic levels (Boscarino et al., 2011; North et al., 2011), or exacerbations of pre-disaster problematic substance use (R. A. Bryant, Gibbs, et al., 2017; North et al., 2011).

2.4.4 Religious and spiritual beliefs

Despite the variety of studies looking into the role of religiosity after trauma events, there are few agreed conclusions regarding the impacts of disaster on religiosity or the role of religion in coping after disasters. There are a wide range of study designs, sample sizes, methodologies, indicators and time periods after the trauma event used within existing literature, making findings difficult to compare (Chen & Koenig, 2006). Existing studies use sample populations from countries that vary widely in their culture of religiosity (e.g. United States, Norway, Israel and Italy), adding to comparison challenges.

Findings in the existing literature show no consistency in demonstrating that religious beliefs or activities are a protective factor in positive post-trauma outcomes (Brown et al., 2010; Chen & Koenig, 2006; Hussain, Weisaeth, & Heir, 2011; Laufer & Solomon, 2011; D. N. McIntosh, Poulin, Silver, & Holman, 2011). However, several studies indicate that for some people, religious beliefs and practices such as prayer or participation in religious services and rituals can be seen as helpful coping strategies when facing challenges after experiencing trauma (B. W. Smith, Pargament, Brant, & Oliver, 2000; Spence et al., 2007; ter Kuile & Ehring, 2014). Even amongst those with low levels of religiosity, there may be a heightened drive for participation in spiritually orientated collective rituals after disasters, and religious services are a common feature of early memorialisation and commemoration of disasters (Eyre, 1999, 2007; Hussain et al., 2011; Schuster et al., 2011). Some people impacted by disasters experience

change in their levels of religiosity after a disaster, while others do not (Hussain et al., 2011; ter Kuile & Ehring, 2014). For those who experience change in their religiosity it's possible for the change to be bi-directional; that is, some people may find an increase in religious beliefs and practices, while others may experience a decrease (Chen & Koenig, 2006; Hussain et al., 2011; Stratta et al., 2013; ter Kuile & Ehring, 2014). There may be differences in "how" a person is religious as to whether their religiosity is impacted by their disaster experiences (Laufer & Solomon, 2011; D. N. McIntosh et al., 2011; Stratta et al., 2013). Gender (Brown et al., 2010; Spence et al., 2007) and race (Spence et al., 2007) may play a role in whether people experience changes to their religiosity after a trauma event.

2.4.5 Impacts on families

Disasters can create significant stress on family systems, which may be serious enough to result in family crisis. Family crises are a result of a significant disruption to the equilibrium of the family system, resulting in the usual ways of managing stress to become incapacitated in some way (Peek et al., 2011). Most families find ways of adapting and coping to this stress, though the methods that are used after disasters may be different to the ways families interacted prior to disasters. It is important to remember that disasters impact family members differently for a range of reasons, including age, gender, and role in the family, individual member's disaster exposure and social supports (Enarson, 2006; Enarson & Fothergill, 2007; Peek et al., 2011). There is a paucity of literature examining the impacts and outcomes of disasters at a family level (Peek et al., 2011).

There has been limited research into changes to family composition after disasters in western, high-income countries, including birth, marriage and divorce rates. Most existing research examining developed countries has been conducted in the United States. These findings have been inconsistent, as have the theoretical frameworks used in the studies. Research into the South Carolina counties impacted by 1989 Hurricane Hugo indicated a subsequent rise in births, marriages and divorces (Cohan & Cole, 2002). Research into communities

directly impacted by Oklahoma City Bombings indicated that birth rates increased (Rodgers, St John, & Coleman, 2005), but divorce rates declined (Nakonezny, Reddick, & Rodgers, 2004). A study looking at birth rates after the North Dakota catastrophic flooding in 1997 saw a significant decrease in birth rates, coupled with significant changes in the demographic composition of women giving birth, and increases in complex pregnancies and births (Ton, Zotti, & Hsia, 2011).

2.4.6 Companion animals

There is general agreement in the literature that in both developed and developing countries that people have increasingly come to see their pets as members of their families (Hunt et al., 2008; S. White, 2012; Zotarelli, 2010). For some people, pets are considered to be like children or substitute family members. They are loved, cared for members of the family, while at the same time posing an interesting legal status of property or chattel (S. White, 2012).

Literature published in the years following Hurricane Katrina in the United States indicated that in addition to influencing evacuation and sheltering decisions, pet loss during Katrina was linked to poorer mental health outcomes and significant secondary stressors (Hunt et al., 2008; Zotarelli, 2010). People who had lost a pet considered this loss to be a significant stressor, and considered forced abandonment to have been a particularly traumatic event (Hunt et al., 2008). People who lost a pet were also more likely to have been exposed to traumatic events during the disaster, and more likely to have been separated from their family (Zotarelli, 2010). The management of pets during Hurricane Katrina presented complex legal custody cases of animals and served as significant secondary stressors for those impacted. A combination of forced abandonment of companion animals, overstretched animal shelters, and a lack of emergency provisions in legislation led to many companion animals being euthanised or moved interstate for adoption, despite clear intention of evacuees to reclaim their pets. This led to a complex, distressing and resource intensive scenario in the months and years after the hurricane, including costly legal

proceedings, significantly contributing to the secondary stress of those impacted (McNabb, 2007).

Pet ownership has consistently been demonstrated to be a powerful influence on human behaviour and decision making in disasters regarding evacuation, risk taking, geographic relocation and family separation, and can exacerbate issues relating to homelessness and accessing accommodation (Heath, Beck, Kass, & Glickman, 2001; Heath & Champion, 1996; Heath, Kass, Beck, & Glickman, 2001; Heath, Voeks, & Glickman, 2001; McCarthy & Taylor, 2018; Whittaker, 2019). However, most disaster research looking at animals and disasters to date has been focused on companion animals and the influence on human behavior and impacts. There is a paucity of research exploring livestock in disasters, or animals in disasters with regard to animal welfare (S. White, 2012).

2.4.7 Displacement and housing

Displacement occurs when people move from a home territory in response to danger or harm. Displacement may be temporary or permanent, voluntary or involuntary, within a home country or across borders (Levine, Esnard, & Sapat, 2007). The Internal Displacement Monitoring Centre (IDMC) (2014) reports that all regions of the world have seen an increase in displacement as a result of disasters in recent years. For the period between 2008 and 2014, an estimated average of approximately 27 million people per year were displaced due to disasters globally, with a caveat that numbers are routinely underreported (Internal Displacement Monitoring Centre, 2014). The IDMC predict that not only will this trend increase, but also warn that the ability for authorities to reduce the vulnerability of global populations has now been outstripped by the risks that vulnerable populations now face (Internal Displacement Monitoring Centre, 2014).

Despite an increased focus in research on displacement and housing in high-income, developed countries since Hurricane Katrina in the United States (2005),

there remains a paucity of research generally on this topic. In her 2009 review of literature of the health impacts of disasters, Uscher-Pines (2009) reflected that not only was there limited literature exploring the impacts of displacement and relocation after disasters, but there was also a lack of nuance in much of the existing studies. She noted most research referred to displacement as a binary state – that is, that someone either was or was not displaced, rather than exploring a complex range of elements such as the number of relocations, distance of relocation to home, differences in voluntary and involuntary relocation, different types of accommodation available (e.g. hotel, trailers, houses), family separation as a result of relocation and how much control individuals have over the different elements of the relocation (Uscher-Pines, 2009). Some of these complexities were reflected in the research following the 2011 floods in Hull, United Kingdom, where Walker and colleagues (2012) identified delayed onset in identifying flood damage in some properties resulting in ongoing impacts and multiple relocations, especially for people who were renting. In some cases, this also reduced child access to a parent in situations of shared custody, where one home was structurally damaged and therefore a potential risk for children to visit. Multiple relocations were shown to add stress to family dynamics (Walker et al., 2012).

2.4.7.1 Housing and shelter

Noting that shelter and housing are often used as interchangeable terms, North American disaster sociologist Quarantelli (1995) identifies four distinct types of post-disaster dwelling: 1) emergency shelter which is primarily intended as survival from hazard; 2) temporary shelter with a focus on securing basic needs such as food, water, medical attention; 3) temporary housing where routines and home making responsibilities are re-established and; 4) permanent housing (Quarantelli, 1995). He argues that each type of post-disaster dwelling is different in purpose, presents challenges, and has its own policy implications.

While considering each of the four stages of post-disaster dwelling as distinct from each other, Quarantelli emphasises particular differences between shelter and housing. These differences are not based on the physical infrastructure of the dwellings, but the resumption of household responsibilities, activities and routines associated with living in housing, that do not occur in shelters (Quarantelli, 1995). Quarantelli acknowledges that this model would not be able to be applied to emergency recovery operations in a linear fashion due to changing needs of disaster-impacted people. Researchers such as Peacock and colleagues (2007) have emphasised that this model presents a falsely linear process which ignores more complex issues. They note that people move back and forward between these categories after a disaster, rather than progress through them as stages (Peacock et al., 2007).

2.4.7.2 Complexities of post-disaster housing

Researchers have noted for decades that existing emergency management displacement and housing policy in developed countries is short-term, unrealistically hyper-localised and does not attempt to grapple with the complexities of the issues of post-disaster housing, despite these issues being consistently present after disasters (Drabek, 1969; Levine et al., 2007; Peacock et al., 2007; Quarantelli, 1995). Existing housing policy in post-disaster environments generally focuses on owner-occupied, single-family dwellings with an assumption that people will rebuild or continue to live in the same area. These assumptions do not reflect the reality of many households – including rental and public housing – or more generally the structures of housing markets. Additionally, these assumptions do not reflect well established patterns of disaster-affected people first turning to family and friends for temporary shelter and housing, and often desiring to live, if possible, in a temporary dwelling on the site of their former home (Drabek, 1969; Drabek & Boggs, 1968). Overly simplistic disaster shelter and housing policy also fails to account for further complexities which arise as a result of disasters, including changes to employment landscapes, public facilities and infrastructure such as schools, transport and medical facilities, influxes of temporary workers, housing stock

availability and increases in family breakdown and family violence (Enarson, Fothergill, & Peek, 2006; Levine et al., 2007; Parkinson, 2011; Peacock et al., 2007). Much existing research also indicates that people are not impacted equally with regard to displacement following disasters (Peek & Fothergill, 2008; Walker et al., 2012). People with higher incomes are more likely to own their own home and be better insured, meaning increased likelihood of having more control over decision making processes, access to higher quality and proximal temporary accommodation, access to additional finances and having their repairs covered by insurance (Walker et al., 2012). Additionally, disaster aid criteria is more likely to benefit home owners than those who are renting or living in public housing (Hersher & Benincasa, 2019; Howell, 2018; Howell & Elliott, 2018; Peek & Fothergill, 2008). Conversely, people who are uninsured, renting, in public housing, or with poor access to finance are more likely to be displaced for longer, have to relocate multiple times or live in substandard or damaged housing (Hersher & Benincasa, 2019; Walker et al., 2012). Emergency management authorities may even perceive non-home owners/renters as having weaker ties to their communities despite the fact many will still have social, historical, employment and education links with their localities (Aldrich, 2012b; Cox & Perry, 2011; Peacock et al., 2007). Some of these issues may arise from emergency management housing and shelter planning being dislocated from non-disaster housing planning. Displacement as a result of disasters is often treated as a short term issue, and is initially managed in the response phase by emergency managers (Quarantelli, 1995). However, the way that the issue is handled in the initial stages of a disaster has long-term implications for recovery as Levine recounts:

Perhaps the quintessential example of this practice can be found in Baker, Louisiana, where several hundred households from New Orleans lived in trailers lined up in a former cow pasture, complete with sewer service, but devoid of transport, jobs, and a food store. (Levine et al., 2007, p. 4)

Hastily constructed housing solutions in the immediate aftermath of a disaster often do not consider long-term recovery implications. Similarly, there may also

be conflict between government and private responsibilities with regard to post-disaster housing. Legal and insurance issues for properties purchased after disasters are complex and unclear (Walker et al., 2012). Where property buy back schemes exist, some media reporting in the United States indicates that the federal aid criteria for eligibility of these programs disproportionately favours white home owners over others in the community (Hersher & Benincasa, 2019). Displacement is a complex issue and areas well beyond the geographic site may be impacted – for example, following Hurricane Katrina intense market pressures on housing stock in Baton Rouge, Louisiana (which was not physically damaged by the hurricane) were experienced (Levine et al., 2007).

2.4.7.3 Housing and homes

Emergency management and government funding policy often considers displacement and housing from an infrastructure, economic or physical health perspective. However, the importance of housing to people impacted by disasters is much broader, extending beyond the physical structures with both symbolic and practical ramifications (Cox & Perry, 2011). In their analysis, Fullilove and Fullilove (2000) consider the role of housing from three different perspectives. First, as shelter, vital for security, protection from the elements, basic hygiene and the storage of provisions. Second, as an influential factor in social interactions. Housing can be important in the way that people interact with, or are isolated from, their communities and networks (Aldrich, 2012a; K. T. Erikson, 1976a; Levine et al., 2007). Third, housing as a basis for a home. This takes different forms in different cultural contexts, but is a crucial component of being able to establish or maintain roots (Fullilove & Fullilove, 2000).

This last identification of the housing as ‘home’ is resonant with the work of others, including Morrice (2013), who studied displacement after Hurricane Katrina. She comments, “A central component to displacement literature and indeed post-disaster return decisions, is the concept of ‘home’. Homes can be understood as ‘places’ that hold considerable social, psychological and emotive

meaning for individuals and groups” (Morrice, 2013, p. 35). Homes are an extension of the people who live in them. Homes have symbolic meaning, and can reflect roles and status within a community (Cox & Perry, 2011; K. T. Erikson, 1976b; Fothergill, 2003). Home marks the division between the public and the private, and for many people, home is the central site of the control they have over their lives (Gorman-Murray et al., 2014). Further to this, home is a crucial intersection between place and possessions (Cox & Perry, 2011). The modification, renovation and beautification of homes is a further extension of identity (K. T. Erikson, 1998). A sudden or unexpected loss of home can trigger the loss of identity (Cox & Perry, 2011; Fothergill, 2003). Further, the private boundaries of home can also act to exacerbate and hide family violence. For some women and children, home may be less safe than public spaces. Disruptions to home, social networks and access to services as a result of disasters may disrupt carefully laid safety measures to mitigate against violence within the home (Enarson, 2006; Parkinson, 2011; Ramji-Nogales, 2011; Sety, 2012).

Conceptually then, ‘home’ transcends the structure of a dwelling. This means that by simply rebuilding the physical structure of a house, the associations of home have not necessarily been repaired. In this way, housing problems following a disaster have wider ramifications than that of shelter. A disruption to housing may be a disruption to identity, sense of place, purpose, safety, role and may represent a discontinuation between the links joining our past and future (K. T. Erikson, 1976b). A sense of ‘home’ as a place that is safe and familiar can be a central cause of loss, nostalgia, and a motivation to return for those displaced, even where returning is challenging (Morrice, 2013). While it is rarely reflected in policy, this also means that a disruption to the sense of home following a disaster can occur even when people don’t actually lose the structure of their house. Conversely, disaster affected people can regain a sense of home through confirmation of sense of place, community and safety without necessarily having a permanent house (Cox & Perry, 2011).

2.4.7.4 Decisions to relocate are complex

Motivations and factors influencing people's decisions to stay or relocate after a disaster are complex (L. Gibbs, Gallagher, et al., 2016; Morrice, 2013; Peek et al., 2011). While there is some work which explores factors influencing decisions to stay (or return) to a disaster impacted area (Aldrich, 2010b; Cox & Perry, 2011; L. Gibbs, Gallagher, et al., 2016; Levine et al., 2007; Morrice, 2013; Peek et al., 2011), it is limited and there is an existing gap in the literature in relation to understanding the complexities of motivations and other factors relating to decisions about housing following displacement in disasters (Peacock et al., 2007).

There are however, some notable studies which have made efforts to fill these gaps. Following Hurricane Katrina in the United States, Peek and colleagues (2011) identified a four-stage decision making process which families (comprised of parents and children) who had relocated to Colorado went through. First, was a family unity stage, followed by a second stage where parents prioritised safety and children missed home. This was followed by a third stage when parents began to confront reality, as their children started to feel settled. The fourth stage was focused on reaching a longer term resolution about their future. Most of the participants in this study ultimately decided to stay in Colorado, despite strong pulls to their original home. An important consideration for some parents was an understanding that their original home had been changed indelibly; that even if they returned, their old life was no longer there. Ultimately, the resolution stage for these families was marked with a strong desire to prioritise what they saw to be the best outcomes for their children: prioritising stability, minimising any new distress for their children and taking advantage of the excellent access to education in their new homes (Peek et al., 2011). These findings are resonant with Gibbs and colleagues (L. Gibbs, Gallagher, et al., 2016) who reflect that people who relocated following the 2009 “Black Saturday” bushfires, Australia were actively appreciative of the positive physical and social environment of their new communities, despite feeling some guilt at leaving their home community (L. Gibbs, Gallagher, et al., 2016).

2.4.7.5 Outcomes for those who have relocated

In line with the previous section, there is a paucity of literature examining the outcomes for individuals and families who have relocated as a result of disasters (L. Gibbs, Gallagher, et al., 2016; Peek et al., 2011; Uscher-Pines, 2009). Uscher-Pines (2009) noted that the research relating to the physical health outcomes of people who had relocated was small and inconsistent in design and findings. From a mental health perspective, there were strong indications that those who had relocated after a disaster were more likely to experience psychological morbidity, but Uscher-Pines makes the caveat that the term “psychological morbidity” was used as a catch all term in the literature and included mental health diagnoses as well as symptoms (Uscher-Pines, 2009).

In their longitudinal exploration of the impacts after the 2009 Victorian “Black Saturday” bushfires, Australia, Gibbs and colleagues (2016) were able to take a more nuanced approach. They found differences between the stressors experienced by those who had relocated and those who didn’t. For those who relocated, the disaster experience itself was more pertinent but the effects of secondary stressors were reduced. This was explained by these participants having fewer opportunities to share their disaster experiences with people who had similar experience, and less access to services located within the fire affected communities which understood the disaster context. For those who stayed in the fire affected locations however, secondary stressors played a significant negative role, but the sense of community, shared experience and access to services were all helpful (L. Gibbs, Gallagher, et al., 2016). As part of the same *Beyond Bushfires* study, the researchers also identified an increased risk of depression for people who stayed living in the same community but had someone they felt close to relocate. This was not true for the person who had relocated (R. A. Bryant, Gallagher, et al., 2017). This aligned with studies after Hurricane Katrina in which relocated families decided it was in their best interests to stay long term in their new communities (Peek et al., 2011), while at the same time, some of the

original disaster impacted communities became “ghost towns” (Chamlee-Wright, 2007).

Displacement and housing after disasters are complex issues. Current emergency management policy does not reflect the issues facing disaster-affected people, and there are also significant gaps in the research literature addressing these subjects. The studies reflected above are part of a growing body of work that demonstrates the decisions individuals and families make to relocate are complex and difficult but well considered by those affected. The existing literature shows that there are benefits and challenges to both staying and relocating.

2.4.8 Economic, employment and income

The field of disaster-related economics is reasonably small and still emerging (Shabnam, 2014). Currently, the results of research into the economic impacts of disasters have produced mixed results. Some studies have found that disasters stimulate economic growth after the event, while others have found a negative or neutral impact on the economy (Hochrainer, 2009; Ono, 2015; Shabnam, 2014). Some reports have argued that while Gross Domestic Product (GDP) is a commonly used measurement of the macroeconomic impacts of disasters, it is a limited tool as it does not account for many of the types of loss which disasters cause (Baily, 2011). Ulubaşoğlu and colleagues note that the economic effects of disasters in Australia vary by hazard and affect sectors differently (Ulubaşoğlu, Rahman, Önder, Chen, & Rajabifard, 2019). This is resonant with overall findings by Doyle and Noy (2013) who argue that while there was only a small, short-lived adverse impact to the GDP growth of the New Zealand economy following the Canterbury earthquakes, it appeared that a more significant impact at a regional level was present and the impacts to sectors and workers based on age and gender varied widely (Doyle & Noy, 2013). Noy identified that the economies of developed countries (especially those characterised by high literacy levels, strong institutions, higher income levels, open trade and high levels of

government spending), were better able to withstand the macroeconomic impacts of disasters than economies of developing countries or countries with smaller economies (Noy, 2009). In addition, while there is very limited research regarding fiscal consequences of disasters, they appeared to be different for developed and developing countries (Noy & Nualsri, 2011). A wide range of measurement tools and timeframes may contribute to these mixed results (Hochrainer, 2009).

Ulubaşoğlu and colleagues (2019) were able to demonstrate that the 2009 “Black Saturday” bushfires, Australia adversely impacted the economic outcomes of those affected, but these impacts were not experienced in a uniform fashion. Particularly adverse impacts were identified for women, renters, those aged 25-45 years old and those who had to relocate as a result of the disaster (Ulubaşoğlu & Beaini, 2019). In research regarding employment after Hurricane Katrina, United States, Zissimpoulos and Karoly (2010) demonstrate that aggregated employment levels across four of the states hardest hit by Hurricane Katrina had stabilised to pre-disaster levels after one year. However, they note that the aggregate data hid differences amongst subgroups. Even when noting the limitations in using aggregate employment data that did not include people living in shelters, hotels and other non-residential settings (presumably excluding many people displaced as a result of the hurricane), those who were evacuated – even temporarily – appeared to be more adversely affected in relation to employment. People who had not returned to their home locations were reported to be particularly economically affected. Zissimpoulos and Karoly (2010) also found an increase in reports of self employment in the wake of the hurricane which they speculated could be attributed to both poorer employment prospects in the wake of the disaster, but also new opportunities which had arisen as a result of the event.

The Australian Business Roundtable for Disaster Resilience and Safer Communities used case studies of the 2009 “Black Saturday” bushfires, 2011 Queensland floods and the 1989 Newcastle earthquake to estimate the economic

costs of intangible disaster impacts (Deloitte Access Economics, 2016). Their research reported that intangible costs, generally not included in the economic assessments of disasters, were as high as or higher than tangible costs commonly used to calculate economic impact. These intangible impacts included mental health issues, family violence, injury, disease, crime, exacerbation of chronic illness and environmental impacts. They noted that while tangible costs usually manifest as one off payments, intangible costs often persisted over a person's lifetime (Deloitte Access Economics, 2016).

There is limited research available about the economic impacts of disasters in developed countries, and the measurements used in existing studies vary widely. The existing literature indicates that the economic impacts of disasters are not uniformly felt across sectors, regions or demographics, and that using macroeconomic measures or aggregate data sets may hide the nuance of the impacts.

2.5 Intersectionality and disaster impacts

Intersectionality is concerned with exploring how the multiple social identities individuals have, such as gender, race, ethnicity, class, age and sexual orientation, overlap to inform experience (K. Davis, 2008; McCall, 2005; Shields, 2008). In part because of the multidisciplinary nature of disaster research, and in part because of a general reluctance of disaster researchers to locate their work in theory (Tierney, 2007), intersectional approaches to analysis in disaster research are infrequently applied and reasonably underdeveloped (Ryder, 2017). The concept of intersectionality originated in feminist theory as a way of redressing the exclusion of women of colour and those from a range of socio-economic backgrounds. Feminist scholars are particularly interested in framing these experiences in relation to oppression and power (K. Davis, 2008; Ryder, 2017). There is still debate as to whether intersectionality is best considered to be a theory or analytical framework (K. Davis, 2008). Irrespective of this, intersectionality provides a way to explore the heterogeneity of a category of

people who may otherwise be grouped together on the basis of one characteristic. From the work to date however, it seems clear that bringing an intersectionality lens to disaster research can generate a more holistic understanding of disaster impacts and experiences.

It is well established that disasters affect individuals differently (Australian Red Cross, 2018; Boon, 2013; Brewin et al., 2000; Enarson et al., 2006; Fothergill et al., 1999; Fothergill & Peek, 2004; Harms et al., 2015; Howell, 2018; Howell & Elliott, 2018; Lambert, 2014; Peek, 2018; Peek & Fothergill, 2010). Important factors contributing to this include: gender (Enarson, 2000, 2006, 2013b; Enarson & Fothergill, 2007; Enarson et al., 2006; Eriksen, Gill, & Head, 2010; Fothergill, 2003; Gorman-Murray et al., 2016; Hilhorst, Porter, & Gordon, 2018; Parkinson & Zara, 2013; Peek & Fothergill, 2008; Ulubaşoğlu & Beaini, 2019; Whittaker et al., 2015; World Health Organization, 2002; Zara & Parkinson, 2013; Zara et al., 2017); income (Crowley, 2006; Morrow, 1999; Ulubaşoğlu & Beaini, 2019); home ownership status (Every & Richardson, 2017; Howell, 2018; Howell & Elliott, 2018; Morrow, 1999; Ulubaşoğlu & Beaini, 2019); race (Fothergill et al., 1999; Merdjanoff, 2013; Powers, 2006; Spence et al., 2007; West & Orr, 2007), and pre-disaster levels of social vulnerability (Morrow, 1999; G. P. Smith & Wenger, 2007).

2.5.1 Gender

Taking a gendered approach to disaster research is a reasonably recent concept and there is a paucity of disaster research with a gendered lens (Enarson & Fothergill, 2007; Tierney, 2007; Zara et al., 2017). Scholars have proposed three main reasons for this.

First, disaster research has traditionally had an almost all male focus. Until the 1970s, disaster researchers, key informants and research participants were almost exclusively male, and the institutions being researched were almost all male dominated (Tierney, 2007). As Tierney notes,

... for at least the first two decades, the field seemed to have been guided by an implicit assumption that studying disasters was not women's work, and that men were simply better able to cope with the hardships of post disaster field work and the challenges of conducting research in male dominated organizations (Tierney, 2007, p.515)

Second, disaster research has been considered by some to be marginalised from mainstream sociology. Tierney (2007) argues that this is due to a reluctance to move away from a policy and practice focus in disaster research to that of a more theoretical exploration which would include more traditional theoretical frameworks, including gendered perspectives. She considers Hurricane Katrina to be a turning point for disaster research and gender (Tierney, 2007).

Third, the gendered approach of emergency management still implicitly hosts a largely unchallenged narrative where men are portrayed as protectors and women as the protected (Enarson, 2006; Parkinson, 2011; Parkinson et al., 2018). As Enarson describes:

We are transfixed now [in the weeks after Hurricane Katrina] by images of needy women and strong men (a few with female partners) wearing badges, carrying weapons and riding in armored vehicles, and will soon be treated to endless photos of hardworking men hauling garbage, replacing roofs, making speeches and decisions. Behind the scenes (taking nothing away from others), women labor, too (Enarson, 2006).

Enarson (2006) and Parkinson (2011) both argue that a lack of discussion about gender and disaster generally has resulted in this underlying narrative of the emergency management sector carrying over into disaster research.

Research exploring the difference in disaster impacts for men, women, boys and girls is limited; much of the existing literature exploring gender and disasters has focused on women only (Enarson, 2013b; Zara & Parkinson, 2013). Masculinity and disaster remains largely unexplored (Enarson, 2013a; Pease, 2014), and work into the intersection of disasters and the transgender community and other sexual minorities is almost non-existent (Dominey-Howes et al., 2014, 2016; Enarson, 2013a; Gorman-Murray et al., 2014, 2016; McKinnon, Gorman-Murray & Dominey-Howes, 2017). Additionally, disaster focused research exploring the intersection of gender with class, race, age and sexual orientation with disasters is limited (Enarson & Alice Fothergill, 2007; Fothergill, 2003; Gorman-Murray et al., 2016; McKinnon, Gorman-Murray & Dominey-Howes, 2017).

From a vulnerability perspective, existing research indicates that overall, women may be more likely to be vulnerable to the longer-term impacts of disasters than men in a number of ways. Many of the traditional factors relating to vulnerability such as poverty, insecure housing, lack of financial security, lack of employment continuity or stability are all more likely to impact women than men (Enarson et al., 2006; Morrow, 1999) and the impacts of disasters serve to exacerbate these vulnerabilities.

2.5.1.1 Death, disaster and gender

Assumptions that women are universally more likely to die from disasters than men is widely used in policy and media, however this data comes from research predominantly undertaken in developing countries (Whittaker et al., 2015; World Health Organization, 2007). There is almost no research to indicate that this is true in developed, high-income countries, and some suggest that in these countries, men are more likely to die in a disaster (Enarson, 2013a). The reasons suggested for this include men being: more likely to be in hazard facing roles, more inclined to engage in risk taking, more likely to be injured as a result of informal roles in clearing up debris, and being untrained or exposed to dangerous substances (Enarson, 2013a). In some studies, gender has been

identified as an influence on evacuation behaviour, with women reporting they are more likely to take advice from others regarding evacuation, and preferring to evacuate more than men (Eriksen et al., 2010; Proudley, 2008; Whittaker, 2019). Disagreements between men and women during disasters may stem from men's reluctance to evacuate in some circumstances (Whittaker, 2019). Some research has argued that men are more likely to die when defending assets, resources and livelihoods, while women are more likely to die protecting other people, especially children, sheltering or evacuating (Enarson, 2013a; Whittaker et al., 2015). While women are more likely to be diagnosed with a mental illness such as post-traumatic stress disorder than men after a disaster, men may be more likely to commit suicide after a disaster than women (Enarson, 2013b).

2.5.1.2 Economics, disaster and gender

Economic insecurity is a key factor in the exacerbation of the impacts of disasters. Gendered division of labour and control of economic resources at a macro and household level mean that women may be inherently disadvantaged in the aftermath of a disaster. Women are particularly economically vulnerable after a disaster as a result of a number of contributing factors described below (Enarson, 2000, 2006; Enarson et al., 2006; Morrow, 1999; Ulubaşoğlu & Beaini, 2019).

In the aftermath of a disaster, economic insecurity generally increases, which is likely to exacerbate the higher levels of pre-disaster economic insecurity which women experience, including being more likely to be in low-skilled, part-time, casual or precarious work, making their jobs in times of economic upheaval more insecure than men's (Enarson, 2000; Morrow, 1999). Enarson suggests that while men are more likely to be volunteers in hazard facing roles than women, women are more likely to be in paid or unpaid roles which directly and repeatedly expose them to trauma in the aftermath of disasters (Enarson, 2006).

Long after we think Katrina over and done with, women
whose jobs and professions in teaching, health care,

mental health, crisis work and community advocacy bring them into direct contact with affected families will feel the stress of 'first responders' whose work never ends (Enarson, 2006).

Existing literature indicates that men are more likely to recover faster economically than women. On average, women earn less than men and have lower access to credit and may be required to take on additional paid work in order to meet the financial burdens of disasters (Morrow, 1999). Women are generally less mobile workers than men, may be more likely to have a longer delay in returning to work after a disaster as a result of home making or care giving responsibilities, and less likely than men to be the target of financial assistance packages (Enarson, 2000). In addition, changes to infrastructure, social networks and housing often result in flow on effects such as decreased access to childcare and other informal supports which disproportionately impact women, and both increase unpaid caring responsibilities while reducing capacity to participate in paid work (Enarson, 2000; Morrow, 1999; Peek & Fothergill, 2008). Men's pre-disaster higher levels of economic security, higher incomes and higher levels of property ownership may offer support for a quicker economic recovery from disasters. While being wealthy does not necessarily protect people from being affected by disasters, access to economic means does act as a buffer to some of the ensuing impacts (Enarson & Alice Fothergill, 2006). Grants and economic stimulus packages, common following large-scale disasters, are reported to be structured in a way that may benefit men more than women. For example, payments made to the head of the household or owner of the house, systematically disadvantaging women (Enarson et al., 2006).

2.5.1.3 Housing, disaster and gender

While men are more likely to be impacted by tertiary homelessness than women – that is, sleeping rough (Enarson, 2013a), women are reported to be more likely than men to live in insecure housing arrangements, including renting, government housing, or in a nursing home, making them more vulnerable to exacerbated housing issues in post-disaster environments (Enarson, 2006; West

& Orr, 2007). Housing shortages and dramatic changes to the housing market have been documented following disasters (Levine et al., 2007), and these changes disproportionately impact people with low housing security, and people who rely on service providers for housing (Enarson et al., 2006). In addition to living with lower housing security than men, women are also more likely to have caring responsibilities for the people they live with, such as children or elderly parents, and are more likely to head up single parent households exacerbating post-disaster stress relating to disrupted housing (West & Orr, 2007).

2.5.1.4 Family violence, disasters and gender

Measuring the incidence of family violence is always difficult, and even more so in a post-disaster environment. Existing incidence of family violence is reported to increase in frequency and severity, and new instances of family violence are also reported to emerge (O'Neil, 2016; Parkinson, 2011; Parkinson & Zara, 2013; Sety, 2012). Disasters can exacerbate the vulnerability of women to violence in a number of ways. Violence against women in emergency shelters and temporary accommodation has been documented (Enarson, 2006). Some research suggests that women, particularly those who have limited financial resources, may be forced to live with, or return to partners who have previously been violent as a result of lack of housing options in post-disaster environments (Enarson, 2006; Fothergill & Peek, 2004; O'Neil, 2016; Parkinson, 2011; Sety, 2012). Disruptions to formal support structures (such as police services, family violence services and emergency housing), reluctance to acknowledge the increase in violence by agencies and community members, and disruptions to formal and informal support networks for women may contribute to this issue (O'Neil, 2016; Parkinson, 2011; Parkinson & Zara, 2013; Sety, 2012).

2.5.2 Age

2.5.2.1 *Children and young people*

Resilience and vulnerability are often incorrectly represented as being diametrically opposed, but children and young people can be simultaneously vulnerable and resilient in the face of disasters (Peek, 2008; Walker et al., 2012). Children and young people represent a group highly vulnerable to disasters, in part because of their reliance on adults, and in part because of developmental vulnerabilities (Abramson and Richard M. Garfield., 2006; Kousky, 2016; Peek, 2008; Walker et al., 2012). Despite this vulnerability, children are not passive victims during and after disasters, and can be important players in their households and communities (Eriksen et al., 2018; Fothergill & Peek, 2015; L. Gibbs, Mutch, O'Connor, & MacDougall, 2013; Peek, 2008; Walker et al., 2012). Children and young people have different needs to adults, and are an under-researched and underserved part of the community in relation to disasters (L. Gibbs et al., 2013; Peek, 2008; Walker et al., 2012). Despite having different needs, the outcomes for children and young people after disasters are strongly linked to the adults in their lives. This is because they are subject to adults' decision-making regarding evacuation, shelter, and relocation but also because coping in parents, carers and teachers is a significant predictor of the wellbeing of children and young people (Peek, 2008). Most existing research into the impacts of disasters on children focuses on the mental health, physical health and educational attainment effects (Kousky, 2016). However, much of the data for studies into children and disasters comes through parental feedback despite repeated findings that parents' responses on behalf of children and young people in research often differ from responses gained directly from children and young people themselves (L. Gibbs et al., 2013; Peek, 2008; Walker et al., 2012). Many researchers, governments, non-government organisations and emergency management agencies either underestimate the valuable contributions that children and young people can make to the sector, or are insufficiently experienced in knowing how to include children in their work (Eriksen et al., 2018; Peek, 2008).

2.5.2.2 Children and young people: Disasters and health

With regards to physical health, children are at risk of almost all of the disaster related physical health impacts that adults are, with added vulnerabilities.

Children are often at a greater risk of being injured or killed in disasters than adults (Kousky, 2016). Physiologically, babies, children and young people have less mature immune systems than adults, making them more susceptible to both infections and diseases after disasters, and to complications from dehydration as a result of infections causing diarrhea or vomiting. Babies and small children have higher respiratory rates than adults, making them more susceptible to respiratory infections in post-disaster environments (Kousky, 2016). This vulnerability for babies begins in utero with pregnant women who are affected by disasters more likely to have babies with lower birthrates, and at higher risk of preterm labour and complications during delivery (Zahran et al., 2013). Much of this has been attributed to heightened maternal stress in the aftermath of a disaster (Kousky, 2016) and interrupted access to health care (Zahran et al., 2013).

Children and young people may experience caloric, vitamin and nutrient restrictions in the aftermath of a disaster which may impact them developmentally (Kousky, 2016). The health impacts experienced by children and young people post-disaster may have long term consequences depending on their stage of development (L. Gibbs et al., 2019; Kousky, 2016). Changes to children's emotional and behavioural patterns, including increased crying, disrupted sleep patterns, outbursts and regressive behaviours are well documented (Smilde-van den Doel, Smit, & Bosch Wolleswinkel-van den, 2006; Walker et al., 2012).

There are a number of factors that influence the mental health outcomes of children and young people affected by disasters. These include: parental levels of distress, the extent and intensity of exposure to the trauma event, characteristics of the child (for example, age, gender, developmental stage), family factors,

characteristics of the post-disaster environment, coping skills of the child, and the coping assistance received (Kousky, 2016; Peek, 2008). Some research has also indicated that pre-disaster life experiences have a bearing on how children cope with disruption and upheaval. As part of their research into the 2007 floods in Hull, United Kingdom, Walker and colleagues (2012) identified that children who had previously led a complex family life, living between parents and extended family members for a range of reasons were observed to cope better with the disruption of multiple relocations as a result of the disaster than those children who had always lived in a settled home prior to the floods (Walker et al., 2012).

2.5.2.3 Children and young people: Disasters and education

Existing evidence regarding the factors influencing children and young people's academic performance after disasters is still limited (L. Gibbs et al., 2019). Research regarding educational impacts is context specific. Research from developed countries generally focuses on how disruption to school access, as well as trauma, can impact education, while research from developing countries often focuses on whether households shift children from school to the labour market after a disaster (Kousky, 2016).

There are a large number of factors impacting education after disasters in developed countries. Injury and illness of children as a result of the disaster may prevent attendance at school (L. Gibbs et al., 2019; Kousky, 2016; Peek, 2008; Walker et al., 2012). Living arrangements may be uncertain for a prolonged period of time, and families may be separated and / or may have to relocate multiple times (Peek & Fothergill, 2008). Students may have inadequate study space and reduced access to equipment such as internet and text books, in addition to reduced support at home (Picou & Marshall, 2007; Walker et al., 2012). School facilities may be destroyed, and school staff may die, be injured, or relocate (L. Gibbs et al., 2019; Kousky, 2016; Peek & Fothergill, 2008; Picou & Marshall, 2007; Walker et al., 2012). Loss of education records, health records,

and identification may delay or disrupt education (Kousky, 2016; Peek, 2008; Picou & Marshall, 2007). Students may have to travel further to attend schools, or have reduced access to transport, hindering attendance (Picou & Marshall, 2007). Changes to family financial circumstances may force changes to schooling. Death, injury or relocation of friends and changes to social networks may also disrupt students' education (Picou & Marshall, 2007). Children and parents may experience distress at being separated, also impacting school attendance (Kousky, 2016; Peek & Fothergill, 2008).

Gibbs and colleagues (2019) demonstrated that literacy and numeracy gains between two to four years after the 2009 "Black Saturday" bushfires, Australia for primary school aged children were reduced for children in high impacted locations compared to their peers elsewhere. They highlighted the extended period of academic impacts for children and young people after disasters (L. Gibbs et al., 2019). This is resonant with the observations of Walker and colleagues (2012) who note that academic achievements for children after the Hull floods were negatively impacted.

Despite these significant and daunting challenges facing students, their families and their educators, there are some neutral and positive educational outcomes recorded after disasters. Some of the research following Hurricane Katrina in the United States is especially interesting regarding educational outcomes. Many of the schools most heavily impacted by the disaster had some of the lowest ranked performance scores in the state prior to the hurricane. Many students were relocated to schools with better performance histories, and some of the research indicates that these students had improved test scores after a period of readjustment (Kousky, 2016). In New Zealand following the Canterbury earthquakes, despite concerns about negative impacts of the disasters on educational outcomes, researchers found no increases in school disengagement or poor academic performance. While the researchers acknowledge that a significant number of affected students probably had to relocate as a result of the disasters, they speculate that because impacts to educational attainment were of

such a concern, more support through post-disaster interventions may have been available to students, offsetting the impacts (Beaglehole, Bell, Frampton, & Moor, 2017). This was resonant with findings in the Netherlands, where researchers found that after a disaster as a result of the explosion of a fireworks factory, although social and emotional issues in students were identified, academic performance did not deteriorate. Students were provided additional support, and the researchers identify that these post-disaster interventions may have supported this outcome (Smilde-van den Doel et al., 2006).

2.5.2.4 Older adults

Literature relating to the experiences and outcomes of older adults and disasters is limited and at times contradictory (Evans, 2010). The most consistent finding in existing literature relating to older people and disasters is that age in itself is not a predictor for impacts or outcomes. It is the intersection of age and other characteristics such as disability, illness, race and socio-economic status which indicate a propensity towards being especially vulnerable. The older adult population is far from homogenous and thus it is the points of intersection which are important (Cherry et al., 2009; Evans, 2010; Fothergill & Peek, 2004; Morrow, 1999; Ngo, 2001).

Older people who are poor, socially isolated, live with a disability, experience long-term or chronic health conditions, have limited mobility or access to transport may be particularly vulnerable to the negative impacts of disasters (Morrow, 1999). Older people are more likely than younger people to live with a disability, experience chronic health conditions, have limited income capacity and experience mobility challenges (Cherry et al., 2009; Ngo, 2001).

Older adults may find evacuations and warnings confusing to understand (Cherry et al., 2009), and find it harder to evacuate thus exposing them to a greater risk of trauma (Cherry et al., 2009; Morrow, 1999). They may also struggle to find suitable temporary or permanent housing (Cherry et al., 2009;

Evans, 2010) and be more reluctant to leave their homes generally (Ngo, 2001). In addition, older people may struggle with transport, not only to evacuate but to also access relief items and other services (Morrow, 1999), be more likely to sustain an injury during a disaster event or in its aftermath (Ngo, 2001) and be more likely to experience exacerbation of long-term or chronic health conditions (Evans, 2010; Ngo, 2001). However, there is some evidence to indicate that some older people may fare better than younger people when it comes to psychological recovery after a disaster, with some researchers speculating prior life experiences may serve older people well from a coping perspective (Cherry et al., 2009; Ngo, 2001).

Considering older adults are the fastest growing demographic group of most developed countries, it is important that further investigation be conducted into how older age impacts individuals in relation to disasters. More research specifically looking at the experiences of older adults after a disaster would provide a more comprehensive understanding of the intersection of age and other characteristics in relation to resilience and vulnerability in older adults.

2.5.3 Race and ethnicity

Race and ethnic identity intersect with language, socio-economic status, household composition, health, education and income levels (Fothergill et al., 1999). Race and ethnicity play a significant role as to how people are impacted by disasters (Cutter & Smith, 2009; Enarson & Fothergill, 2007; Fjord, 2007; Fothergill et al., 1999; Lambert, 2014) and their access to public and private resources to assist with recovery. Members of minority groups are consistently less likely to qualify for and receive disaster aid or have access to insurance (Fothergill et al., 1999; Howell & Elliott, 2018; Powers, 2006). Race and ethnicity have been demonstrated to influence how people access, perceive, and act on disaster related information (Cutter & Smith, 2009; Fothergill et al., 1999; Spence et al., 2007). Race is also cited as a factor influencing the ability of people to adequately prepare for disasters at a household level (Fothergill et al., 1999)

and whether communities are sufficiently included in disaster planning (Cutter & Smith, 2009; Maantay & Maroko, 2009).

People of minority racial groups are more likely to be disproportionately negatively impacted in relation to disaster-related fatalities and detrimental health impacts (Fothergill et al., 1999; Sastry & Gregory, 2013). Lambert (2014) found that the Maori population in Canterbury, New Zealand were disproportionately negatively impacted by the effects of the earthquakes compared to the broader population. The Christchurch wellbeing survey, conducted at multiple intervals after the 2011 earthquake identified that Maori people were more likely to be impacted by stress, damaged or poor quality housing, loss of income, transport pressures, loss of access to the natural environment and relationship problems (Lambert, 2014).

2.5.4 Socio-economic status

The socio-economic status of individuals and families is closely linked to race, gender and age (Enarson et al., 2006; Evans, 2010; Fothergill & Peek, 2004; Morrow, 1999). Fothergill and Peek (2004) undertook a comprehensive review of existing literature from the United States relating to socio-economic status and the impacts of disasters. It indicated that socio-economic status is a significant predictor of higher levels of disaster impact. This literature points to people with lower socio-economic status being less able to undertake preventative or protective measures such as taking out insurance or making housing modifications, despite understanding the benefits of these measures (Boon, 2013; Fothergill & Peek, 2004). People with lower socio-economic status may be less likely to be able to access or understand hazard warnings and less able to evacuate due to transport and financial constraints; as a result are more likely to experience greater exposure to disaster hazards (Fothergill & Peek, 2004). The existing literature indicates that people with lower socio-economic status are more likely to die in disasters (Fothergill & Peek, 2004; Morrow, 1999), and more likely to suffer from mental and physical health complications related to disasters (Fothergill & Peek, 2004).

Post-disaster, people with lower socio-economic status are also more likely to face complex obstacles in disaster recovery, lose their jobs and housing as a result of disaster impacts and more likely to become homeless (Fothergill & Peek, 2004; Morrow, 1999). They are less likely to have their homes repaired or have access to finance from banks and are routinely less eligible for disaster assistance packages. In contrast, upper middle class people are shown to be able to access better post-disaster housing, have more reliable income in the aftermath of a disaster, access to insurance and quicker repairs, and are more likely to be able to understand and maneuver government systems after a disaster (Fothergill et al., 1999; Fothergill & Peek, 2004). Fothergill and Peek also note that government disaster policy often does not address pre-existing poverty, and is generally focused on getting things back to a pre-disaster status (Fothergill & Peek, 2004). This is resonant with findings from Howell and Elliott (2018) who identify that people with lower socio-economic status are routinely less eligible for disaster aid than people with higher incomes, property ownership status and higher levels of education (Howell, 2018; Howell & Elliott, 2018).

2.5.5 Sexual orientation

Very limited research exploring the disaster experience of the lesbian, gay, bisexual, trans, intersex and queer (LGBTIQ) community in high-income developed countries exists. The existing case studies in high-income developed countries mainly come from the United States following Hurricane Katrina, and Australia in relation to the 2011 Queensland floods (Dominey-Howes et al., 2014). The existing research points to a number of factors which may exacerbate the negative impacts of the disaster experiences of people within the LGBTIQ community.

First, the LGBTIQ community often reports poorer levels of physical and mental health, and poorer access to services than the rest of the population (Gorman-

Murray et al., 2016). Pre-existing health issues and access to services are known to be exacerbated after a disaster (Kousky, 2016; McCurry, 2012; Rath et al., 2007; Zahran et al., 2013), so these pre-existing vulnerabilities may be amplified. Additionally, people from the LGBTI community have higher levels of exposure to violence than heterosexual people, and this too may increase after disasters (Hilhorst et al., 2018).

Second, the loss of private space through the loss of homes, social spaces and service facilities has a dramatic impact on the LGBTIQ community. Due to existing discrimination in the public sphere, members of the LGBTIQ community may rely on private spaces for their relationships, social activities, services and specific health needs more than heterosexual people (Dominey-Howes et al., 2014). Disasters may also result in unwanted or “uncontrolled outing” for people who identify as homosexual when homes and contents become damaged and exposed (Richards, 2010).

Third, people from the LGBTIQ community may experience barriers to accessing relief and recovery services, including discrimination and violence, or may not seek formal assistance for fear that they will be discriminated against. Examples given in the literature point to instances of rape, violence and persecution at evacuation centres, relief policies which do not recognise same-sex couples resulting in no access to family benefits and, in some cases, separation (Dominey-Howes et al., 2014; Gorman-Murray et al., 2016). In a survey of people who identified as members of the LGBTIQ community after the 2011 Queensland floods, a significant number of respondents reported that they did not seek support from some relief services for fear of discrimination (Gorman-Murray et al., 2016). A review of New South Wales state emergency management arrangements found there was potential for discrimination or perceived discrimination from the LGBTIQ community because of government outsourcing of relief services to religious organisations with exemptions to anti-discrimination legislation relating to LGBTIQ people. This review considered that

government policies weren't intentionally discriminatory, but rather "blind" to the specific needs of the LGBTIQ community (Dominey-Howes et al., 2016).

Fourth, the experiences of the LGBTIQ community are rarely represented in the mainstream media, which may encourage the above-mentioned "blindness" in emergency management policy. In addition, a review of the media following the 2011 Queensland floods, Australia and Canterbury earthquakes, New Zealand showed that when LGBTIQ media outlets cover disaster stories the voices of gay men were dominant, while lesbians, bisexual women and trans people were rarely represented (McKinnon, Gorman-Murray & Dominey-Howes, 2017).

Fifth, LGBTIQ communities are often the targets of vitriolic, violent and discriminatory claims by right wing groups and commentators, being blamed to have "caused" disasters. This rhetoric follows a logic that disasters are a divine retribution or punishment for sin. These claims have been seen in events in the United States, Australia, the United Kingdom and South Africa (Blumenfield, 2012; Dominey-Howes et al., 2014; Garcia, 2012; Milbank, 2017; Nelson, 2016; Pasha-Robinson, 2016; Richards, 2010; Watts, 2018).

The existing research has pointed to the importance of personal relationships and social networks within the LGBTIQ community in accessing information and support in post-disaster settings. It has also strongly reinforced the need to see the LGBTIQ community as diverse in itself. Researchers point to the further intersection of gender, race and class, where white middle class or wealthy gay men have access to more privilege than many others within the LGBTIQ community (Dominey-Howes et al., 2014; Gorman-Murray et al., 2016).

2.6 Social and political influences

2.6.1 Social capital

Social capital refers to the networks and social resources available to individuals, families and communities (Aldrich, 2010b). Drawing on the seminal works of Bourdieu, Putnam and others, social capital theory has in recent years been used in disaster research as a powerful predictor of recovery outcomes at an individual and community level. Social capital is commonly conceptualised as taking three different, but complementary forms: bonding, bridging and linking capital (Aldrich, 2012a). Bonding social capital refers to the close ties between individuals such as family, close friends and neighbours – a person or community's "tribe". Bridging social capital describes the links that connect individuals and families to extra local networks. Finally, linking social capital refers to the links between people across formal or institutionalised power structures – sometimes referred to as vertical social capital (Aldrich, 2012a; Putnam, 2001).

High levels of social capital have been demonstrated to positively influence survival outcomes as well as support local hazard management efforts, rescue efforts, efficiency of recovery needs being met, faster and more efficient restoration of public and community infrastructure, higher levels of community resilience and a reduced reliance on formal emergency management and aid organisations (Aldrich, 2010b, 2010a, 2011, 2012a, 2012b, 2016; Chamlee-Wright & Storr, 2009; Haney, 2018). In his influential book *Building Resilience*, Aldrich (2012a) argues that high levels of social capital are the most important resource that can be mobilised by individuals, families and communities in and after disasters to access support to meet their needs (Aldrich, 2012a).

Communities with more trust, civic engagement and stronger networks can better recover after disasters than those without (Aldrich, 2010b; Haney, 2018). Strong social networks have been demonstrated to assist people impacted by disasters by: 1) serving as informal insurance providing access to information, financial assistance, physical and emotional support, as well as practical

assistance including shelter, financial support, transport and childcare, 2) providing a foundation for communities to self-organise and take collective action, including sharing information, lobbying for support, directing resources and expediting formal processes such as utility and public infrastructure reinstatement, and 3) improving the likelihood that residents will remain or return after the disaster event because they feel they have a greater stake in the community (Aldrich, 2010b). Further to this, Haney (2018) identifies that in some circumstances, experiencing a disaster can improve locally situated levels of social capital.

Within disaster literature there is a growing number of case studies illustrating both the importance of social capital in influencing recovery outcomes, but also the interconnected nature of the forms of social capital. In their research into the impacts of Hurricane Katrina in the United States, Chamlee-Wright and Storr (2009) explore a case study of the Mary Queen of Vietnam Catholic church in New Orleans East to identify how this community, despite being migrants with relatively low socio-economic status, political clout and English language, were able to so successfully and quickly facilitate recovery in their neighbourhoods. Chamlee-Wright and Storr outline the high levels of bonding social capital prevalent prior to the disaster, and the interwoven social, civic, spiritual and commercial role the church and parish priest played as a hub in the community. Using the economics concept of “club goods” (goods which are neither entirely public or private but accessible to members of a particular group), the authors demonstrate how the church as a hub was able to act as a central point for information, social activity, support, spiritual services, re-establishment of spiritual rituals and social support, and powerful advocacy for the community after the disaster. This not only served as having a signaling effect of the community’s intention to return to the parish (which encouraged community members who had evacuated to come back), but also provided the practical support required for people to return, rebuild, and reopen businesses (Chamlee-Wright & Storr, 2009).

In his research with Maori communities affected by the Canterbury earthquakes in New Zealand, Lambert (2014) reports that bonding social capital between family and community members played an important contributing factor in the resilience and wellbeing of Maori who did not relocate after the earthquakes. These people were able to draw on the support of extended family and community connections to address their recovery needs (Lambert, 2014).

Despite the demonstrated positive influences of strong social capital and disaster recovery outcomes, there is nuance and complexity for how social capital can impact some in the community, especially those who are disadvantaged or members of minority groups. Aldrich (2012a) refers to social capital as a “Janus faced resource”; that is, for those who have access to it, they benefit, but often the strength of social capital bonds is built on the exclusion of others who do not belong to the group (Aldrich, 2012a).

There may also be other effects of social capital for people recovering from disasters. In the *Beyond Bushfires* longitudinal study of the 2009 “Black Saturday” bushfires, Australia, Gallagher and colleagues (2019) report on social capital in terms of participation in community groups and the corresponding impacts on individual mental health outcomes. They found community level health benefits in communities where there was participation by most people. At an individual level however, they noted a curvilinear relationship between mental health outcomes and group involvement. People with under or over involvement in groups fared worse in terms of mental health outcomes, but those with a moderate level of participation benefited from a mental health perspective (Gallagher et al., 2019).

2.6.2 Political landscape

Historically in disaster literature, there has been a desire to see disasters, their impacts, and recovery processes as a politically free zone (Olson, 2000). However, most elements of disasters can be considered to have a political

element in some way (Mascarenhas & Wisner, 2012; Olson, 2000). Factors contributing to disasters, including climate change, environmental and building codes, land use and town planning decisions, geopolitical tensions and ideological-driven attacks are all political in nature (Mascarenhas & Wisner, 2012). So too are contributing and exacerbating factors related to disaster impacts: gendered constructs, poverty, racial discrimination, health access, access to decision making processes (Mascarenhas & Wisner, 2012), and access to post-disaster aid (Howell, 2018; Howell & Elliott, 2018). There is some literature looking specifically at the role of government and politicians in relation to post-disaster decision-making, mostly focusing on data from the United States. Rutherford and colleagues (2012) note that in the United States, the role of the federal government particularly has changed over time from being an observer in disasters to the principle funder of mitigation and recovery costs. Platt (2012) concurs, noting that a declaration of disaster at a federal level is often required to release funding mechanisms. There is some research to indicate politicians in the United States are more likely to declare disasters in election years (Krueger, 2005). Federal Emergency Management Agency (FEMA) payments have also been demonstrated to increase based on the number of representatives a state has on a FEMA oversight committee (Krueger, 2005). Similarly, in Japan after the 2011 earthquakes, the strongest predictor of utility, business and infrastructure restoration were the number of powerful politicians representing the area in the national government. This factor outstripped other considerations, including tsunami damage, spending on disaster mitigation, population density and economic conditions (Aldrich, 2016).

These political influences are not a modern phenomenon. By reviewing historical case studies, Powers (2006) is able to demonstrate the deeply rooted political nature of post-disaster funding, aid allocation and decision making. He notes “Of all the lessons learnt from history, the clearest is that the recovery following a catastrophe is first and foremost a function of the priorities and commitment of those controlling the effort” (Powers, 2006, p.32). The political aspects of hazards, disaster impacts and recovery processes play an important role in

outcomes for disaster-affected people, especially those who are most marginalised, but this is currently not well incorporated into much of the existing disaster related literature.

2.7 Conclusion

In this chapter, a broad approach to disaster recovery literature has been taken. Impacts of disasters have been identified across a range of domains and disciplines. This is testament to the complexity and range of impacts disasters can have, and the multi-disciplinary nature of this field of research. This literature demonstrates that pre-disaster factors, including levels of social capital, gender, age, race, class, education, socio-economic status and sexual orientation can also intersect with disaster related impact, compounding the effects for some.

Chapter 3 Methodology

3.1 Introduction

In this methods chapter, the theoretical approaches used in this research are outlined, followed by a description of the study design and process.

3.2 Study aims

As discussed in Chapter 2, it is well established in the existing literature that disasters can be disruptive to almost all facets of life for those affected. Impacts are broad reaching, long lasting and are often intertwined and compounding (Abramson et al., 2010; Alesch et al., 2009; Eyre, 2006; Leadbeater, 2013; Nicholls, 2012). Despite the growing number of studies exploring disaster recovery, much of this literature is focused on one particular aspect of the post-disaster experience in isolation, and the topics of interest are generally determined by researchers, emergency management practitioners or funders.

This study had three aims. The primary aim was to identify what people who had been impacted by a disaster considered helpful and unhelpful after a disaster. The second aim was to contribute to literature exploring the experience of research participation by individuals who have experienced a potentially traumatic event, specifically a disaster. The third aim was to gauge the experience of participants using elicited letter writing to the self as a data collection method, which is a novel approach, and to assess its suitability for future research projects.

3.3 Theoretical approaches

All research projects are informed by the epistemological stance of the researchers, theoretical perspectives and the methodologies used. Despite this, discussion regarding these elements, referred to here as “theoretical approaches”, is often not present or not explicit (Crotty, 1998). One of the reasons for this may be the confusing and contested range of different definitions for these three elements of research, which at times contradict each other and

threaten to overwhelm novice researchers. Acknowledging the vast array of literature on these contested topics, and recognising that there are hundreds of years of debates around epistemology, ontology, theoretical perspectives and methodologies, this research draws on the work of Michael Crotty, especially his book *The Foundations of Social Research* (1998) as the primary guide for the theoretical approaches of the study design.

One of the refreshing aspects of Crotty's work is a strong message that while there is no one correct way of approaching research, it is important that researchers reflect on, identify and justify the methods and methodologies they have used. This should include reporting their epistemological stance and the theoretical perspectives they use (Crotty, 1998).

Crotty links epistemology to theoretical perspectives, which influence methodology, which in turn, informs methods. This model is used to guide this research (see Figure 4 – Theoretical approaches (Crotty, 1998, p.4)). While Crotty identifies that in practice, most researchers will start with a research problem and work from the practical methods and work their way through to the more philosophical side of epistemology, the information below will be presented in the order of the model he identifies (Crotty, 1998).

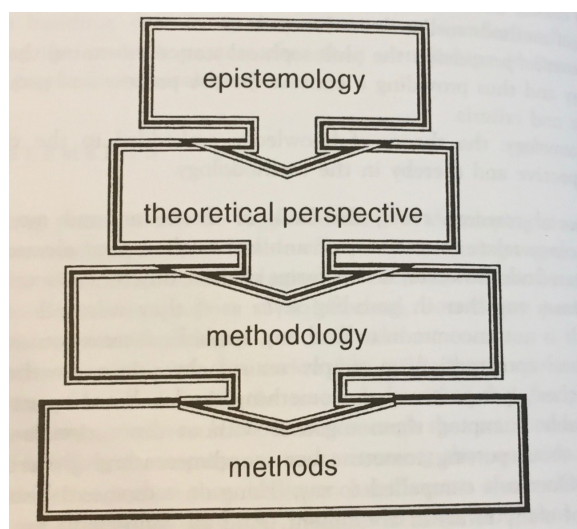


Figure 4 – Theoretical approaches (Crotty, 1998, p.4)

3.3.1 Epistemology

Epistemology here is considered to be the theory of knowledge individuals subscribe to; the philosophical underpinning of how we know. In Crotty's words this is "a way of looking at the world and making sense of it. [Epistemology] involves knowledge, therefore, and embodies a certain understanding of what is entailed in knowing, that is how we know what we know" (Crotty, 1998, p.8). He points out that while some observers consider the difference between qualitative and quantitative methodological approaches to be the "great divide" in research, this is actually a false binary considering the use of qualitative research methods by some positivist researchers and the quantifiable approaches by some non-positivist researchers. If there is a "great divide" in research, he argues, it is at the epistemological level. It's therefore important that researchers acknowledge and declare their epistemological stance (Crotty, 1998).

3.3.1.1 *Positioning this research: Constructivist perspective*

This research is approached from a constructivist perspective, using an interpretation that constructivism is nestled within constructionism – that is, individuals construct meaning, and individuals are situated within a cultural and social context. Constructivism is defined here as, "The meaning making activity of the individual mind" (Crotty, 1998, p. 58), while constructionism in this study is considered as all meaning and knowledge are constructions rather than being objective, absolute facts. As Crotty observes, constructionism denotes that:

At best, our outcomes will be suggestive rather than conclusive. They will be plausible, perhaps even convincing, ways of seeing things – and, to be sure, helpful ways of seeing things – but certainly not any 'one true way' of seeing things (Crotty, 1998, p.13)

This research study takes the approach that individuals construct meaning as part of an ongoing, dynamic process between internal and external factors. Individuals use their own experiences within their social and cultural contexts and their internal processes to construct meaning.

The data collection method used in this study was focused on individuals privately reflecting on their experience, and is well aligned with a constructivist perspective.

3.3.2 Qualitative approach

Qualitative inquiry is a contested term but is generally used to describe research that aims to understand the meaning of human action (Schwandt, 2011). Qualitative research focuses on qualities and features of data, rather than measurements (F. Erikson, 2011). A major concern of qualitative research is to analyse (usually non-numerical) data with the aim of answering the question “What is going on here?” (G. R. Gibbs, 2007). Rather than focusing on the generalisability of findings, qualitative research is concerned with “meaning making” (Mason, 2010).

Undertaking qualitative research is a process of collecting, organising and analysing data, and attempting to develop a theoretical understanding of the findings. However, this process is rarely linear; it is instead a process of going back and forward between the collection, organising and analysis steps (G. R. Gibbs, 2007). Many qualitative researchers assume that they are using an inductive process of explanation only – that is, a “bottom up” perspective where the researcher looks for what is coming out of the data, rather than a deductive process where a researcher takes a “top down” approach to use the data to test a pre-formed hypothesis. In practice however, many qualitative researchers start with taking an inductive approach and as they go through the data they also use deductive techniques to “check hunches” (G. R. Gibbs, 2007). This process of moving back and forward between inductive and deductive processes is sometimes referred to as abductive (Charmaz, 2008, 2014). Charmaz (2008) argues that abductive reasoning is comfortable with anomalies in data because it encourages the researcher to form and check a range of hypotheses. While what constitutes an abductive approach to enquiry is contested (Timmermans &

Tavory, 2012), abduction in this study is used to refer to a process of starting with an inductive approach to analysis but iteratively returning to existing theory and literature to “check” before returning to the data, and repeating as needed. The intention of this approach has been referred to as reasoning towards meaning (Shank, 2008); that is, analysis with the intent to develop theory from findings.

3.3.2.1 Criticisms of qualitative research

Researchers use a variety of methodologies when undertaking qualitative analysis. One of the most common critiques of qualitative research is that researchers do not explain the processes and approaches they have used clearly or systematically enough. Charmaz (2014) notes that some researchers hide behind the inductive and qualitative labels as a way to avoid thoroughly explaining their research process. While qualitative analysis processes may not be as linear as quantitative processes, this is no excuse for qualitative researchers to fail to clearly outline their position or the analysis process undertaken.

The role of the researcher in qualitative inquiry has also been contested in the literature. Qualitative research is often critiqued in relation to the biases that researchers bring to their work. Some qualitative approaches acknowledge the researcher’s impact on the collection of data but maintain that researchers can maintain neutrality in their analysis of data. Others argue that researchers’ biases are so implicit within any research process that to claim neutrality is redundant. Instead, these theorists encourage researchers to not only reflect on their own position in the world and the biases this brings to their work, but to explore this subjectivity as a component of their own research and encourage deep reflexive practice (Charmaz, 2014).

3.3.2.2 Qualitative inquiry in disaster research

A wide range of qualitative and quantitative research methods have been used to investigate disasters, a testament to the truly multidisciplinary nature of the field. Historically, quantitative methods have dominated disaster research, though many researchers note that this is changing, and attribute this traditional imbalance to that of historical dominance of quantitative, positivist research more generally (Phillips, 2002). Traditionally, much disaster research has been atheoretical, with a strong practice focus (Tierney, 2007). A shift towards more engagement with theory has increasingly been seen since the events of September 11 and Hurricane Katrina where researchers from diverse disciplines, not necessarily with backgrounds in disaster research, but with stronger theoretical inclinations became drawn to researching these events (Stallings, 2006). Some commentators have called on disaster researchers to improve their theoretical focus, arguing that the dominance of practice focused disaster research has impeded the field's ability to develop relevant theory (Tierney, 2007).

Qualitative research methods are not only well suited to exploring the complexity of disasters, some argue that this approach may better lend itself to translation into policy (Phillips, 2002).

3.3.3 Methodology: Grounded theory approach

Grounded theory is a research methodology founded by Glaser and Strauss while undertaking research on illness and dying in the 1960s. They published *The Discovery of Grounded Theory: Strategies for Qualitative Research* in 1967, considered at the time to be a radical and groundbreaking way to approach qualitative research.

At its core, grounded theory consists of analysing data to generate theory, rather than using theory to explain data, or data to test theory (Charmaz, 2012). It is a

form of qualitative inquiry where researchers use interactions between data and analysis to construct mid-level theories (Charmaz, 2011). Grounded theory is widely used, and is possibly the most popular qualitative approach (A. Bryant, 2009; G. R. Gibbs, 2007). However, it is a much-contested methodology.

3.3.3.1 Grounded theory overview

Grounded theory was initially developed during a period of significant tension between qualitative and quantitative research paradigms. At the time, qualitative research was subject to much scrutiny by the dominant positivist researchers and was criticised as unscientific, inconsistent and unreliable. Glaser and Strauss introduced grounded theory as an attempt to demonstrate how some forms of qualitative research could be considered to be as robust and scientific as some forms of quantitative research (A. Bryant, 2009).

Following their groundbreaking work in the 1960s, Glaser and Strauss diverged in their approaches. Strauss, with colleague Corbin, felt there was an unmet need for practical guidance regarding the application of grounded theory, particularly for early career researchers, and published *Basics of Qualitative Research: Grounded Theory Processes and Techniques* in 1990. Glaser responded in 1992 with a scathing critique of their work, and it is widely considered that, while there may have been some differences in their views on grounded theory prior to this (Charmaz, 2011; Fernández, 2005), this was the period which marked a schism in the original grounded theory work (A. Bryant, 2009; Fernández, 2005). From here, “Glaserian” grounded theory, which Glaser referred to as “Classical” grounded theory and “Straussian” grounded theory emerged (Fernández, 2005).

Subsequently, a number of different approaches to grounded theory developed. While some commentators list up to seven types of grounded theory (N. K. Denzin, 2007), Charmaz (2008, 2011) and Bryant (2009) consider there to be three main forms; Glaserian, the Strauss and Corbin variety, and constructivist grounded theory, the latter associated with the work of Kathy Charmaz and

Antony Bryant (2009). Charmaz also refers to these types of grounded theory as “Objectivist” (Glaserian), “Post-Positivist” (Strauss and Corbin) and “Constructivist” (Charmaz, 2011). While Bryant and Charmaz consider that, provided researchers understand the differences between the types, there is no reason that the three forms cannot be seen to live alongside each other as a “family” (A. Bryant, 2009) or a “constellation of methods” (Charmaz, 2014), Glaser, and other Glaserian grounded theorists disagree, often scathingly so (A. Bryant, 2009). For example, Simmons writes “Although Glaser has continued to write books about grounded theory as he and Strauss originally conceived it, the runaway perverting of the methodology continues largely unabated” (Simmons, 2010, p.16).

3.3.3.2 Characteristics of grounded theory

Despite the differences in Glaserian, Straussian and constructivist grounded theory, Charmaz (2011, 2014) argues that there are common elements. While an individual researcher’s stance regarding grounded theory will impact their specific interpretation of the elements involved, there is general agreement that grounded theorists:

- Conduct data collection and analysis simultaneously in an iterative process
- Analyse actions and processes rather than themes and structure
- Use comparative methods
- Draw on data (e.g. narratives and descriptions) in service of developing new conceptual categories
- Develop inductive abstract analytic categories through systematic data analysis
- Emphasise theory construction rather than description or application of current theories
- Engage in theoretical sampling
- Search for variation in the studied categories or process

- Pursue developing a category rather than covering a specific empirical topic (Charmaz, 2011, 2014).

Another characteristic of grounded theory is that of the researcher being encouraged to approach the data with an “open mind”. There is some debate amongst grounded theorists as to what exactly this may mean, but there is broad agreement it refers to researchers taking an inductive approach (A. Bryant, 2009). That is, approaching the data without preconceived notions of what to look for and waiting to see what comes out of the data. While sometimes referred to as approaching data with a “blank slate”, this concept is contested: “the idea that researchers can approach a topic without any preconceptions, or having rid themselves of all prejudices and bias, is still perhaps taken seriously by some, but largely derided by most” (A. Bryant, 2009). Many researchers using grounded theory now take the view that approaching data with an open mind refers to not starting with a specific theory or hypothesis to test, rather than trying to start with an entirely “clean slate” (Fernández, 2005).

3.3.3.3 *Constructivist grounded theory*

The predominant difference in constructivist grounded theory compared to Glaserian or Straussian forms is the acknowledgement of the role of the researcher in constructing data and theory (Charmaz, 2008, 2011, 2014). Charmaz argues that there were always epistemological differences in the way that Glaser and Strauss approached their work (Charmaz, 2011) and that constructivist grounded theory is more closely aligned to the work of Strauss and Corbin than to that of Glaser. By presenting the three types of grounded theory as a spectrum, with Glaserian or “objectivist” grounded theory at one end, and constructivist at the other end, Charmaz argues that the epistemological differences in the view on how data is created presents the most significant difference between the three forms (Charmaz, 2011). Glaserian grounded theorists tend to take a more positivist approach and consider data to “exist” with reflexivity on the part of the researcher as optional but not necessary. In

contrast, constructivist grounded theorists emphasise the researcher's reflexivity on the subjectivity and biases they bring to the research as crucial, "Researchers and participants co-construct the data through interaction. Data reflect their historical, social and situational locations, including that of the researcher" (Charmaz, 2011, p.366).

In line with the emphasis constructivist grounded theorists place on recognising researcher subjectivity and rejection of claims of neutrality, Charmaz encourages researchers to explore their own starting points, standing points, views, and position in society as part of their work (Charmaz, 2011, 2012, 2014). While she acknowledges that some researchers contemplate this privately, she fears that others do not, in the belief that they can approach subjects and data atheoretically and without bias. Charmaz strongly argues that a researcher's worldview, status, prestige and power influence *what* they see and *how* they see it. This results in researcher bias, whether it is acknowledged or not. A constructivist grounded theory approach encourages researchers to grapple with these issues openly (Charmaz, 2012). By recognising the impact of the researcher's biases, constructivist grounded theorists also consider their work to be an interpretive understanding of the concepts which are constructed from the data, rather than a generalisation (Charmaz, 2011).

3.3.4 Positioning this research

Taking a constructivist grounded theory approach is well suited to this research project for four reasons. First, the emphasis on researchers openly reflecting on their own biases was important, considering the researcher came to this study with significant experience as a disaster recovery practitioner and was already sensitised to some theories (discussed previously in 1.1.2 Researcher positionality). Second, constructivist grounded theory is well suited to open ended research questions, where there is not necessarily consistency in participants' approaches to responses and no hypothesis to test. Third, analysis techniques such as line-by-line coding and memo writing are an appropriate fit for analysing letters written by participants (a technique used in this study, discussed further in 3.6.6 Analysis approach). Fourth, the focus on theory

development rather than data description was helpful in guiding the data analysis process.

3.4 Ethical considerations

3.4.1 Researching potentially distressing events

Disasters are, by their nature, distressing and potentially traumatic events. Any study with disaster-affected participants warrants careful consideration of ethical concerns and sensitive research design. There are some claims that research participation has a high risk of psychological harm for people who have been impacted by trauma, however these claims have not been widely investigated, particularly in relation to disasters (Griffin, Resick, Waldrop, & Mechanic, 2003). The available evidence suggests that minimal distress of short duration in a very small minority of participants can be expected during research participation regarding distressing topics. (Newman & Kaloupek, 2004; Parslow et al., 2000).

There are a number of examples in the literature of ethical concerns regarding research with people who have experienced trauma. In their evaluation of participant experience in an Australian longitudinal research study looking at the impacts of the 2009 “Black Saturday” bushfires, Gibbs and colleagues (2018) noted that reported distress from participants was generally low, while overall satisfaction was relatively high. Participant satisfaction with the research experience was not associated with levels of distress, nor was participant distress in the first phase of the research a predictor for participation in the second stage of the research. A minority of respondents reported finding survey participation distressing, and signs of mental illness were associated with higher levels of reports of participant distress. However, this was not correlated with diminished participation satisfaction. In fact, participants who showed fire related post-traumatic stress disorder symptoms reported an increased satisfaction and were likely to return to the second phase of the research. Gibbs and colleagues (2018) suggest those who experienced considerable loss and

distress as a result of the fires may have found the research experience particularly meaningful.

Research with psychiatric inpatients (Carlson et al., 2003) and assault survivors (Griffin et al., 2003) concerning research participation found that most participants did not experience distress during participation and considered their experience to be interesting and valuable. Other studies with parents of children who had died suddenly (Dyregrov, 2004), and war veterans (Parslow et al., 2000) reported that participants experienced being upset while participating in the research, but that the levels of distress were generally low, or manageable, with no evidence of long-term harm or prolonged distress. This is in keeping with findings from reviews into research participation experiences (Newman & Kaloupek, 2004). In studies with bereaved parents (Dyregrov, 2004), people who had been hospitalised as a result of a motor vehicle accident (Ruzek & Zatzick, 2000), war veterans (Parslow et al., 2000) and people who had been assaulted (Griffin et al., 2003), the overwhelming majority of participants said that they would participate in future research on the topic if the opportunity arose. This was also the same when asked if they would recommend a friend in a similar situation to participate in research about their traumatic experience (Dyregrov, 2004). Further, some of this literature indicates that there are possible benefits to research participation, including feeling a cathartic effect from participating, having an opportunity to reconstruct or reorder the meaning of experiences, having an opportunity to identify new insights and being able to express pain, confusion and anger to an outsider (Dyregrov, 2004).

While the potential for distress in research participants who have experienced trauma warrants careful planning and consideration, some researchers have argued that to automatically consider research on such topics as too risky from an ethics perspective may deny access to a potentially beneficial experience (S. J. Alexander, 2010; Dyregrov, 2004). Participants in research relating to potentially traumatic events have been found to be able to assess the cost benefit of participation, and exercise control by withdrawing from research (Newman &

Kaloupek, 2004). Dyregrov articulated this sentiment clearly when she advocated that:

...the vulnerable groups themselves are the best judge of whether participation in research is perceived as harmful or beneficial. Too often decisions, particularly concerning trauma-related protocols, are influenced by presumed rather than empirically documented vulnerability. It is often assumed that research on vulnerable populations might be unethical because it 'may rip open old wounds' (Dyregrov, 2004, p.392).

Therefore, while warranting a carefully considered approach to study design, recruitment and data collection methods, the existing literature indicates overall that the potentially distressing nature of a research topic should not be an automatic barrier to conducting research.

3.4.2 Considerations specific to this study

As outlined in the previous section, findings from previous studies on people who had experienced trauma in some form indicated harm from participation in research was unlikely (Carlson et al., 2003; Dyregrov, 2004; L. Gibbs et al., 2018; Griffin et al., 2003; Newman & Kaloupek, 2004; Parslow et al., 2000), and there is broad agreement in disaster mental health literature that the vast majority of people who experience a disaster will not suffer from psychopathology (Bisson & Lewis, 2009; R. A. Bryant et al., 2014; Calvo et al., 2015; Forbes et al., 2010; Harms et al., 2015; McNally et al., 2003; Neria & Sullivan, 2011; Priebe et al., 2011; G. J. Rubin et al., 2005; G. J. Rubin & Wessely, 2013). However, it was still important to assess ways that any potential harm could be reduced or mitigated when designing this study.

A number of potential ethical concerns specific to this study were identified in the design phase. The first was the potentially distressing nature of the topic. The second concern was researcher positionality. The primary researcher is a senior disaster recovery practitioner with extensive field experience who manages the

disaster recovery program for the Australian Red Cross. Prior to the research, she was known to many potential research participants, key informants and community leaders. Thus the researcher was concerned that some individuals may feel pressured if directly invited to participate, or would struggle to withdraw if they changed their mind. The third factor to consider ethically was the frequent reports, both anecdotal and identified in existing literature, of individuals and communities reporting research fatigue, especially after high profile disasters where there had been multiple research studies and service evaluations (Brun, 2009; Korf, 2010). Finally, individuals impacted by disasters often report memory and concentration issues in the first year after a disaster (D. A. Alexander, 2005b; Phoenix Australia, Australian Centre for Grief and Bereavement, Australian Red Cross, & Beyond Blue, 2009) which also needed to be considered.

Pragmatically, there were also other considerations for the study design. A broad geographic spread of participants was likely, not only in order to recruit participants who had been impacted by a wide range of disasters, but also acknowledging that disasters often result in relocation or impacts to people who are not residents of the geographic site of disasters. Additionally, considering the breadth of impacts of disasters, the study needed to be designed in a way that did not restrict or direct participant response to focus on particular topics or aspects of their experience.

These points of concern were addressed through the study design, discussed below in 3.6.2.

3.5 Research Setting

Post-disaster environments and conditions are often chaotic and disorienting for an extended period of time - physically, cognitively, emotionally, socially, existentially, politically and through infrastructure impacts. The impacts of disasters are often multi-faceted, interlinked and compounding (Alesch et al., 2009; Eyre, 2006; Leadbeater, 2013; Nicholls, 2012).

The researcher chose the setting of two years post-disaster as a way of excluding people who were still “in the thick of it”. While there are no fixed timelines for disaster recovery (Gordon, 2018; Young & Jones, 2018), practice experience indicates that for many people who experience disasters, the first two years are particularly intense, and are often marked with high levels of demanding activity, combined with a sense of the impacted people being in a “fog”. One participant in this study commented that they separated out time after the disaster event:

I look back now and I split my recovery into my own phases.

1. Immediate (the weeks following) – which I don’t really remember.
2. Trying to get back to what I thought was normality (the months following) and
3. Everything that came after (the years following).

While the experience of recovering from a disaster will be different for each individual, for most people many of the acute or urgent needs will have been addressed by the second anniversary.

3.6 Method and Research Strategy

3.6.1 Data collection approach

A multiple methods approach was used to collect data to address the research questions as illustrated in Figure 5. This was designed as a sequential process, where participants from the first stage of the research were then invited to participate in the second stage. The data was analysed separately and the findings were not integrated.

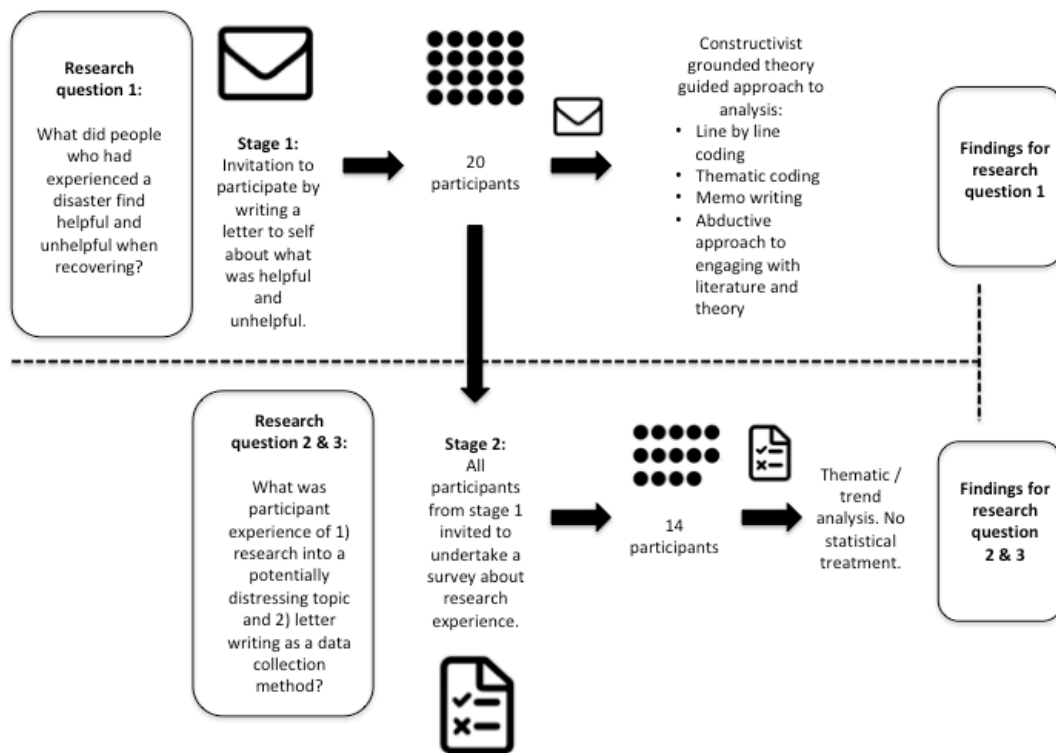


Figure 5 - Multiple methods map

3.6.1.1 First stage data collection

The first stage of the data collection was designed to address the first research question – what did people who had experienced a disaster find helpful and unhelpful when they were recovering. Based on the issues identified in the study design phase, a novel approach to data collection was decided on. Participants who had experienced a disaster event at least two years prior were invited to write or voice record a letter to themselves addressing the single question: "What did you find most helpful and unhelpful after the disaster/s you experienced?" They were then asked to send the letter to the researcher as an email, voice recording or by postal mail.

3.6.1.2 Second stage data collection

A second stage of the research regarding participant experience of the research was then undertaken by a self-administered electronic survey. The survey questions addressed the experience of a) participating in research about a potentially distressing topic and b) using letters to self as a data collection method. Response options included Likert scales with additional open comment options.

3.6.2 Addressing identified ethical concerns through study design

Based on the issues identified in the literature as potential ethical concerns, several decisions were made in the study design phase to mitigate potential for harm.

First, the data collection method of letters addressed to self was a novel approach and a pragmatic fit for the ethical concerns identified. While the method of letter writing to elicit information is not a commonly used data collection tool, letter writing and journaling are both commonly used therapeutic methods (Landless, Walker, & Kaimal, 2019; Riordan, 1996). Existing research suggests that writing about traumatic and emotional experiences, while potentially upsetting for some at the time of writing, overall has a positive effect for a wide range of participants (Pennebaker, 1997). Pennebaker found that people who wrote about deeply personal or traumatic experiences had improved health outcomes when compared to people who wrote only about superficial events. Some of the benefits documented included decreased number of visits to health centres and physicians, and decreased workplace absenteeism (Pennebaker, 1993). Research participation was not intended as a therapeutic intervention, however existing research regarding writing about traumatic events was an indicator that the method was not likely to cause harm to participants.

Second, there was no requirement for participants to write in their letters to self about trauma or distress. By asking participants to focus on their experiences of disaster recovery, participants were not asked to reflect on or disclose any information about the disaster event itself, but were given a broad opening for topics to discuss.

Third, participation in the research was voluntary and was specifically designed to enable “silent” withdrawal, meaning that the participants did not have to notify anyone about a change of mind to participate. Information about the study was available on a project website, which included explanatory videos. Participants were not required to contact or inform the researcher of their intention to participate until they sent their contribution in, allowing for silent withdrawal if they decided to stop participating part way through or changed their mind for any reason.

Fourth, writing letters addressed to themselves allowed participants to be involved on terms that suited them best from a location and time perspective. There was no requirement for the participant to complete their letter in one sitting.

Fifth, participants were only eligible to participate in the study a minimum of two years after the disaster event in order to avoid participation at times of highest demand for those recovering from disasters.

Sixth, in addition to a range of assistance points being identified on the study website, all participants were contacted after the researcher received their letter with information about support services available if needed. The researcher also offered to connect participants with support services local to them.

Clear statements were made on the study website and a plain language information sheet was included that stated that all participation was voluntary (see Appendix 2). A number of potential participants exercised their right to not participate, after initially indicating (unprompted) to the researcher that they would like to participate.

3.6.3 Sampling

This research project is qualitative in nature, and as such, concerned with meaning making rather than generalisability (Mason, 2010). Literature regarding qualitative research acknowledges that the guidelines for sample sizes are “virtually non-existent”, but that the concept of “saturation” is commonly used in place of nominating a clear number of participants (Guest, Bunce, & Johnson, 2006). The National Statement on Ethical Conduct in Human Research (Australian Research Council, & Australian Vice-Chancellors Committee, 2007) notes that saturation may be considered a sufficient measure of sample rigor when it comes to qualitative research (National Health & Medical Research Council et al., 2007). While the process to achieve saturation is contested, there is consensus that the saturation point is where additional data no longer adds additional information (Mason, 2010). Additionally, literature looking at sample sizes in qualitative research acknowledges pragmatic limitations, including time, funding, and the impracticality of large qualitative sample sizes, which can be very labour intensive (Mason, 2010). Other factors which may contribute to saturation include diversity of perspectives and searches for disconfirming cases (Gibbs et al., 2007).

A combination of sampling approaches were used to recruit participants for the first phase of the research. A purposive criterion approach was used, by approaching people with known lived experiences of disasters. Noting that purposive criterion sampling is a contested term, it is used here to reference a sampling approach where individuals who are especially knowledgeable or have experience with particular phenomenon and meet set criterion are invited to

participate (Palinkas et al., 2015; Palys, 2008). A snowball sampling approach was used by asking key informants (including leaders from disaster-affected communities, people with known lived experience of disasters and recovery workers) to share information about the project with their networks. Convenience sampling was also used by promoting the research project through social media.

3.6.4 Selection criteria

Individuals who had experienced a disaster event at least two years prior were eligible to participate in the research. Participants were required to be over 18 years of age and to live in Australia or New Zealand and to be able to participate in English.

3.6.5 Recruitment process

Recruitment for this research was approached in several ways. The researcher developed a website with information about the research project. The information was presented in written text and in video format on the website. Participants were primarily recruited by the researcher directly sending emails containing brief information about the project and a link to the website to community leaders, organisations and key informants within disaster-affected communities. Many of these people were known to the researcher, or were recommended by key informants. Some of these people then sent the information on to their contacts. Twitter and Facebook were also used to promote the research. Additionally, study information postcards were distributed at some disaster related community events and to community leaders upon request. The researcher was available to talk with people interested in learning more, though this option was only taken up by a small number of potential participants. Recruitment was open from June 2015 to September 2017 (noting that there was no active recruitment during 2016 due to the researcher being on maternity leave).

3.6.6 Analysis approach

A constructivist grounded theory approach to analysis was used, with particular reference to the work of Charmaz (Charmaz, 2011, 2014). As discussed earlier in section 3.3.3, this approach openly acknowledges that subjectivity is inherent in data analysis and inevitably guided by researcher biases. However, the use of rigorous processes ensures the development of meaningful findings based on the data. Data analysis commenced at the time the first letter was received and was conducted concurrently with data collection.

An abductive process was undertaken, which involved starting with an inductive approach to data analysis and then looking to existing literature and theory to “check hunches” (G. R. Gibbs, 2007) before returning to data analysis, and then repeating this process. As previously noted, Charmaz refers to abductive approaches as an important feature of grounded theory (Charmaz, 2014).

In line with the constructivist grounded theory approach advocated by Charmaz, a line by line coding approach with a focus on using action based gerunds¹ was initially undertaken. As more letters were received, newer letters were analysed using line by line coding and by testing the more focused codes which had emerged from the earlier letters received. A process of memo writing to further develop the ideas emergent in the coding was then undertaken. Charmaz (2008) notes that while memos are sometimes regarded as a procedural step between coding and draft writing in grounded theory research, they can be much more meaningful to researchers making sense of their data, giving the opportunity to learn more about the data and develop theory, rather than a mere descriptive summary of the codes identified. Theory was engaged with iteratively to help develop a theoretical understanding of the themes identified.

¹ Words that are formed with verbs but act as nouns (Gerund).

3.6.6.1 Analysis of survey responses

Of the 20 participants who submitted a letter, 14 completed the second stage survey. Due to the small sample size, the responses were not treated with a statistical analysis method. The Likert scale responses were assessed for trends within the cohort and to get a sense of reaction from participants. The text-based responses to open-ended questions were coded thematically through an inductive process, which commenced after the first five responses had been received, and used for descriptive purposes.

3.6.7 Reporting

Anonymisation is the removal of information which could identify a participant from data, and is one form of confidentiality generally recommended as a default term of research protocols (Saunders, Kitinger, & Kitinger, 2015; Thomson, Bzdel, Golden-Biddle, Reay, & Estabrooks, 2005). In much qualitative research, the process of anonymisation is designed to protect the identity of participants from people other than the primary researchers (Saunders et al., 2015) including readers of published work from the research and secondary researchers (Corti, Day, & Backhouse, 2000).

Anonymising data in qualitative research presents theoretical, methodological, ethical and legal issues in research design (Clark, 2006; Thomson et al., 2005). On the one hand, "It is generally considered that anonymisation as a process benefits research participants by protecting their anonymity and privacy, key guarantees that are central to ethical research" (Thomson et al., 2005). However, on the other hand, qualitative research is often context sensitive, which requires a balance between the ethical obligations to participants and the integrity of the data. In some qualitative settings, it may be difficult to disguise the identity of the participants without a distortion of the data (Clark, 2006; Corti et al., 2000) and, in some cases, the removal of identifying information may even change the meaning of the data (Parry & Mauthner, 2004).

The default position of anonymity has been questioned by some researchers for other reasons too. Shulman (1990) notes that the “ethnographer’s tradition of rendering informants invisible were produced in an era where informants were seen as powerless and in need of protection” (Shulman, 1990, p. 14). She argues that the long standing tradition of automatic blanket anonymity must be reconsidered if research and practice are to be better integrated, allowing for the recognition of research participants as colleagues and partners. Further, Shulman contends that there is a need for a more considered discussion about participants’ desire to be recognised for their contribution rather than only on the recognition of the right of a participant to have their anonymity protected (Shulman, 1990). Pragmatically, however, it is generally a requirement of ethical boards (when research studies are designed) that steps are taken to protect the identity of participants.

Practical guidelines for anonymity are limited, and researchers must carefully consider the specific circumstances of their research setting and research participants when developing their anonymisation processes. In some cases, it may be unrealistic to ever expect full participation anonymity, and this should be explained to the participants before they take part (Saunders et al., 2015). To address this, wording about the limitations of confidentiality was included in the participant consent form:

I understand that while all possible measures will be taken to protect my privacy and confidentially, due to the small number of people taking part in this research it is possible that some details I provide may be recognisable to people I know.

The most common form of anonymisation is the use of pseudonyms with consideration for ethnic and cultural identifiers (Saunders et al., 2015). When using pseudonyms, the possibility for readers to not understand the anonymisation process and assign responsibility to other people with the same name as the pseudonym must also be considered.

Other forms of anonymisation involve assigning a set of descriptors, for example, age and gender in lieu of names, real or pseudonym. While in some settings this may decrease the chances of identification, it may also significantly dehumanise the contributions of the participant, and may also make it difficult for the readers to follow a participant's narrative (Saunders et al., 2015). For this research, no names (real or pseudonym) were used, and the researcher did not use codes and avoided description markers where possible. While the researcher acknowledges that context may be reduced through this approach, this was weighed against the other considerations previously mentioned. A further consideration was the anonymisation of location (Clark, 2006), and specifically in this study, disaster hazard event. Attempts were made to remove identifiers around location and hazard event.

People who have lived experienced of disasters are variously referred to in literature as victims, survivors, community members, residents, disaster-affected or disaster impacted. The terms victim and survivor are both loaded, and draw on unhelpful cultural narratives and stereotypes (Brady, 2015), and are avoided in this thesis. The terms community member and resident assume that individuals live in geographic areas affected by disasters, and are thus also avoided. The terms disaster-affected people and disaster-impacted people are used interchangeably in this thesis to refer to individuals with lived experience of a disaster.

3.6.8 Ethics approval

This study was approved by the University of Melbourne Human Research Ethics Committee (ID: 1543703.1).

3.7 Summary

In this chapter, the methodology of the study was presented, including theoretical approaches, ethical considerations and research design. A

constructivist epistemology underpins this study, acknowledging the interplay between individuals and their environment. A qualitative approach using constructivist grounded theory to guide the data analysis was undertaken, which is well suited to the rich, reflective nature of the primary data collection method of letter writing to self. Ethical considerations included disaster recovery being a potentially distressing experience, researcher positionality and research fatigue amongst disaster-affected populations. These considerations were addressed through the study design and are explored further in Chapter 9. In part 2 of the thesis, the study findings are reported.

Part 2

Some of us lost people, some of us lost their homes, some
of us lost their jobs and livelihoods, and some of us just got
lost
(Participant).

Chapter 4 Introduction to findings

4.1 Introduction

Section one of this thesis presented the introduction, literature review and methodology for this study. Together they established that disasters are:

events which are precipitated by a hazard agent and cause, or threaten to cause, social impacts, disruption and loss at an individual and community level.

Disaster recovery is considered to be:

a lengthy, complex, multifaceted social process following a disaster event, with no assured outcomes. Individuals and communities can be expected to have a range of experiences in the aftermath of disasters. Recovery can be conceptualised as a dynamic spectrum of possibilities from 'full restoration to pre-disaster status' through to 'complete change'.

Three research questions for this study were identified:

- 1) What do people who have been impacted by a disaster consider to be helpful and unhelpful in their recovery?
- 2) What was the participant experience of research into a potentially traumatic event?
- 3) What was the participant experience of a novel data collection method?

The data collection method, which involved inviting participants to write letters to themselves, was developed to address potential ethical concerns identified in the study design phase. This method was used to collect data to address the primary research question of what people who had experienced a disaster considered to be helpful and unhelpful in their recovery. A follow up questionnaire was sent to all participants from the first phase of the research to explore their experience of research into a potentially traumatic subject, as well as the use of letter writing as a data collection method.

In **section two** of this thesis, the results of the study are presented. As this dissertation is structured as a thesis with publication, the findings will be presented here as separate papers. In this section, the sample characteristics of the study will be reported, followed by five papers, each structured as a separate chapter. As a consequence of the decision to format the thesis this way, there is some unavoidable repetition between the papers.

4.2 Sample characteristics

The sample characteristics from the two phases of the study are reported below. As discussed in section 3.6.1, all participants from the first stage of the research were invited to participate in the second stage. As a result, the sample for the second stage of the study is derived from the first stage sample.

4.2.1 Participant characteristics: First stage sample

Twenty people impacted by disasters participated in the first stage of the study by submitting a letter and their characteristics illustrate they represent a range of ages and backgrounds. Fourteen of the participants were female, six were male. Six participants did not indicate their age on their demographic information sheet. Of those who provided their age, the youngest participant was 29 years old and the oldest was 89 years old at the time of participation. The mean age of the participants who provided their age was 52.4 years. All participants noted that English was the language used at home. Sixteen participants provided information about their living arrangements, with: six married or de facto with no children / no children living at home; five participants living alone; four married or in a de facto relationship with children at home, and one person sharing with other adults. Seven participants did not indicate their highest level of education, but of those that did, the sample indicated most were highly educated, with seven participants indicating they had post graduate qualifications.

Participants in this research had been impacted by six disaster events (see Table 1 - Disaster events experienced by participants). Seven participants had been impacted by the Canterbury earthquakes (New Zealand), four by the 1967 Tasmanian bushfires (Australia), three by the 2009 Victorian “Black Saturday” fires (Australia) and three by the 2013 Tasman Peninsula bushfires (Australia), one by the Margaret River fires (Australia) and one by Ash Wednesday (Australia). One participant noted involvement with multiple disaster events. More information about these disaster events is provided in Appendix 1.

Table 1 - Disaster events experienced by participants

Disaster event	Location	Year
“Black Tuesday” bushfires	Tasmania, Australia	1967
“Ash Wednesday” bushfires	Victoria and South Australia, Australia	1983
“Black Saturday” bushfires	Victoria, Australia	2009
Canterbury earthquakes	Canterbury, New Zealand	2010, 2011
Margaret River Bushfires	Western Australia, Australia	2011
Tasman Peninsula Bushfires	Tasmania	2013

4.2.1.1 Time point nominated for letter to self

As mentioned, participants were invited to write a letter to themselves as part of the research methodology. They were able to choose what point in time they addressed their letter, for example to a past, present or future self. Two participants wrote to their pre-disaster self, ten participants addressed their present day self, three wrote to themselves shortly after the disaster event, and one corresponded with their future self. One participant was very specific, writing to a past self some years after the disaster event at a specific life milestone where the impacts of the disaster had a new type of impact. Three participants addressed their submission to the researcher.

4.2.2 Participant characteristics: Second stage sample

All participants from the first stage sample were invited to participate in the second stage of the research by completing a questionnaire on their participant experience (see Appendix 5). The participant characteristics of this second stage are presented here, although there were no noteworthy demographic differences between the first and second stage sample.

Fourteen of the twenty participants from the first stage of the research participated in the second stage questionnaire. Participants were not asked to provide demographic information in this stage, instead only their names were needed (and this was optional) so that their responses in the second stage could be matched to the demographic information collected in the first stage. One person elected to respond to the second stage questionnaire anonymously, so no demographic information is available for them. Of the thirteen participants who provided their names, six of these participants had not provided demographic information in the first stage. Of the seven participants who provided their age, the oldest participant was 89 at the time they submitted their letter, and the youngest participant was 29, with a median age of 56.6. Nine participants in the second stage of the research identified as female, and four as male. The disasters represented were the 1967 Tasmanian bushfires, the 1983 “Ash Wednesday” bushfires, 2009 “Black Saturday” bushfires, 2010/2011 Canterbury earthquakes and the 2013 Tasman Peninsula bushfires. Of the participants who provided information about their highest level of education attained, most were highly educated, with five participants identifying as having a post graduate qualification.

4.3 Structure of findings

The research findings will be presented here as five papers. Each paper has been structured as a separate chapter to avoid confusion. As identified previously, as a

consequence of making the decision to structure this dissertation as a thesis with publication (and intending to submit the papers to different journals) there is repetition in some background and methods sections of the findings chapters presented below.

The papers are presented here as:

Chapter 5(Paper): Different conceptualisations of recovery among disaster-affected people.

Chapter 6: (Paper): Disaster recovery: What people consider helpful and unhelpful

Chapter 7: (Paper): Hierarchies of affectedness

Chapter 8: (Paper): Recovery workers who have also been personally affected by disasters: Exploring the perspective of people who have dual experiences of disaster recovery.

Chapter 9: (Paper): Letter to self: Participant experience of a novel post-disaster research method

The University of Melbourne requires that all theses with publication include a declaration of thesis with publication and co-author authorisation for each paper submitted as part of the thesis. These declarations can be found in the thesis appendices.

Chapter 5 (Paper): Different conceptualisations of recovery among disaster-affected people.

5.1 Abstract

Disaster recovery is still an underdeveloped concept. Three ways of conceptualising disaster recovery are evident in current literature and practice: 1) recovery as activity, 2) restoration to a pre-disaster status or 3) change to a new normal. The voices of those with lived experiences have largely been absent in discussions of conceptualisations of disaster recovery. In order to address this gap, this paper reports on findings regarding how people who have been impacted by disasters conceptualise recovery. This paper presents findings from a qualitative study using a constructivist approach. Twenty people who had been impacted by disasters wrote a letter to themselves regarding what they considered helpful and unhelpful in the recovery. We find that those affected by disasters have a wide range of recovery experiences, and that disaster recovery can be helpfully conceptualised as a spectrum from “restoration to pre-disaster status” through to “complete change”. Cognitive schema theory is presented as a potentially useful theory to further investigate the range of conceptualisations of recovery held by people who have been impacted by a disaster.

5.2 Background

Recovery is acknowledged as the most under-researched component of disasters (Burton et al., 2011a; Nicholls & Healy, 2008; Olshansky, 2005; Peek et al., 2011; Phillips, 2009; C. B. Rubin, 2009; G. P. Smith & Wenger, 2007). Debate around the meaning of recovery is still underdeveloped and evolving (Abramson et al., 2010; Jordan & Javernick Will, 2013) though there is agreement that disaster recovery is a complex process which takes a long time (Alesch et al., 2009; Eyre, 2006; Leadbeater, 2013; Nicholls, 2012).

Disaster recovery research, policy and practice is multi-disciplinary, including (but not limited to) health, infrastructure, economics, natural environment

science, political economy, sociology and religious studies. The types of foundational assumptions made about recovery depend on the discipline and approach of the authors (Eyre, 2007; Jordan & Javernick Will, 2013). In academic literature, disaster recovery is rarely defined, but authors tend to refer (either implicitly or explicitly) to recovery as either restoration to a pre-disaster status or change to a new state, with a descriptive focus that is often discipline centric (Jordan & Javernick Will, 2013). In policy documents and practice guides, disaster recovery is often explicitly defined in relation to the function and responsibilities of government, emergency management organisations and others with roles in post-disaster settings.

Three broad categories of disaster recovery conceptualisations emerge from analysis of the literature and are outlined below: recovery as 1) activity, 2) restoration and 3) change.

5.2.1 Recovery as activity

Where recovery is conceptualised as an ‘activity’, descriptions are presented in relation to the function and responsibilities of organisations and those with roles in post-disaster settings.

Definitions that use activity as a proxy for recovery are reflected in government policy (Commonwealth of Australia, 2012; Ministry of Civil Defence & Emergency Management, 2019; United Kingdom Cabinet Office, 2013). For example, in Australia, the National Strategy for Disaster Resilience defines disaster recovery as: “The coordinated process of supporting emergency-affected communities in reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical wellbeing” (Commonwealth of Australia, 2012, p22). Additionally, some researchers use rebuilding activity as a proxy for recovery progress (Burton et al., 2011b; Stevenson et al., 2010).

These considerations reflect early academic definitions where recovery was considered as a predictable phase of emergency management (Jordan & Javernick Will, 2012; G. P. Smith & Wenger, 2007). The historical development of the phases of emergency management (known commonly as mitigation, preparedness, response and recovery, although terminology can vary) and their corresponding definitions has been well documented (Phillips, 2009). In 1978, the National Governor's Association of the United States of America devised a four phase emergency management model, with the aim of dividing the work of emergency management agencies into stages to ensure coordination through these phases (Phillips, 2009). A number of other countries subsequently adopted this model (Cronstedt, 2002). The absence of debate or deliberation regarding what recovery is may have led to the definition of recovery as a phase of emergency management being used as a proxy for the process of recovery experienced by individuals and communities impacted by disasters.

While emergency management organisations increasingly acknowledge the need for community led recovery (Alesch et al., 2009; Australian Institute of Disaster Resilience, 2018; Commonwealth of Australia, 2012; Leadbeater, 2013; Ministry of Civil Defence & Emergency Management, 2019; Owen, 2018), much of the official terminology and guidelines remain focused on the actions of governments and other agencies. It is worth noting that some governments have been working to develop more community centric understandings of disaster recovery, with the Australian and New Zealand governments revising their approach in recent years. It is reasonable to predict that this will be reflected in official definitions in the near future.

Where disaster recovery is conceptualised as an activity, there is generally a focus on process rather than outcome. This implies that by undertaking activities to address the direct consequences of disaster events, recovery has taken place.

5.2.2 Recovery as restoration

A second way recovery is conceptualised is with a restoration focus. That is, where recovery is targeted at getting communities back to pre-disaster status.

Some researchers explicitly point to restoration as being the hallmark of recovery. Phillips (2015) and Cutter (2014) acknowledge recovery as a multi-faceted social process with a strong focus on restoration to pre-disaster levels. Olshansky and Hopkins (2012) outline recovery as involving residents building new homes or relocating, business repairs and repair of public infrastructure, amongst other things. They consider the defining characteristic as the compression of time during which these things occur in post-disaster settings (Olshansky et al., 2012). While Nigg (1995) clearly articulates that recovery should be considered to be broader than physical reconstruction, with a particular focus on social processes, she does so in reference to restoring social processes to pre-disaster status (Nigg, 1995).

A number of prominent recovery researchers do not explicitly define what they mean by disaster recovery, but describe recovery in relation to restoration. These include psychologist Hobfoll and colleagues (2007), who refer to the 'restoration of social and behavioural functioning' and economist Chamlee-Wright and colleagues (2007; 2011), who describe recovery as slow, ineffective or fragile in circumstances where limited signs of restoration are present in affected communities. Abramson and colleagues (2010) also discuss the interaction of multiple factors that inhibit or support individual recovery from a public health perspective, ultimately focusing on restoration to pre-disaster status.

Increasingly, there has been a recognition by emergency management organisations, governments and researchers that there should be a goal to not simply return to 'what was' but to aim for a better, or less vulnerable status (Jordan & Javernick Will, 2013). The phrase 'build back better' has become

synonymous with disaster recovery programs and initiatives, for example the UNISDR 2017 disaster recovery guidelines, titled 'Build Back Better' (UNISDR, 2017). Alesch and colleagues (2009) argue that the phrase 'build back better' by political leaders following larger disasters has become so commonplace that the absence of it in post-disaster commentary would seem out of place. Smith and Wenger incorporate elements of restoration and activity with the concept of improvement and alteration in their definition of recovery: "the differential process of restoring, rebuilding, and reshaping the physical, social, economic, and natural environment through pre-event planning and post-event actions" (Smith & Wenger, 2007, p.237).

Where disaster recovery is framed as restoration to a pre-disaster status, there is generally a focus on the intended outcome for individuals and communities impacted. While there may be some focus on improvements, there is a general aim for life to resemble what it 'looked like' prior to the disaster.

5.2.3 Recovery as change

A third category of recovery concepts are linked by an assumption that recovery from a disaster is a complex social process where no particular outcomes are assured, but some form of "new normal" will eventuate. This type of conceptualisation is based on the premise that for some individuals and communities, disasters create profound impacts and disruptions, which ultimately change the way that they experience life and perceive their future. Recovery, in this sense, where people's lives have changed so much as a result of the disaster, acknowledges that the aim of restoration to a pre-disaster life may be impractical, irrelevant, or in some cases impossible (Alesch et al., 2009). Peek (2011) acknowledges that recovery for individuals may be lower, higher or equal to their pre-disaster status. Alesch and colleagues (2009), argue that irrespective of whether people are better or worse off than "return to what was normal", and reject the concept of restoration as recovery:

Some disaster researchers have suggested that recovery is pretty straight-forward: one repairs, restores, rebuilds or replaces the built environment, and before long, the community essentially returns to where it was before. Again, we weren't convinced... We came to believe that recovery, if it means restoring things to what they were before the event, almost never happens. (Alesch et al., 2009, p.3)

Considering recovery as *change* is reflected in findings where researchers have demonstrated that for some disaster-affected people, impacts to life as a result of the disaster are so significant that there is no way to get back to how things were before the disaster event. Cox and Perry (2011) detail the profound, life changing disorientation that people impacted by fires in Canada experienced. In Australia, Gibbs and colleagues (2016) identify that some community members decided to relocate permanently following the 2009 Victorian bushfires because of how significantly their lives had been altered as a result of the disaster:

Losing a community and not really getting them back, that whole messy feeling of kind of wanting it back, it's never going to be the same. When you go up there, there's a horrible twisted pulling thing of feeling like you're home but not fitting in and it's not home. (Participant quote in Gibbs et al., 2016, p.338)

This is resonant with findings in a number of studies of families who relocated permanently following Hurricane Katrina in the United States. Some participants considered that the disaster had caused such a dramatic upheaval in their lives that there was no possibility of going back to how life was prior to the hurricane if they moved back to their old communities:

Nobody can go back to the way it was before. Everyone's affected. I mean, our lives changed. And that's the whole thing—recognizing that and moving on. We've just got to move on. (Peek et al., 2011 p.1390).

This was echoed in a different study by Morrice (2013) about relocation after Hurricane Katrina. She argues that there is a misunderstanding that recovery is the same as getting back to how things were prior to the disaster.

While her work regarding the impacts of September 11 focused on resilience in a post-disaster context rather than an attempt to define recovery, the elegant words of Walsh (2002) regarding the aftermath of the disaster are relevant when considering recovery as change:

Resilience entails both suffering and perseverance,
“struggling well” to work through emerging difficulties as
we strive to integrate the fullness of the crisis experience
into the fabric of our individual and collective identity...
we must question old assumptions and grapple with a
fundamentally altered conception of ourselves in relation
to others in our shared world. (Walsh, 2002, p. 35)

This reflects a shift in post-disaster resilience literature from a goal of “bouncing back” to the notion of “bouncing forward” in recognition that disasters are accompanied by change (Walsh, 2002).

As with restoration-focused ideas of recovery, where recovery is centred around change, there is a focus on outcomes for impacted individuals and communities.

5.2.4 Summary

While not routinely signposted or explicitly defined within existing literature, conceptualisations of disaster recovery can be grouped into three broad categories: recovery as activity, restoration, and change. Where recovery is discussed in relation to activity, the focus is often on process. In contrast, restoration and change recovery concepts often emphasise outcomes for those impacted.

This paper reports on research undertaken as part of a doctoral thesis, where the primary aim of the study was to examine what people who had been impacted by a disaster considered helpful and unhelpful in the aftermath. An emergent theme of the data was the conceptualisations of recovery presented by the participants who represented a range of experiences and perspectives. This paper considers cognitive schema theory as a conceptual theory that may be helpful to explain why there are a range of views amongst participants.

5.3 Methodology

5.3.1 Theoretical framework and approaches

The research was approached from a constructivist perspective, using an interpretation that individuals are situated within a cultural and social context, and construct meaning as part of an ongoing dynamic process between internal and external factors (Crotty, 1998).

A qualitative approach was used, acknowledging qualitative inquiry is a contested term, but is generally used to describe research that aims to understand the meaning of human action (Schwandt, 2011), focusing on qualities and features of data rather than measurement (F. Erikson, 2011).

Historically, disaster research has been dominated by quantitative, atheoretical approaches (Tierney, 2007). Increasingly, the wide range of qualitative and quantitative approaches being used in inquiry into disaster recovery is testimony to the truly multidisciplinary nature of the field (Stallings, 2006). Qualitative research methods have been demonstrated to be well suited to the richness of disaster related data, providing insights into the nature of people's experiences (Phillips, 2002).

5.3.2 Study design

A number of ethical and pragmatic considerations influenced the design of the study. Disasters are, by their nature, potentially traumatic events which can impact all facets of life for those affected, and create chaotic, disorienting environments with significant secondary stressors (Whittle et al., 2012).

Sensitivity in study design for topics which are potentially distressing is broadly acknowledged as important (Dyregrov, 2004; L. Gibbs et al., 2018; Parslow et al., 2000).

Some considerations specific to the study design of this project included 1) a broad geographic spread of participants, 2) researcher positionality as a senior disaster recovery practitioner employed by the Australian Red Cross, 3) ensuring that a broad range of impacts could be explored by participants, rather than pre-identifying topics of interest, and 4) consideration of research fatigue in disaster-affected communities.

A novel approach to data collection was decided in an attempt to address these ethical and pragmatic considerations. Participants who had experienced a disaster event at least two years prior were invited to write a letter to themselves addressing the single question “What did you find most helpful and unhelpful after the disaster/s you experienced?” They were then asked to send the letter to the researcher as an email, voice recording or by postal mail. A second stage of the research regarding participant experience of the research was then undertaken by electronic survey. Discussion of the second stage of the research is outside the scope of this paper.

5.3.3 Selection criteria

Individuals who had experienced a disaster event at least two years prior were eligible to participate in the research. Participants were required to be over 18 years of age and to live in Australia or New Zealand and able to participate in English.

5.3.4 Recruitment process

A combination of sampling approaches was used to recruit participants for the first phase of the research. A purposive criterion approach was used, by approaching people with known lived experiences of disasters. Noting that this is a contested term, it is used here to reference a sampling approach where individuals who are especially knowledgeable or have experience with particular phenomenon and meet set criterion are invited to participate (Palinkas et al., 2015; Palys, 2008). A snowball sampling approach was used by asking key

informants (including leaders from disaster-affected communities, people with known lived experience of disasters and recovery workers) to share information about the project with their networks. Convenience sampling was also used by promoting the research project through social media.

The researcher developed a website with information about the research project. The information was presented in written text and in video format on the website. Additionally, study information postcards were distributed at some disaster related community events and to community leaders upon request.

The researcher was available to talk with people interested in learning more, though this option was only taken up by a small number of potential participants. Recruitment was open from June 2015 to September 2017 (noting that there was no active recruitment during 2016 due to the researcher being on maternity leave).

5.3.5 Analysis approach

A constructivist grounded theory approach to analysis was used, with particular reference to the work of North American sociologist Charmaz (Charmaz, 2011, 2014). This approach openly acknowledges that subjectivity is inherent in data analysis and inevitably guided by researcher biases. Data analysis commenced at the time the first letter was received and was conducted concurrently with data collection.

An abductive process was undertaken, which involved starting with an inductive approach to data analysis and then looking to existing literature and theory to 'check hunches' (G. R. Gibbs, 2007) before returning to data analysis, and then repeating this process. Charmaz refers to abductive approaches as an important feature of grounded theory (Charmaz, 2014).

In line with the constructivist grounded theory approach advocated for by Charmaz, a line by line coding approach with a focus on participants' actions was initially undertaken. As more letters were received, newer letters were analysed using line by line coding and by testing the more focused codes which had emerged from the earlier letters received. A process of memo writing to further

develop the ideas emergent in the coding was then undertaken. Charmaz (2008) notes that while memos are sometimes regarded as a procedural step between coding and draft writing in grounded theory research, memos can be much more meaningful to researchers making sense of their data, giving the opportunity to learn more about the data and develop theory, rather than a mere descriptive summary of the codes identified. An abductive process was undertaken, whereby existing evidence and theory was engaged with iteratively to help develop a theoretical understanding of the themes identified.

5.3.6 Reporting

No names of participants (real or pseudonym) or codes were used to refer to participants and concerted efforts were made to remove description markers where possible in participant quotes. While it is acknowledged that context may be reduced through this approach, this was weighed against the other considerations relating to anonymity and reporting, including potential mistaken identity and de-humanisation of participants through codes (Saunders et al., 2015) .

A further consideration was the anonymisation of location (Clark, 2006), and disaster hazards. Attempts were made to remove identifiers around location and hazard event.

5.3.7 Ethics approval

This study was approved by the University of Melbourne Human Research Ethics Committee (ID: 1543703.1).

5.4 Findings

5.4.1 Sample characteristics

Twenty people impacted by disasters participated in the first stage of the study by submitting a letter. Fourteen of the participants were female, six male. Six participants did not indicate their age on their demographic information sheet. Of those who provided their age, the youngest participant was 29 years old and the oldest was 89 years old at the time of participation. The mean age of the participants who provided their age was 52.4 years. All participants noted that

English was the language used at home. Sixteen participants provided information about their living arrangements, with six married or de facto with no children / no children living at home, five participants were living alone, four married or in a de facto relationship with children at home and one person sharing with other adults.

Seven participants did not indicate their highest level of education, but of those that did, the sample were mostly highly educated, with seven participants indicating they had post graduate qualifications.

Participants had been impacted by six disaster events. Seven participants had been impacted by the Canterbury earthquakes (New Zealand), four by the 1967 Tasmanian bushfires (Australia), three by the 2009 Victorian “Black Saturday” fires (Australia) and the 2013 Tasman Peninsula bushfires (Australia) each, and one by Margaret River fires (Australia) and “Ash Wednesday” fires (Australia) each. One participant noted involvement with multiple disaster events.

5.4.1.1 Time point nominated for letter to self

Participants were able to choose what point in time they addressed their letter to self to (e.g. past, present, future self). Two participants wrote to their pre-disaster self, ten participants addressed their present day self, three to themselves shortly after the disaster event, and one to their future self. One participant wrote to a past self some years after the disaster event, at a specific life milestone where the impacts of the disaster had a new type of impact. Three participants addressed their submission to the researcher.

5.4.2 Range of conceptualisations of disaster impacts and recovery

The wide range of impacts experienced by participants was reflected in how life after the disaster event was described. For some participants the disruption to their life was significant but nonetheless contained. Others described the disaster experience as having profound far reaching impacts, permanently altering many aspects of their life. These deeper impacts were often felt in addition to practical ones, and resulted in a significant disruption to their worldview and assumptions for the future.

In this study, the range of responses reflecting on the degree of disruption from the disaster experience was stark. Differences in descriptions of the impact varied from one participant who assessed the impacts in terms of tangible loss:

We lost a few treasures, we were very lucky that the house was not 'totalled' ... the damage was measurable and fixable... no one was hurt.

to another who reflected on significant, all encompassing changes as a result of the disaster:

Your world will be turned upside down and you will never be the same person again.

Several participants described the impacts as resulting in profound and significant changes that reflected that their expectations of life and understanding of their place in the world had fundamentally changed as a result of their experience, while for others the effects were less profound.

One participant noted that at the time, the disaster event was a notable and memorable experience but didn't cause a significant change in their life:

My personal involvement was not something I felt I needed to talk about. Indeed, my family knew virtually nothing of what that involvement was... I felt no emotional "scars" from the ordeal, and although I reflected on the day from time to time, it was not something on which I dwelt.

Another described the tasks their family undertook to restore their lives after a fire destroyed their home at a time when they had virtually no social support available:

Within the next year we had bought a house, settled into school and work, and beyond continuing fear of smoky days, life became normal.

For those who described their recovery as having a strong focus on change, some described broad, general changes:

Your whole world will be different and your normal will no longer exist... But you will find a way to keep going and you will find a new you in other things. You will create a new normal and focus on things that are different.

While others noted specific changes that occurred in the aftermath of the disaster:

The next question I ask myself is 'have I recovered?' I've moved city, got divorced, started a new job, lost one future and started another one... I don't think that I understood that I wouldn't be the same.

One participant who described their life course being altered by a significant disaster experience in their childhood specifically addressed restoration perspectives, advising their past self to disregard those who advocated for a restoration focus to recovery:

Some people you meet along your journey will think 'recovery' means becoming 'as if it never happened' but as you grow older, you will know this is a narrow definition of recovery, and that you should not let anyone else define you.

While some participants were able to quantify the loss and quarantine the impacts to particular facets of their lives, others felt no part of their lives had been untouched by the impacts of the events. This range of impacts understandably affected how participants conceptualised recovery.

5.4.3 Changes to participants' world view as a result of the disaster experience

Despite this range of perspectives, participant indication that there had been a change to their world-view was not necessarily predicated on tangible losses still being experienced. Some participants who described minimal tangible personal losses experienced the disaster as fundamentally life altering. For others, despite significant tangible loss and disruption to their lives as a result of the disaster events, the disaster was not necessarily considered a catalyst for changes to their outlook on life. Two participants in particular reflected on this, and attributed

their ability to assimilate the tumultuousness of the disaster events into their lives as stemming from experience gained from significant life altering experiences which occurred prior to the disaster.

I think that it was also helpful in a way that the [disaster event], despite the significant effects on you, was still a pale reflection of the other life-shattering events that were happening to you at the time... You were already in the middle of learning that life just doesn't go to plan sometimes.

Previous life experience and prior experience of reassessing expectations of life and future seemed to provide these participants with a sense of perspective on the changes, and may have somewhat reduced their struggle to reconcile the experience and impacts of the disaster event.

For those participants whose worldviews were disrupted, time was needed to reflect on the deeper levels of impact. The short and long-term impacts and changes participants reflected on resonated at different levels. The short-term impacts described seemed to be generally tangible, more immediate, and observable, while the longer term changes described were more philosophical:

At first the changes that I'm talking about were subtle, many of us were just looking at the rebuilding phase, rather than the inner changes which are really the drivers for the new paradigm emerging over recent times.

It appeared that as time passed, some participants' reflections on the impacts changed and their meaning deepened.

5.5 Discussion

5.5.1 How disaster-affected people conceptualise recovery

Individuals with similar disaster exposure may respond to their experiences in a range of ways. It is well established that even with similar exposure to disasters, individuals will be impacted differently (Brewin et al., 2000; Enarson &

Fothergill, 2007; Fothergill et al., 1999; Howell, 2018; Howell & Elliott, 2018). It makes sense then that their conceptualisations of recovery will also differ.

When considering the range of views amongst disaster-affected people against the concepts of recovery as activity, restoration and change, it is worth noting that no participants in this research considered activity relating to recovery efforts as recovery. Activity focused definitions may be more helpfully considered to refer to 'recovery management'. This would avoid using emergency management processes as a proxy for lived experience. In addition, when considering disaster recovery as restoration or change, it is useful to bear in mind the complexity and multitude of impacts on disaster-affected individuals and communities. It is feasible that some parts of life disrupted by disasters may return to their pre-disaster status, while other parts may be forever unrecognisable to life before the disaster. Therefore, it may be more helpful to consider disaster recovery as a spectrum from full restoration to complete change. Disaster-affected individuals may position themselves anywhere along that spectrum, noting that their position will probably not remain static over time or across all facets of impact.

5.5.2 The importance of understanding the different conceptualisations of disaster recovery

For a number of reasons, it is important to understand that there are a range of conceptualisations of disaster recovery. First, is to ensure the suitability of recovery interventions. Second, is to better understand potential risks of aiming to restore communities to pre-disaster status, and the inherent inequity of assistance this may present. Third, is to assist in minimising tensions and stressors for disaster-affected people. Fourth, is to ensure that emerging research into disaster recovery can meaningfully build on previous work. These points are expanded on below.

5.5.2.1 Suitability of post-disaster interventions

Recovery interventions provided by government aid, reconstruction and social services are generally intended to support disaster-affected individuals and communities (Alesch et al., 2009; Australian Institute of Disaster Resilience, 2018; Leadbeater, 2013; Owen, 2018). Without being able to determine the needs and desired outcomes for those impacted i.e. restoration or change, interventions may be unsuitable or even counter productive. A common language is helpful for those impacted and those assisting to ensure that there is a shared understanding of the impacts and recovery goals.

5.5.2.2 Potential risks of restoration to pre-disaster status

If post-disaster support is focused solely on restoration to pre-disaster status, there is a risk of unintentionally reinforcing or exacerbating an inequitable pre-disaster status quo.

Deliberate and explicit attempts to ensure that disaster aid benefited people in positions of power prior to the disaster has been documented historically by Powers (2006). He points to examples in the United States such as the 1871 Chicago fires where assistance was deliberately made available only for those who could demonstrate they were experiencing a temporary set back as a result of the disaster rather than those who had experienced pre-disaster hardship. Similarly following the 1926 Mississippi floods, aid and rations were distributed to white plantation owners on behalf of black plantation workers who, instead of allocating them, often sold them on for a profit, while the national guard was brought in as part of the economic recovery efforts to prevent plantation workers from relocating (Powers, 2006).

While it would now be rare to see explicit statements of intent to restrict access to support for those experiencing pre-disaster disadvantage, increasingly there is evidence that inequity in post-disaster assistance continues today. Where there

is a focus of restoration to pre-disaster status, the bias of determining eligibility for aid has been found to benefit: home owners (compared to tenants or those experiencing homelessness) (Every & Richardson, 2017; Howell, 2018; Howell & Elliott, 2018; G. B. White, 2015); those who are educated (Howell & Elliott, 2018); those who are white (Fothergill et al., 1999; Howell & Elliott, 2018); those with nuclear family household composition (Aldrich, 2010c); those with English as their first language (Fothergill et al., 1999; G. B. White, 2015), and those who identify as heterosexual (Dominey-Howes et al., 2016; Gorman-Murray et al., 2014). Whether intentional or not, a hierarchy of worthy victimhood may be created through aid eligibility criteria which systematically favours some in the community over others.

By focusing on restoration to pre-disaster status without consideration for unintended consequences, existing disadvantage and inequality may be exacerbated through disaster aid and recovery assistance measures.

5.5.2.3 Reducing post-disaster stressors for those impacted

Despite the range of conceptualisations of recovery, there is not necessarily an understanding amongst disaster-affected people themselves of the breadth of assumptions held by others impacted by the same disaster. Without a way to discuss the range in conceptualisations and stressors amongst those impacted, tensions and divisions in post-disaster settings may be unnecessarily exacerbated at a household, neighbourhood and community level.

These contrasting approaches to conceptualisations of recovery were evident in community consultation and decision making in the proposed plans for the Christchurch Cathedral in New Zealand, which was significantly damaged in the February 2011 Canterbury earthquakes. While public opinion was dramatically split (and debate heated) about what to do with the cathedral, the consultation was informed by these different positions on restoration and change. Ultimately there was a decision to restore the cathedral with some modern modifications,

but a framework of restoration to change was at the heart of the debate (Anglican Life; Christchurch City Council, 2017).

5.5.2.4 Enhance disaster recovery research

Research into disaster recovery is increasing rapidly. Considering the dire predictions for more frequent and intense disasters, this is likely to continue. Much like the historical debate regarding disaster definitions, there may be no one correct answer to what disaster recovery is per se. In the absence of a consensus definition of disasters, Perry (2006) makes impassioned pleas on this note regarding the need for researchers to make their positions clear when publishing in order to prevent confusion and false conflict in the field of disaster research, which is equally relevant for disaster recovery.

5.5.3 Potential framework for further exploration regarding the differences in affected people's conceptualisation of recovery

Further work needs to be undertaken to better understand the factors which influence a range in views of recovery held by disaster-affected people. This research indicates that one factor as to whether disaster-impacted people view recovery as restoration or change as a desired or achievable outcome for recovery may have been whether their worldview was impacted by their experiences.

When undertaking the data analysis for this study, an abductive process was undertaken, whereby the researcher started by using an iterative inductive approach to data analysis and then looked to existing literature and theory as themes started to emerge (Charmaz, 2014; G. R. Gibbs, 2007). Cognitive schema theory emerged as an existing theory that had resonance with the themes presented by the participants. Cognitive schema theory refers to the way individuals cognitively organise information, and how they incorporate new information to their understanding of how the world works. Cognitive schema

theory is used across a range of disciplines, including psychology, neurology, computer science, business studies and political science. In psychological literature, cognitive schema theory is located within the category of social cognitive theory, a branch of psychological theory with a particular focus on the impact of trauma on the way individuals reconcile the new information a trauma experience presents (Brewin & Holmes, 2003). When exploring the range of impacts to worldviews as a result of disasters, cognitive schema theory may prove a useful tool to frame further exploration.

Drawing on cognitive schema theory, shattered assumptions theory posits that individuals possess a set of foundational assumptions underpinning their cognitive schemas, which go largely unchallenged on a day-to-day basis. Trauma shatters these everyday assumptions, leading to a sense of complete disorientation and threatens natural coping abilities (Janoff-Bulman, 1992).

Much of the psychology literature focusing on cognitive schema theory and shattered assumptions theory is based on research populations with clinically significant symptoms or diagnoses of psychopathology as a result of distressing experiences. Despite broad agreement that most people impacted by a disaster will not go on to develop a clinically diagnosable mental health disorder (D. A. Alexander, 2005b; Bisson & Lewis, 2009; Calvo et al., 2015; McNally et al., 2003; Neria & Sullivan, 2011; Priebe et al., 2011; G. J. Rubin et al., 2005; G. J. Rubin & Wessely, 2013), less focus has been given to sub-clinical populations who identify changes to their worldviews and assumptions without considering them to be fundamentally shattered.

Understanding whether people impacted by disaster are able to absorb or assimilate the new information they have gained into their pre-disaster understanding of their world, or whether their cognitive schema is forced to alter to accommodate the new experiences (and what factors contribute to this) will provide insights into why some people view disaster recovery as a path of

restoration while others see it as a deep and significant change to their lives. Better understanding of this will have implications for disaster recovery planning and interventions.

5.5.4 Limitations of this research

Limitations identified in this research include a small study sample size, which also represented a gender imbalance skewed toward older female participation. However, despite a small sample size, by aligning these study findings with existing theory and conceptual frameworks, these findings may be able to be elevated to a broader audience than this sample (Daly et al., 2007). The study eligibility criteria excluded people without sufficient confidence to participate in English due to pragmatic research design constraints. The researcher notes this limitation, and in future projects with capacity for a linguistically diverse research team or funding for interpretation and translation, these barriers could be overcome.

5.5.5 Conclusion

While still underdeveloped, the field of disaster recovery research is expanding. In debate regarding the conceptualisations of disaster recovery, the voices of those with lived experience have been largely absent. This paper identifies that those who are impacted by disasters experience them differently from each other, and that these differences then impact how they conceptualise recovery.

This research offers that disaster recovery can helpfully be considered to be on a spectrum ranging from restoration to pre-disaster status through to complete change. In being able to better understand how individuals come to these different views, cognitive schema theory may offer a useful theoretical framework for future enquiry. Cognitive schema theory is focused on exploring how people impacted by trauma reconcile new information with their existing worldviews.

Gaining a better understanding of how disaster-impacted people perceive what disaster recovery means and how those affected come to these conclusions, is worthy of further research considering the potential implications to ensure post-disaster interventions meet needs, ensure post-disaster interventions do not unintentionally exacerbate pre-disaster inequality and reduce stressors and tensions for those navigating the post-disaster environment.

Chapter 6 (Paper): Disaster recovery: What people consider helpful and unhelpful

6.1 Abstract

Disasters result in a wide range of interconnected primary and secondary impacts for those affected. While much of the existing research explores these impacts in isolation, those affected by disasters experience them simultaneously, often with compounding effects. This paper presents findings from a qualitative study using a constructivist approach, where twenty people who had been impacted by a range of disasters wrote a letter to themselves regarding what they considered helpful and unhelpful in their recovery. We found emergent themes of connection, perspective, “looking after yourself” and interactions characterised by flexibility, proactivity, and sensitivity were identified as helpful. Themes relating to a sense of uncontrolled loss of place, control and autonomy, and interactions with services that were perceived as bureaucratic, unresponsive and combative were viewed as unhelpful. We find that the mass trauma intervention principles identified by Hobfoll and colleagues (2007) provide a useful way to frame the participants’ experiences and we propose a potential additional dimension, for further examination and consideration, of kindness in the delivery of the principles.. The findings from this study offer practical examples of the mass trauma intervention principles in action.

6.2 Introduction

Disasters are highly disruptive, potentially traumatic events that result in a wide range of interconnected, compounding and cascading impacts (Alesch et al., 2009; Eyre, 2006; Hobfoll et al., 2007; Leadbeater, 2013; Nicholls, 2012; Whittle, Medd, Deeming, Kashefi, Mort, Twigger Ross, et al., 2010). The effects of disasters can take the form of primary stressors – that is, impacts that happen as a direct result of the disaster event, or secondary stressors, which can be considered to be impacts that are indirectly related to the hazard event. Secondary stressors may be entities in their own right, or they may be unresolved, persisting or exacerbated primary stressors (Lock et al., 2012).

Disaster recovery is the most under-researched component of disasters (Berke et al., 1993; Burton et al., 2011a; Nicholls & Healy, 2008; Olshansky, 2005; Peek et al., 2011; Phillips, 2009; C. B. Rubin, 2009; G. P. Smith & Wenger, 2007). It is now an emerging, multi-disciplinary field, which has grown significantly in recent decades, spurred on by landmark disaster events including September 11 (2001), the Indian Ocean tsunami (2004) and Hurricane Katrina (2005) (Tierney, 2007). As demonstrated in the next section, much of the existing research examines components of disaster recovery in isolation, largely driven by researchers' scholarly area of interest, funders and emergency management organisations; for example the psychological outcomes after disasters of disaster-affected populations (D. A. Alexander, 2005b; R. A. Bryant, 2009; Calvo et al., 2015; Forbes & Creamer, 2011; McFarlane et al., 1994; Neria & Sullivan, 2011; Norris, Friedman, Watson, et al., 2002; Priebe et al., 2011; G. J. Rubin et al., 2005; G. J. Rubin & Wessely, 2013) or the economic impacts of disasters (Baily, 2011; Deloitte Access Economics, 2016; Doyle & Noy, 2013; Hochrainer, 2009; Noy, 2009; Noy & Nualsri, 2011; Shabnam, 2014; Ulubaşoğlu & Beaini, 2019; Ulubaşoğlu et al., 2019; Zissimopoulos & Karoly, 2010). A single focused approach may fail to take into account the broad range of impacts for those affected by disasters, often simultaneously.

By encouraging participants to identify what they considered helpful and unhelpful after a disaster, this study was able to engage with the multiplicity of impacts for those affected, and identify thematic trends.

6.3 Background

A number of commonly experienced impacts to people who have been exposed to disasters have been documented in existing literature, briefly outlined below.

The mental health impacts of disasters, ranging from widely experienced but short lived distress (R. A. Bryant, 2009; Forbes & Creamer, 2011; Hobfoll et al., 2007; Lock et al., 2012; McFarlane et al., 1994), increase in prevalence of

psychopathology in disaster-affected populations when compared to the general population (Bisson & Lewis, 2009; R. A. Bryant et al., 2014; R. A. Bryant, Gibbs, et al., 2017; Hobfoll et al., 2007; Norris, Friedman, & Watson., 2002), and sub-clinical but persistent symptoms which negatively affect quality of life (Forbes & Creamer, 2011; Lock et al., 2012; Whittle et al., 2012), have all been well established in the existing literature.

The literature demonstrates that physical health can be affected in four broad ways after disasters. First, as a result of exposure to a hazard, resulting in death, injury or illness (Brackbill et al., 2006; International Federation of Red Cross Red Crescent, 2000; Lin et al., 2005; Schultz et al., 2005). Second, arising from poor living conditions in post-disaster environments, including exposure to debris and contamination, cramped or sub standard housing, increased exposure to violence, changes to hygiene routines and reduced access to nutritious food (Centre for Disease Control and Prevention, 2012; Kato et al., 2019; Kousky, 2016; McCurry, 2012; Schultz et al., 2005; Sety, 2012; J. T. Watson et al., 2007). Third, the psychosomatic complaints related to stress and other mental health impacts (Escobar et al., 1992; Ford, 1997; Holen, 1991; Leitch et al., 2009; McCurry, 2012; McFarlane et al., 1994; van den Berg et al., 2005; Zahran et al., 2013), and fourth, impaired access to health services (Kousky, 2016; McCurry, 2012; Mensah et al., 2005; Picou & Marshall, 2007; Rath et al., 2007; Zahran et al., 2013).

Changes to housing is a common impact experienced by people after a disaster (Levine et al., 2007; Peacock et al., 2007; Uscher-Pines, 2009). Damage or destruction to homes may lead to temporary or permanent relocation, multiple relocations, housing stock shortage and changes to housing affordability (Peacock et al., 2007; Peek et al., 2011; Quarantelli, 1995; Uscher-Pines, 2009; Walker et al., 2012; Whittle, Medd, Deeming, Kashefi, Mort, Walker, et al., 2010; Whittle et al., 2012). This may also impact on people not directly affected by the disaster, but who are later displaced because of increased competition for housing (Hersher & Benincasa, 2019; Howell & Elliott, 2018; Levine et al., 2007).

Interpersonal relationships have been demonstrated to be affected, both positively and negatively, by disasters. Disaster-affected people often turn to family and friends for assistance (Aldrich, 2010a, 2012a, 2012b; Drabek, 1969; Erickson, Drabek, Key, & Crowe, 1976), and local social connections may increase as a result of a disaster (Haney, 2018). However, the social bonds connecting people may also be impaired by disasters, either as a direct result of disaster experiences, such as relocation (L. Gibbs, Gallagher, et al., 2016), social deterioration (Norris, Baker, Murphy, & Kaniasty, 2005) or as an unintended consequence of post-disaster interventions (K. T. Erikson, 1976a). Family dynamics may be adversely impacted by disruption and stress (Peek et al., 2011), with family violence reported to increase after disasters (Enarson, 2006; Enarson et al., 2006; Parkinson, 2011; Parkinson & Zara, 2013; Sety, 2012).

The field of post-disaster financial and economic research is a growing area (Shabnam, 2014). While macroeconomic indicators demonstrate that overall disruption to measures such as gross domestic product is often short lived (Doyle & Noy, 2013), a number of researchers note that this masks the negative economic and financial impacts to individuals, households, particular sectors and regions (Baily, 2011; Doyle & Noy, 2013; Ulubaşoğlu & Beaini, 2019; Ulubaşoğlu et al., 2019; Zissimopoulos & Karoly, 2010). People who are likely to be especially at risk of negative economic impacts include women, renters, people who have to relocate and casual workers (Enarson, 2000, 2006; Enarson et al., 2006; Morrow, 1999; Ulubaşoğlu & Beaini, 2019).

This overview of impacts highlights the breadth of effects that people may experience as a consequence of disasters.

6.3.1 Barriers to accessing assistance

It is important to remember that disasters do not affect populations uniformly. People who experience personal, social and economic loss have consistently been shown to be the most devastated after disasters, while those who are able

to sustain their resources have the best chances to recover (Hobfoll et al., 2007). Existing literature indicates that the intersectionality of race, ethnicity and culture (Fothergill et al., 1999; Lambert, 2014; Maantay & Maroko, 2009; Sastry & Gregory, 2013; Spence et al., 2007), gender (Enarson, 2000, 2013a, 2013b; Enarson & Fothergill, 2007; Morrow, 1999; Parkinson & Zara, 2013; Peek & Fothergill, 2008; Sety, 2012; West & Orr, 2007; Whittaker, 2019; Whittaker et al., 2015; Zara & Parkinson, 2013; Zara et al., 2017), age (Cherry et al., 2009; Evans, 2010; Gorman-Murray et al., 2016; Kousky, 2016; Morrow, 1999; Ngo, 2001; Peek & Fothergill, 2008; Picou & Marshall, 2007), sexual orientation (Dominey-Howes et al., 2014, 2016, Gorman-Murray et al., 2014, 2016; McKinnon et al., 2017; Richards, 2010) and socio-economic status (Enarson, 2006; Evans, 2010; Fothergill et al., 1999; Fothergill & Peek, 2004; Morrow, 1999) are important factors in predicting the levels of pre-disaster preparedness, exposure to primary and secondary stressors and the types of public and private resources individuals are able to access to support their recovery. Services that are perceived as unresponsive to the needs of those impacted have also been demonstrated to be a source of significant secondary stress and an impediment to recovery (Whittle, Medd, Deeming, Kashefi, Mort, Twigger Ross, et al., 2010; Whittle et al., 2012).

6.3.2 Identified enablers for recovery

A wide range of factors and interventions have been identified to support resilience and recovery in people who experience a disaster. These include individual psychological characteristics (Brewin et al., 2000; McNally et al., 2003), high levels of social capital (Aldrich, 2011, 2012b, 2012a, 2017; Chamlee-Wright & Storr, 2009), transparent and relevant communication (Australian Red Cross, 2018; Eyre, 2006; McAllan et al., 2011; Nicholls & Healy, 2008; van Kessel, MacDougall, & Gibbs, 2015), and community-led recovery initiatives (Alesch et al., 2009; Cretney, 2016; Leadbeater, 2013; Owen, 2018; G. P. Smith & Wenger, 2007; Wills, 2013; Wilson, 2009). Additionally, the manner of the approach of support has been identified as important; flexible, well timed responses that are

perceived as being caring in nature have been reported as supporting resilience building in post-disaster environments (van Kessel et al., 2015).

In the absence of evidence based guidelines to direct post-disaster interventions, and recognising that clinical trials were unlikely to take place at the required scale in post-disaster settings, Hobfoll and colleagues (2007) developed expert consensus based, evidence-informed principles for intervention following mass trauma events. These authors do not focus on specific intervention models, though others have built on their original work to map or develop interventions based on these principles (Bisson et al., 2010; Grealey et al., 2010; Inter-Agency Standing Committee Taskforce on Mental Health and Psychosocial Support in Emergency Settings, 2008). Five principles are identified by the authors:

Promote a sense of safety: Disasters threaten peoples' sense of safety in a number of ways, resulting in psychological, cognitive, behavioural and relational issues. When safety is reintroduced, these responses can be expected to reduce over time (Hobfoll et al., 2007, p.286).

Promote calming: Some level of distress and hypervigilance is normal after a disaster, even healthy. However, this becomes problematic if it starts interfering with normal life rhythms and necessary tasks. Promoting calm is a way to help people reestablish order and resettle emotional reactions (Hobfoll et al., 2007, p. 289).

Promote self and collective efficacy: The importance of having a sense of control is well established in psychological literature. After a disaster, there is often a focus on what people can't do, and there can be an inclination to attribute issues after disasters to individual failures rather than circumstances. Promoting self and collective efficacy, including a sense that those impacted can cope, is helpful in promoting natural recovery processes (Hobfoll et al., 2007, p. 293).

Promote connectedness: Research regarding post-disaster interventions consistently finds that efforts to promote social support networks are effective. Social connections and relationships can be helpful for knowledge transfer,

accessing resources, problem solving, emotional support, opportunities to share experiences and normalising reactions (Hobfoll et al., 2007, p. 296).

Instilling hope: Those who remain optimistic after disasters are more likely to fare well than those who feel like “all is lost”. Promoting a sense of hope, that is, that positive future goals are possible, is a helpful part of post-disaster interventions (Hobfoll et al., 2007, p. 298).

These principles are evidence informed and have been used to guide interventions at individual, family and community levels (P. J. Watson, Brymer, & Bonanno, 2011), such as psychological first aid (Bisson & Lewis, 2009; Inter-Agency Standing Committee Taskforce on Mental Health and Psychosocial Support in Emergency Settings, 2008), public communications after mass trauma events (Brady, Randrianarisoa, & Richardson, 2018), post-disaster case management services and public health practices such as psycho-education (Grealey et al., 2010).

This paper reports on findings from a doctoral thesis exploring the topic “what do people who have experienced a disaster consider to be helpful and unhelpful when recovering?”

6.4 Methods

6.4.1 Theoretical framework and research approach

The research was approached from a constructivist perspective, using an interpretation that individuals are situated within a cultural and social context, and construct meaning as part of an ongoing dynamic process between internal and external factors (Crotty, 1998). The approach taken was qualitative; that is research that aims to understand the meaning of human action and experiences (Schwandt, 2011), focusing on qualities and features of data rather than measurement (F. Erikson, 2011).

6.4.2 Study design

Disasters are, by their nature, potentially traumatic events which can impact all facets of life for those affected, and create chaotic, disorienting environments with significant secondary stressors. Sensitively designed studies are acknowledged as important for research topics which may be distressing (Dyregrov, 2004; L. Gibbs et al., 2018; Newman & Kaloupek, 2004; Parslow et al., 2000). Ethical and pragmatic considerations identified for this study included 1) a broad geographic spread of participants, 2) researcher positionality as a senior disaster recovery practitioner employed by the Australian Red Cross, 3) ensuring that a broad range of impacts could be explored by participants, rather than pre-identifying topics of interest, and 4) consideration of research fatigue in disaster-affected communities.

To address these considerations an unusual data collection method was developed. Participants who had experienced a disaster event were invited to write a letter to themselves addressing the single question “What did you find most helpful and unhelpful after the disaster/s you experienced?” They were then asked to send the letter to the researcher as an email, voice recording or by postal mail. A second stage of the research regarding participant experience of the research was then undertaken by electronic survey. Discussion of this phase of the research is outside the scope of this paper.

6.4.3 Selection criteria

Individuals who had experienced a disaster event at least two years prior were eligible to participate in the research. Participants were required to be over 18 years of age and to live in Australia or New Zealand and able to participate in English.

6.4.4 Recruitment process

Multiple sampling approaches were used to recruit participants for the first phase of the research. A purposive criterion approach, used here to reference a sampling approach where individuals who are especially knowledgeable or have experience with particular phenomenon and meet set criterion, are invited to participate (Palinkas et al., 2015; Palys, 2008) was used, by approaching people with known, lived experiences of disasters. Snowball sampling was used by asking key informants (including leaders from disaster-affected communities, people with known lived experience of disasters and recovery workers) to share information about the project with their networks. Convenience sampling was also undertaken by promoting the research project through social media. In addition, the researcher developed a website where information about the research project was presented in written text and video format. Study information postcards were distributed at some disaster related community events and to community leaders upon request.

6.4.5 Analysis approach

A constructivist grounded theory approach to analysis was undertaken, guided by the work of Charmaz (Charmaz, 2011, 2014). Constructivist grounded theory openly acknowledges researcher bias and notes that subjectivity is inherent in data analysis. Data analysis commenced at the time the first letter was received and was conducted concurrently with data collection. An abductive process was undertaken, starting with an inductive approach to data analysis and then looking to existing literature and theory to “check hunches” (G. R. Gibbs, 2007) before returning to data analysis, and then repeating this process. Charmaz refers to abductive approaches as an important feature of grounded theory (Charmaz, 2014). Literature regarding the mass trauma intervention principles (Hobfoll et al., 2007) was drawn on at this stage as the emergent themes had resonance with this literature, before returning to the data.

In line with the constructivist grounded theory approach advocated for by Charmaz, a line-by-line coding approach with a focus on participants' actions was initially undertaken. As more letters were received, newer letters were analysed using line-by-line coding and by testing the more focused codes which had emerged from the earlier letters. A process of memo writing to further develop the ideas emergent in the coding was then undertaken. Charmaz (2008) notes that while memos are sometimes regarded as a procedural step between coding and draft writing in grounded theory research, they can be much more meaningful to researchers as a way of making sense of their data. Memos can give researchers an opportunity to learn more about the data and aid in the development of theory, rather than be a mere descriptive summary of the codes identified.

6.4.6 Reporting

No names of participants, pseudonyms or codes were used to refer to participants and concerted efforts were made to remove description markers where possible in participant quotes. While it is acknowledged that context may be reduced through this approach, this was weighed against the other considerations relating to anonymity and reporting, including potential mistaken identity and de-humanisation of participants through codes (Saunders et al., 2015). Further consideration included the anonymisation of location (Clark, 2006), removal of gender identifiers, and disaster hazards.

6.4.7 Ethics approval

This study was approved by the University of Melbourne Human Research Ethics Committee (ID: 1543703.1).

6.5 Findings

Participants reflected on a wide range of relationships, interactions, perspectives and experiences, which they considered to be helpful and unhelpful when recovering from a disaster. Below, the sample characteristics are reported and the findings are outlined thematically.

6.5.1 Sample characteristics

Twenty people impacted by disasters participated in the first stage of the study by submitting a letter. Fourteen of the participants were female, six male. Six participants did not indicate their age on their demographic information sheet. Of those who provided their age, the youngest participant was 29 years old and the oldest was 89 years old at the time of participation. The mean age of the participants who provided their age was 52.4 years. All participants noted that English was the language used at home. Sixteen participants provided information about their living arrangements, with six married or de facto with no children / no children living at home, five participants were living alone, four married or in a de facto relationship with children at home and one person sharing with other adults. Seven participants did not indicate their highest level of education, but of those that did, the sample were mostly highly educated, with seven participants indicating they had post graduate qualifications.

Participants had been impacted by six disaster events. Seven participants had been impacted by the 2010/2011 Canterbury earthquakes (New Zealand), four by the 1967 Tasmanian bushfires (Australia), three by the 2009 “Black Saturday” fires (Australia) and the 2013 Tasman Peninsula bushfires (Australia) each, and one by Margaret River fires (Australia) and “Ash Wednesday” (Australia) each. One participant noted involvement with multiple disaster events.

6.5.1.1 *Time point nominated for letter to self*

Participants were able to choose what point in time they addressed their letter to self to (e.g. past, present, future self). Two participants wrote to their pre-disaster self, ten participants addressed their present day self, three to themselves shortly after the disaster event, and one to their future self. One participant wrote to a past self some years after the disaster event, at a specific life milestone where the impacts of the disaster had a new type of impact. Three participants addressed their submission to the researcher.

6.5.2 Connection is helpful

Participants wrote about the different types of connections they considered helpful after experiencing a disaster. Some referred to direct relationships with others, while some participants described the benefits of feeling connected to something bigger, notably a broader sense of community and humanity.

6.5.2.1 *Connecting with humanity: Kind and helpful*

A number of participants identified that feeling helpful to others who had been impacted by the same disaster, and opportunities to demonstrate and witness kindness were positive experiences in the aftermath of the disaster:

...witnessing the care amongst people was heart moving.
Watching people do what they do... a builder with lots of little kids in tow 'rebuilding [town name]' with pieces of timber lying around, taking the time with those little vulnerable ones. And the guy I like to think of as the dog whisperer making sure that those who had done a runner were being fed and stroked back lovingly out of their fear.

These participants indicated that having opportunities to help others made them feel useful and purposeful, and as though they were able to meaningfully engage with the post-disaster issues around them without necessarily being the focus:

Giving helped me. I contacted the people I knew who had lost their homes, asking, 'What was the thing they wanted most that wasn't a necessity?'

For participants who had been recipients of support, having the opportunity to be of assistance to others was also expressed as an empowering experience and helped make sense of what had happened:

You will come to understand that those who came to help did their best in difficult circumstances. You will choose to serve your community and return the kindness shown to you.

Where participants reflected to themselves about what they would do differently if faced with the same situation again, making more effort (where possible) to help others impacted was identified.

For those who received or witnessed acts of interpersonal kindness the observations made were often effusive and joyful:

I am ever thankful the [disaster event] gave me the opportunity to witness human nature at their best – it has strengthened my trust and belief in each other – a window into what we are capable of if we choose.

Some participants reflected that witnessing kind acts and well-intended help offered by others, as well as having an opportunity to do this for others themselves gave a sense of connection, closeness and humanity. Despite such terrifying and disorienting events having occurred, there was a high quality human connection that not only survived the upheaval of the disaster but became more noticeable and valued as a result of the upheaval.

6.5.2.2 Connecting with others: Finding the people who “get it”

Connecting with people who made participants feel understood was identified throughout the letters as incredibly helpful and important. In some cases, this was reported as connecting with those around them, where they derived a sense of collective understanding and strength:

The best thing I can advise you to do early on is make contact with other people in the same situation. Talking with other people who can identify and offer advice and support is vital while you go through this process. Don't wait for the people in authority to do the right thing, band together and be strong and take charge. Other people are also bewildered and lost and by communicating and supporting each other you can make this process less stressful at times.

For some participants, connecting with people who had shared particular experiences was important and powerful, especially at a time where they felt like parts of their experience were invalidated by others:

A few of us who had lost our houses got together and formed our own group we called ourselves [name of group]. We all met once a month and shared food. This was the best therapy for us, especially the men who are typical country men who tended to bottle their feelings up, together they could just cry or share their emotions. Sometimes we'd laugh at some stupid object we might have taken in our rush. I think the social workers should take this idea on board, I know they kept saying we were all affected, but I'm sorry we were all affected at very different levels. We would not have minded them having a group for those who still had their homes and were going through a lot of guilt.

Three participants, who also undertook a professional recovery role after the disaster they were personally impacted by, identified the importance of connecting with others who had previously worked in the disaster recovery field:

Having people who have worked in other recovery contexts visit and walk alongside you, share their experiences and help you look ahead is so helpful. They tell you to take it a bit easy, look after yourself. You struggle to put it into practice sometimes but you remember the sentiment.

Participants who identified connecting with those who "got it" as important, reported valuing these connections as a way to feel less isolated and disoriented, to make sense of their experience and to draw a sense of strength and solidarity at times when they were feeling overwhelmed and depleted.

6.5.3 It's all about the approach

An emergent theme was the focus from participants on the *approach* taken after the disaster, rather than the *outcomes* or *outputs*. Participants valued proactive, empathic, human-centred approaches taken by others and also valued these qualities in themselves.

6.5.3.1 *Proactivity*

Proactive behavior emerged as a quality identified as being helpful, both in participants' own actions and from sources of support (both formal and informal). A number of participants noted that initially after the disaster, they experienced a sense of disorientation and feeling as though they should wait for someone "in charge" to tell them what to do. One participant in particular commented on how liberating it felt when it occurred to them and those around them that this was not going to happen:

I was fascinated by the self organising nature when all the rules and systems were absent... We gave ourselves permission – we didn't wait to be told we could do things.

One participant reported that proactively seeking support from family members, something they had never done before the disaster, had a helpful impact on their recovery. While noting that the assistance from family was not without challenges, in their letter they congratulate themselves for proactively taking that step:

You're going to feel guilty about there being less time, energy and patience for the kids. You haven't had any extended family support before now, now's the time to get some. Having them involved won't be without stress, but when weighing the pros and cons, it will help more than hinder. The family that aren't here aren't going to understand, all the more reason to have them involved because they won't get it until they experience it.

A number of participants identified proactive actions from service providers as helpful. This included services who identified themselves to those affected, offered relevant, flexible support, and regularly provided updates or support without needing to be followed up:

Ha!! they made contact with me, how accessible was that!!!
offering everything that mattered - A point of contact,
accessibility, feeling of being connected to something and
someone, they offered the knowledge of steps to take to
move on. They had their eye on me, what a wonderful
feeling that was to have someone just watching your back
and help to monitor my needs with such care.

Proactive offers of relevant, timely help from informal and formal supports were appreciated by participants, even simple gestures such as a neighbour checking in on them, or a service provider following up on a matter unprompted. Where participants felt proactive in their own behavior, it was described as empowering and as though they were able to assert some control over their own lives.

6.5.3.2 Service characteristics

Government departments, companies and organisations that provided support and services after the various disasters were identified by participants as being both helpful and a significant cause of secondary stress. While a range of service provisions were identified as helpful, including grants that addressed community identified needs, untied financial aid, financial advice, legal services, psychological services and case management, participants reinforced that it was mostly the *manner* in which these services were provided that was crucial:

For me, it was the individual service and care given, as I
felt they all respected my privacy and cared for my well
being.

Having a proactive but flexible approach to the support offered was identified as important and helpful, as were services that pivoted to respond to needs that communities and individuals identified as important to them.

Organisations and government representatives who participants perceived had listened to the issues raised by those impacted, and were genuinely interested in supporting the wellbeing of those affected and offered flexibility in their approach, were considered helpful:

The [name of philanthropic organisation] was fantastic. They came and heard from people in [impacted location] what our needs were – how they varied from moment to moment in those early days – too difficult to put in a funding application – by the time the money came through, that need probably would have passed and a resulting issue would have arisen from the lack of immediate attention. [Name of philanthropic organisation] heard us. They gave us untagged funds immediately. Yes we had to account for how we spent it but this did two things – it helped us solve issues where money was needed for a particular task, but it also said loud and clear “we trust you, we want to help you on your terms”. That loving expression still brings tears to my eyes.

Services that offered a key point of contact and those that worked to ensure a smooth transition between service providers were also highly regarded. Feeling respected, listened to, and as though the services “got it”, were all seen as important and helpful.

In contrast, there were some services that participants considered not only to be unhelpful, but also to be direct secondary stressors, which caused considerable distress and frustration compounding the existing stress for participants. As with the services that were considered helpful, services that were considered

unhelpful were often described in terms of their characteristics rather than their service offering per se, although dealing with builders, insurance claims and government processes featured highly as services regarded as stressful. Unhelpful services featured characteristics such as being highly bureaucratic or overly complex, and included services that were unresponsive, and required tedious follow up processes.

Some of the most distressing characteristics identified by participants were where they felt the company, government service or organization they were dealing with had nefarious motives. This occurred where participants felt services were intentionally trying to wear individuals down so they would give up requesting a service, in situations where an individual's rights or entitlements were going unrecognised or were unreasonably challenged, or where organisations were perceived to be deliberately making life harder for the participants to reduce the organisation's workload. For participants who felt like the impacts of the disaster were particularly pervasive, and were already exhausted, this was described as bitter betrayal, combative and malevolent:

Be careful of the agencies funded by the very people who are screwing with your lives like [named statutory authority], your Insurance Company and other government funded things. Their main objective is to wear you down and not pay what you are entitled to. The best help you can get in the process is legal help. Don't delay waiting for the various bodies to come to the party, they won't!! Get a good lawyer early on and fight for your rights from the very beginning instead of naively waiting for the right thing to happen.

Another participant wrote of the exhausting, energy-sapping experience of dealing with companies that did not act in good faith:

When it comes to repairing your home, know it will take forever, focus on what you can control and determine what is worth the battle – what to let go and what to sink

your energy into. It would've been helpful to have had reliable tradies on the job – that turned up on time, took pride in their workmanship and treated your home with respect. But you can't choose your repairers and you'll end up with muppets who stretch the repairs and repairs of their botched repairs, over five long years. You can't control this and you should know from experience that energy spent chasing and haranguing them is wasted.

For these participants, a sense of injustice stemming from the organisations not meeting what they considered to be reasonable expectations of service delivery and professionalism was infuriating, time consuming, demoralising and exhausting.

For participants who felt like the impacts of the disaster were more contained, they advised themselves to try to remain detached and professional when interacting with services:

Ultimately, standing our ground and trusting our insurers professionalism minimised the anxiety... remember that your insurer has a job to do for you. We paid for a service and insisted that service was delivered.

The ability for organisations to help or hinder the recovery experience was observed, through analysis of the letters, to be a particularly passionate issue for participants. Services perceived as helpful were considered to ease the burden of disaster-related stress beyond the direct service they were providing, and serve as a point of connection and reassurance. Services perceived to be unhelpful were described as intensely distressing, and in some instances, worse than the disaster event itself.

6.5.4 Looking after yourself

An emergent theme from a number of participants was the importance of prioritising their own wellbeing. This was described in three main ways by

participants – doing things for pleasure, being kinder to themselves and avoiding things they thought would harm them.

6.5.4.1 Doing things for pleasure

Participants reported that taking part in activities with a primary focus of pleasure and leisure was disrupted after the disaster. Some participants identified that taking time to do things they enjoyed, especially activities that were unrelated to the disaster, was helpful. A number of participants wrote about difficulty in prioritising these activities early on. When they were able to ‘rediscover’ them later, it felt good:

You will find your creative side and you will write again
and you will paint again and you will understand yourself
better than you did before.

One participant in particular noted to themselves that finding ways to re-establish their social activities was a path to begin engaging with their “new” post-disaster life. They reflected that they had probably resisted social activities after the disaster event because so many of the things that had brought them pleasure in their prior life were no longer available to them. Avoiding engaging with pleasure and leisure based activities became a way to avoid confronting this loss:

It would be helpful if you were more honest with yourself
about where you are taking the easy option, and
disengaging from parts of your new life and what parts of
it truly contain no choices. By all means, feel pissed off
about the latter but act on the former sooner. The city is
closed and the housing shortage means that the friends
who remain mostly live in far flung locations. Parties,
potluck dinners and hanging out become more difficult.
But there are other options, and it takes a while but you’ll
adjust to new ways of socialising and having fun.

Undertaking activities for enjoyment had multiple benefits, including achievement, catharsis, social engagement and health:

Helpful – achieving goals unrelated to the [disaster event]!
For me, exercise and getting fitter, and running a half marathon (!) has given me an enormous sense of achievement over these last few years. It's a goal that's been totally separate to do with the [disaster event]. And exercise has probably had some other benefits as well – so they say anyway!

Despite difficulties identified in finding time and energy to do things just for fun, when participants were able to achieve this, it was seen as helpful to their recovery and sense of wellbeing.

6.5.4.2 Being kind to yourself

Descriptions of the overwhelming, grueling and relentless nature of the post-disaster environment featured in most of the letters from participants. These included challenges such as securing basic necessities such as toilets and running water, battles for housing repairs and insurance which dragged on for years, confronting changes to the external environment and landscape, challenges socialising because of time pressures and relocation, and the tension of being around others who were also stressed were identified in the data. Reflections on living in the post-disaster environment were characterised as time intensive, energy sapping and pervasive for many of the participants.

When addressing themselves in their letters, a number of participants advised that it would be helpful to be kinder to themselves. This involved slowing down, resting where they could, and readjusting expectations of themselves:

Change your expectations of yourself. Be kind to yourself.
It doesn't all have to be done or done right now, but it will feel like it does. You'll feel this need to just get on top of things so you can enjoy life again – girl that ain't going to

happen! It will take an inordinate amount of time and no amount of effort will change that. I know you're hard on yourself and your confidence will be knocked, but it helps to know that it doesn't make you a less capable person to feel like everything is too much, to drop the ball sometimes, or to feel like you're letting people down. Change your expectations and know it's not you – it's the load you're facing on every front.

The participants who encouraged self-kindness all noted how hard this was to enact. The demands of their busy lives seemed so urgent and overwhelming that it was difficult to slow down. When reflecting on the experience and providing self-directed advice, the participants counseled themselves that the relentlessness of the demands would not slow down for some years after the disaster, so the best option would have been to reassess their expectations of what they thought they could achieve, conserve energy where possible and be gentler with themselves rather than pushing through for such a protracted period of time.

6.5.4.3 Purposeful avoidant behaviour

Some participants gave themselves directive, sage advice in their letters about avoiding things they thought would distress them. This included not dwelling on the horror of things they had witnessed in the disaster event and deliberately avoiding distressing images:

In the years that follow it is helpful to hold on to only a few moments from that day and leave the rest... Let some manageable pieces of that day tell you something about yourself and leave the rest.

You wisely disassociated yourself from those images as you knew they would stick in your memory in an unhelpful way.

Another advised themselves to avoid groups of people in their community who were overly negative or bitter, noting in hindsight that it was distracting:

There was a case for attributing blame and seeking compensation. Not joining the 'posses' allowed us to focus on the recovery plan.

These participants noted that decisions to avoid this distress had come from an internal instinct, which they reflected had served them well, rather than external professional advice.

6.5.5 Perspective

One theme identified from participant responses was that the way recovery issues were framed, either internally by participants or from external sources, often shaped whether these issues were perceived as helpful or unhelpful.

6.5.5.1 Framing the disaster as a catalyst for positive change

Being able to simultaneously acknowledge the trauma, upheaval and loss caused by the disaster while also being able to frame the events as a catalyst for significant positive change was helpful for some participants. These participants were able to see both negative and positive outcomes of the disaster without seeing them as mutually exclusive. Rather, these participants identified that, despite terrible events, the disaster had also served as a catalyst for opportunities which probably could not have occurred if the disaster had not happened.

Opportunities that arose from experiencing a disaster were vividly described by some participants in their letters. Some identified the profound changes as positive opportunities for personal growth:

Some of the changes are opportunities that make you wonder at your good fortune.

I was in a learning framework beyond my wildest dreams.

Participants also identified the positive long-term ramifications that these opportunities afforded them well after the disaster:

It was thoughts from other people that made the process of reconstruction and recovery quite exceptional. It's one of those things that you can never know before how generous people can be and I'm still somewhat embarrassed in terms of the way I've benefited from that extraordinary experience.

One participant viewed the disaster as a catalyst for much broader social paradigm changes within their community:

I want to reflect with you how the [disaster event] acted as a catalyst for the directions we chose to take. How important those wake up jolts were for us – difficult and challenging as they were – they certainly shook us out of our lethargy and opened our eyes to what needed to happen. At first the changes I'm talking about were subtle, many of us were just looking at the rebuilding phase, rather than the inner changes which are really the drivers for the new paradigm emerging over recent times.

This participant noted that the disaster had exposed a number of underlying assumptions within their community which were disproven during the disaster, such as the assumption that emergency services would be able to meet their needs. They also noted that the post-disaster setting had exposed some community members to issues they had not previously been attuned to, such as food and housing security issues experienced by others who lived nearby.

Disaster events serving as opportunities for positive change were not limited to personal or community growth. One of the recovery workers noted that there was a window for innovation and dynamism within their organisation directly after the disaster that would not normally be present in bureaucratic service organisations:

Understanding that the risk threshold changes, early on there is much greater opportunity for innovation and big moves and this decreases over time as business as usual reasserts its grip.

The theme of 'disaster event as catalyst for positive change' was not present for all participants, but for those who took this view, it was a significant and beneficial part of their post-disaster experience.

6.5.5.2 Validation of the enormity of the event

External validation of the significance of the disaster event was identified as important for some participants. They described it as helping them justify why their lives felt so different compared with life before the disaster. Seemingly counter intuitively, the scale of the destruction and upheaval seemed to bring some participants a level of reassurance and calmness:

We were surreally taking comfort from the magnitude and awfulness of the damage.

...it is incomprehensible. So much happening at once that, amongst it, you feel almost calm and untouchable.

One participant noted to themselves that, in some ways, the chaos and upheaval of the first two years felt easier than the years that followed because life was so clearly not normal in the early stages:

Be gentle with yourself in the first year or two years of recovery ahead of you. In many ways, this will be the easiest stage because everything is so far from normal, you can still see the mismatch.

The obviousness of the damage, destruction, loss and change seemed helpful to these participants, possibly because the discrepancies between post-disaster life and pre-disaster life were so evident to them and others that the magnitude of the event easily explained the abnormality and disorienting nature of the situation they were now experiencing.

6.5.6 Uncontrolled loss

One theme which emerged from the data, relating to unhelpful experiences after a disaster, centred on the concept of uncontrolled loss. Participants identified external and internal types of loss, including loss of place and relationships, and a loss of sense of control and autonomy in their own lives.

6.5.6.1 *Disruption to place and relationships*

A number of participants noted that one of the ongoing issues to manage after the disaster they experienced was the disruptions to their known landscapes including the loss of places they valued. They noted their relationships and routines were impacted as a result of the changes to place.

The loss of access to place occurred in both the public and private realm. Participants described feeling disconnected from their homes, in a variety of ways:

Your property will not feel like your own, your life will not feel like your own.

The flat you love and feel an unjustified sense of ownership over is damaged, fixed and sold out from under you.

Once we rebuilt it felt like we were in someone else's house. We felt like we couldn't leave anything out of place...

Feeling a constant burden from housing damage and repair requirements also impacted the ability to feel like home was a haven away from the other effects of the disaster:

It's likely you'll run out of energy and sign off repairs, later wishing you hadn't because you have to live with them or

pay for fixes... How to know when to fight and when to fold?

Outside their homes, participants described the confronting changes to their landscape, whether urban or rural as a source of stress to be managed on a day-to-day basis:

You will struggle with the physical scars of where you live
and you will struggle with things that are built around you.

Some participants directly connected the damage to the environment and infrastructure to loss of their routines and relationships, lamenting the unwanted changes to the routines and social connections they valued and missed:

Other changes begin to pull apart the life you've carefully
and proudly constructed. You will come to resent and
bemoan these changes. The [geographic area] you had
succeeded in knowing all the corners of, reaching seminal
milestones within and calling home, is broken and locked
away from you. Close friends share your neighbourhood,
making spontaneous hang outs and borrowing cups of
milk (things you've dreamed of since growing up in the
country where everyone seemed distant), but on losing
their homes and jobs move to new cities.

Changes to friends' and families' housing situations and the destruction of social venues resulted in relationship disruptions. Not only did participants have to travel further to connect in a period where demands on energy and time were already heightened, but venues which had facilitated these interactions were also inaccessible:

You will struggle to go to social events and you will isolate
yourself from the community... Life will be different for
you where you live.

These disruptions to place served as long term, ongoing reminders regarding the impacts of the disaster, and were a source of significant secondary stress for many participants.

6.5.6.2 Loss of agency and control

A central, recurrent theme that emerged from a number of participants' letters was how prevalent the sense of powerlessness and reduced autonomy was post-disaster and how unhelpful this was for their recovery. For some participants this led to a sense that their lives no longer truly belonged to them:

You will no longer have control over what you do, who you speak to and how you feel... You won't be asked what you want; you will be told what you need.

Participants who described a reduced sense of autonomy and control linked this to three types of experiences in particular. The first was the uncontrollable nature of the impacts of the disaster:

You respond by pushing this part of your life to the side.
Here you have little agency over the effects of the [disaster event].

The second was feeling as though they were not being listened to, and having to fight for their perspectives to be heard by others:

There will be times you will feel so frustrated that you want to explode. When you try to say how it is but no one listens.

The third was feeling as though others were acting as barriers, preventing them from taking control of decision-making or action, including government agencies, developers, landlords, not for profit organisations and insurance companies. This was linked with a sense of powerlessness, frustration and being defeated:

I guess I would never have imagined that almost 5 years after the [disaster event] that you would still be sitting in your damaged home in the exact same place you were 5 years ago. I would have liked to be able to tell you that things would have changed, that your home would be sorted and that your lives weren't all about the [disaster] still. I am sorry you are still fighting to get your most basic

rights recognised, I am sorry that you and your family are still in the exact same place you were 5 years ago.

For participants who reflected on a reduced sense of control and agency over their lives, the experience was described as significantly deflating, demoralising and frustrating.

6.6 Discussion

This study examined what people impacted by disasters considered to be helpful and unhelpful in their recovery. Participants identified aspects such as connection, proactive approaches, helpful perspectives and positive framing of the experience as helpful. Also helpful were services characterised by people-centred, proactive and flexible approaches. Uncontrolled loss, including loss of place and sense of control, and services perceived as unresponsive, bureaucratic or combative, were all identified as unhelpful. The results from the data indicate that while some participants considered the primary stressors from disasters (for example destruction and loss of place) as unhelpful in their recovery, most of the stressors identified were secondary to the disaster. Secondary stressors can be considered to be unresolved, persisting or exacerbated primary stressors, or entities in their own right (Lock et al., 2012). This is resonant with previous studies which identify the post-disaster recovery process as a process in its own right; a phenomena linked to the actual disaster event but also separate (Alesch et al., 2009; K. T. Erikson, 1976a, 2014; Whittle, Medd, Deeming, Kashefi, Mort, Twigger Ross, et al., 2010; Whittle et al., 2012). Disaster sociologist Erikson argues this when he says:

...trauma in that sense is not seen as a reaction to the horrors of the present... a loss of place, a loss of community, a loss of kin and neighbours – literally and figuratively, of being displaced and treated like bits of flotsam cast up on some distant beach, caught up in the demeaning and humiliating ineptness of FEMA and other agencies brought along to help. These are called...

aftermaths to the disaster. But to most sociologists at least... these are not really aftermaths, they are, if there is such a word, they're the 'maths'. They are the disaster, they are part of a continuing catastrophe (K. T. Erikson, 2014).

Many of the things identified by participants as helpful and unhelpful after disasters can be framed against the mass trauma intervention principles identified by Hobfoll and colleagues (Hobfoll et al., 2007). The mass trauma intervention principles of safety, calm, connection, hope and self, and collective efficacy are evidence informed principles, designed to incorporate the findings of a range of studies regarding trauma reactions and interventions (Hobfoll et al., 2007). While the principles are high level and do not speak to a specific mode or model of intervention, they usefully have a broad level of application.

The findings from this study regarding what disaster-affected people consider helpful and unhelpful in their recovery can be viewed as the practical application (or absence of) these mass trauma intervention principles. The principles provide a way to organise the themes identified by participants, and in turn these findings demonstrate real world examples of how actions guided by principles can support those affected by disasters. Interestingly, a number of the things identified by participants could be linked to more than one of the principles. For example, where participants identified a connection with others and to a broader sense of humanity, the mass trauma intervention principles of connection, hope, and self and collective efficacy can be used to explain the benefits participants noted. Taking care of oneself can be considered practical actions in line with the benefits outlined in the calming and self-efficacy principles. The cognitive processes of reframing the experience with helpful perspectives described by some participants can be considered to reflect the principles of hope, safety and self-efficacy.

By the same argument, where participants identified unhelpful things that acted as barriers to positive or natural recovery these could be explained as a failure to enact the mass trauma intervention principles. Services that failed to provide support in a humanistic, person-centred manner, or exacerbated stressors through complex or bureaucratic processes (Whittle et al., 2012) or by acting in ways perceived as malevolent, overall failed to promote a sense of safety, hope, calming, connection, and self or collective efficacy. Indeed, while presumably unintended, interactions with these services resulted in participants feeling more threatened, aroused, isolated, hopeless or defeated. Similarly, where participants described a sense of loss of place, relationships, agency and control, they were describing a lack of connection, hope, calming, safety and self-efficacy.

One characteristic that participants identified as helpful, both explicitly and implicitly in their letters, was kindness. This took many forms. For some participants it was through feeling listened to and feeling that others were responsive to the needs they had identified. For others, it was through the nature of the interactions they had with services and community members where they witnessed or were the beneficiaries of acts of kindness. For some, the absence of kindness was described in interactions they perceived as devoid of empathy and humanity, where a harshness of indifference or combativeness was felt. This is resonant with findings from other research which indicated that approaches and processes perceived as caring in nature were found to be important in resilience building after disasters, and in addition perceived inaction by others was interpreted as an absence of caring (van Kessel et al., 2015). Kindness can be considered as the quality of being friendly, generous and considerate (Kind, 2019), and has an ethical dimension. While kindness is not identified as a mass trauma intervention principle, it may be helpful to consider it as a manner with which these principles can be enacted; a tone to strive for to enhance the helpfulness of post-disaster interventions.

The findings from this study identify practical links between the theory underpinning the mass trauma intervention principles and the practical

consequences for those affected by disasters. Emergent themes from the data suggest that a practical application of the principles might include cognitive approaches (such as reframing perspectives), and emotional dimensions (such as kindness and empathy) being linked to connection, hope and collective efficacy. It also indicates the importance of behavioural components such as proactive actions being important and helpful after disasters.

These findings reinforce the usefulness of the mass trauma intervention principles in post-disaster settings and demonstrate their versatility and applicability in practice, both by service providers and community members. Additionally, the principles can be considered as helpful guidance for recovery planning and post-disaster service delivery, as well as for people who feel compelled to try to help others after disasters in informal ways.

6.6.1.1 Strengths and limitations

A strength of this study was the inclusion of a range of perspectives from people who experienced different hazards and represented a range of age, locations and circumstances. The constructivist approach that underpinned the study was an appropriate fit, highlighting the rich interplay between individuals and their environment. Limitations of this study included a small sample size, which also represented a gender imbalance skewed toward older female participation. However, despite a small sample size the alignment of these study findings to existing theory and conceptual frameworks may mean these findings may could be elevated to a broader audience than this sample (Daly et al., 2007). The eligibility criteria excluded people without sufficient confidence to participate in English, for pragmatic research design constraints. The researcher notes this limitation, and in future projects with capacity for a linguistically diverse research team or funding for interpretation and translation, these barriers could be overcome.

6.7 Conclusion

Participants identified a number of experiences, interactions and interventions they considered to be helpful and unhelpful in their recovery from disaster. These can be framed by Hobfoll and colleagues (2007) mass trauma intervention principles of safety, calm, hope, connection and self and collective efficacy. Additionally, participants valued kindness in the approach undertaken to enact these principles.

This study supports the premise that where services are able to act in line with these principles, the positive impact they have can extend well beyond the direct service they provide. The opposite, however, is also true. Whether intended or not, a failure to enact the mass intervention principles can result in consequences which can be significantly detrimental to those affected by disasters and may, in some circumstances, prove to be more distressing, demoralising and energy sapping than the disaster itself. These findings have implications for formal and informal service delivery and supports in post-disaster settings, and provide useful guidance for individuals affected by disasters.

Chapter 7 (Paper): Hierarchies of affectedness after disasters

7.1 Abstract

Disasters result in a range of impacts that significantly disrupt the lives of those affected. After disasters, a hierarchy of affectedness may be explicitly or implicitly developed, where people affected are compared to each other, and to those affected by other disasters. These hierarchies have practical implications, including eligibility for disaster aid, support services, and the way that people affected by disasters relate to each other. This paper presents findings from a qualitative study using a constructivist approach exploring what people impacted by disasters found helpful and unhelpful after disasters. Twenty people who had been impacted by a range of disasters wrote a letter to themselves regarding what they considered helpful and unhelpful in the recovery. We find that hierarchies of affectedness are negotiated between impacted individuals, others affected, and outsiders. They can serve as a helpful sense-making tool for some people impacted by disasters, while causing considerable secondary stress for others. Based on these findings, we offer an expansion to an existing model of hierarchies of affectedness in post-disaster settings.

7.2 Introduction

Disasters are a complex social phenomenon whereby a hazard intersects with a human population, wreaking a wide range of disruptions and impacts. There is broad agreement that disasters are increasing in severity, frequency and scale, and this trajectory is predicted to get worse (Glasser, 2019; UNISDR, 2017).

Those affected by disasters are often impacted in a myriad of ways simultaneously. These impacts may be long lasting, complex, compounding and highly disruptive (Alesch et al., 2009; Eyre, 2006; Hobfoll et al., 2007; Leadbeater, 2013; Nicholls, 2012; Whittle, Medd, Deeming, Kashefi, Mort, Twigger Ross, et al., 2010).

As detailed below, a hierarchy of disaster-affectedness refers to situations where the level of affectedness of an individual, family or community after a disaster is compared to others who have been impacted by the same or different disasters. Whether implicit or explicit, hierarchies of affectedness have practical impacts on the way that the media, governments, emergency management organisations, support agencies and the broader population interact with disaster-affected people, and can influence the way those impacted by disasters view each other. Hierarchies of affectedness may be used by governments and organisations to determine proportionality of service response, including whether services or aid are offered at all, the types of supports offered to disaster-affected people, and eligibility criteria for accessing recovery support services.

The process by which hierarchies of affectedness are negotiated and the impact these hierarchies have on those affected by disaster is not well understood. In this paper, we explore the limited existing literature regarding hierarchies of affectedness in post-disaster settings and then present findings from a study about what people impacted by disasters consider helpful and unhelpful in recovery.

7.2.1 Literature

Despite a paucity of literature specifically looking at hierarchies of affectedness after disasters, the concept of “hierarchies of grief” is well established in psychology and sociology literature (Robson & Walter, 2013). The concept of “hierarchies of harm” is used in research relating to protracted conflicts and unrest and is helpful to inform the disaster context.

7.2.1.1 Hierarchies of harm

In a conflict context, hierarchies of harm are either purposefully established (for example, to develop reparations schemes) (Moffett, 2016), or occur inadvertently through the exclusion of some groups (for example, setting parameters for legal systems) (Ramji-Nogales, 2011). Hierarchies of harm

attempt to acknowledge types of harm perpetrated during conflict. Rigid mechanisms available to redress harm from conflicts, such as compensation schemes or legislation, are often an imperfect fit for the murky, nuanced reality of conflict (Moffett, 2016), but in many cases may be the only tools available to address impacts.

For example, in relation to the Northern Ireland Troubles reparation scheme, Moffett (2016) explores the difficulties in determining who is considered a victim in post conflict settings. Despite a simplistic narrative of a blameless, innocent victim, who is set upon by a “big bad perpetrator” being idealised by political institutions and media, this rarely reflects reality in conflict situations. In Moffett’s words:

there is a hierarchy of victimhood, where the ‘innocent victim’ is placed at the ‘apex’ of the hierarchy and becomes a symbol... (Moffett, 2016, p. 5)

However, a victim who is at least in part responsible for their own suffering or harm to others is less easy to place on a hierarchy of harm (Moffett, 2016). The development of a formal hierarchy of harm plays a role in vindicating the moral worth of some victims and can fuel competition amongst groups of victims for recognition, access to available material resources, influence, and symbolic gestures such as memorials (Moffett, 2016). Attempts to limit the scope of what is recognised as harm may be part of a necessarily pragmatic approach to managing limited resources available for compensation, but this act of limitation excludes some people and their experiences. By focusing on specific impacts, such as death, other forms of harm such as sexual assault, injury and torture may not be recognised. The more time that passes with some forms of harm being recognised while others are not may serve to compound issues for those whose experience has been disenfranchised (Moffett, 2016).

In her commentary regarding international criminal law and the treatment of women who experience sexual assault and violence in times of conflict, Ramji-

Nogales notes that a hierarchy of harm has been inadvertently created by institutions seeking to address the needs of victims of organised campaigns of sexual violence. In this hierarchy, the sexual assault of some women is recognised but not others, based on the identity of the perpetrator rather than the impact on the victims. Where violence takes place as part of an organised attack with a political motive, international criminal law recognises these crimes, and has scope to act. However, where the violence takes place by perpetrators known to the woman, by men “on their side” of the conflict, or by aid workers, this crime is relegated to domestic laws, despite both the increased vulnerability to violence and reduced access to domestic legal redress being recognised as a direct by-product of conflict. This has in turn created an inadvertent hierarchy of harm, where some victims are recognised in international criminal law and associated institutions, while others are excluded from a process of recognition (Ramji-Nogales, 2011).

Despite being located in significantly different contexts, there is much that disaster recovery systems can learn from these examples. Specifically, hierarchies of affectedness are complex, and externally determined hierarchies of harm are often unwieldy and may deliberately or inadvertently elevate the recognition of some peoples’ impacts while excluding others. These divisions may cause conflict amongst those who have been impacted who must compete for recognition and resources. Prolonged division amongst those impacted, fueled by hierarchical assessments can cause secondary harm.

7.2.1.2 Hierarchies of affectedness following disasters

Harms and colleagues (2015) acknowledge that existing literature examining the psychosocial impacts of disasters is limited, and often focuses on the prevalence of psychopathology such as post traumatic stress disorder and other clinical diagnoses. Additionally, they note that much of the existing research examining the impacts of bereavement after disasters focuses only on loss of first order family members and does not acknowledge the widespread impacts of grief. The

work of the *Beyond Bushfires* study, exploring the longitudinal impacts of the 2009 “Black Saturday” bushfires in Victoria, Australia where 173 people were killed, was able to demonstrate that grief and bereavement following disasters extended well beyond first order kin, and the loss of a friend or community member was predictive of poorer mental health outcomes. Additionally, this research highlighted that much of the impacts of bereavement were hidden from others. As a result, the perceived hierarchies of grief were subjective and not always reflective of the true impacts experienced by those who were bereaved (Harms et al., 2015).

These findings are resonant with the seminal work of Erikson (1976) who looked at the social impacts of the community of Buffalo Creek, impacted by a mining slag heap collapse in West Virginia, United States of America. Erikson found that decisions by authorities to acknowledge and relocate people based on first order kin relationships did not recognise the important but complex social relationships and interdependencies that many in the community had with neighbours, friends and extended social networks (K. T. Erikson, 1976a). This lack of understanding contributed to significant secondary stress for those affected.

In Denmark, Andersen’s (2013) work explored hierarchies of affectedness after the 2004 explosion of a fireworks factory in a middle class residential community, where one person was killed and several others injured, ten houses were destroyed and a further 350 were damaged. Andersen studied the experiences of those impacted to describe a negotiated process where hierarchies of affectedness were established between those impacted and what she refers to as the “outsiders”; that is, media, the general public, police and government. Andersen identified three stages in this negotiation.

First, an *accomplishment of the social category of affectedness*. Drawing on social performance theory, Andersen describes a process whereby outsiders such as

police, media, politicians and the broader Danish public acknowledged the initial impact of the disaster verbally, practically and symbolically (for example through donations). Those affected responded to this acknowledgement. Participants in her research described how they found themselves behaving in a way that seemed to fit the situation, and felt their status as an affected person was reinforced by the responses of outsiders. Andersen identifies a feedback loop of sorts whereby the outsiders not only assessed their own perception of the impacts but also how those affected were behaving. In this case, those impacted were considered to be worthy victims by outsiders, and were treated as such.

The second phase of this process is a change from *agreement to disagreement*. The initial acknowledgement of affectedness by outsiders diminished as (shockingly little) time passed, and actions like insurance payments were made and house repairs took place. There was a change in how outsiders perceived the levels of affectedness, and this was accompanied by an expectation of changes in behavior from those impacted:

What happened in Kolding is tragic. I feel for the people affected by this, especially for the relatives of the fire fighter who was killed. But now we've heard enough about it... It's been almost 8 days, so we don't have to talk about it anymore. At least not those of us not directly affected. (Andersen, 2013, p. 282)

Now there is no reason for people in this neighbourhood to cry any more. You've either got a new house or restored the old one—so stop complaining. (Andersen, 2013, p. 281)

Andersen identified an increasing disconnect between the perception of outsiders and those affected. Negotiations by those impacted to maintain their “affected status” became increasingly fraught:

Every time you talked to someone, it was like, ‘You’re lucky that you’re alive! That’s so wonderful’. And stuff like

that. And I remember thinking, 'I didn't feel lucky. It didn't feel like I was lucky at all'. (Andersen, 2013, p. 281)

The third stage of the process was an extension of the second stage, where those affected were *compared to others* impacted by different disasters. Notably, for the community of Kolding, the 2004 Indian Ocean Tsunami occurred nearly two months after the fireworks factory explosion. Not only were they compared to those impacted by the tsunami, but this comparison was made explicit by instances such as a documentary about the explosion being pulled from scheduled TV release due to the change in focus of interest of the Danish public from the explosion to the tsunami:

We really felt like we were being pushed out in the cold when the tsunami came between Christmas and New Year's Eve. (Andersen, 2013, p. 286)

Some of those affected by the explosion agreed with the outsiders "downgrading" of their status of affectedness. Others however perceived this change as an egregious affront, and significant energy was spent by some trying to maintain the recognition of their affectedness (Andersen, 2013).

In their 2014 book reflecting on the work of British based disaster support and activist group, Disaster Action, Eyre and Dix provide commentary regarding "good and bad" victims which aligns with the observations in Andersen's work:

A 'good' victim forgives those responsible and is brave and inspiring. A 'good' victim puts everyone else's needs – to forget about what happened and to think that the worst suffering is past – over their own needs to ease the pain. A 'bad' victim is the reverse. (Eyre & Dix, 2014, p. 63)

Eyre and Dix identify the portrayal of disaster victims, by the media and others, as having specific characteristics. They argue that this puts pressure on those impacted by disasters to conform to a particular stereotype, which may serve the agendas of others such as donors, politicians and media. They also recount

stories from Disaster Action members who were characterised in negative terms by others:

Individuals have been referred to as 'obsessive', 'hysterical', 'unhinged' and 'morbid' in continuing to be actively interested in disasters and discussing them years after the event. They have been stereotyped as being greedy, ungrateful and vengeful (Eyre & Dix, 2014, p. 76).

Eyre and Dix also note that the procedures linked to inquiries and compensation are often adversarial, humiliating and stressful, forcing those who have been affected to prove the ongoing impacts of a disaster on their lives to a system designed to minimise or deny ongoing effects (Eyre & Dix, 2014).

In relation to compensation and aid for those impacted by disasters, there is a steadily growing body of literature outlining how eligibility for disaster aid systematically benefits some groups of people impacted by disasters while disadvantaging others. Historically, explicit and intentional hierarchies for disaster aid beneficiaries were established to benefit landholders, homeowners and business owners impacted by disasters over those who were struggling prior to the disaster event (Powers, 2006). In his work looking at historical post-disaster interventions, Powers uses case studies examining events such as the 1871 Chicago fires where disaster aid was made available only for those who could demonstrate a temporary set back from the fires rather than ongoing challenges with housing or employment, and the 1926 Mississippi floods where aid for Black plantation workers was distributed through White plantation owners who routinely withheld or sold aid provisions, while the National Guard was brought in to prevent plantation workers moving to other communities (Powers, 2006).

While it would be rare in contemporary disaster aid arrangements to see a hierarchy of eligibility so intentionally or explicitly discriminate against some segments of disaster-affected communities, increasingly there is strong evidence

that inequity in post-disaster assistance continues today. Bias of determining eligibility for aid has been found to benefit home owners while disadvantaging tenants (Howell, 2018; Howell & Elliott, 2018; G. B. White, 2015) and those experiencing homelessness (Every & Richardson, 2017), benefit those who are educated (Howell & Elliott, 2018), those who are white (Fothergill et al., 1999; Howell & Elliott, 2018), those with nuclear family household composition (Aldrich, 2010c), English as their first language (Fothergill et al., 1999; G. B. White, 2015) and who identify as heterosexual (Dominey-Howes et al., 2016; Gorman-Murray et al., 2014). Whether intentional or not, a hierarchy of worthy victimhood may be created through aid eligibility criteria which systematically favours some in the community over others.

This paper presents findings from research undertaken as part of a doctoral thesis, where the primary study aim was to examine what people who had been impacted by disasters considered to be helpful and unhelpful in their recovery. Hierarchies of affectedness emerged as a theme amongst participant responses.

7.3 Methodology

7.3.1 Theoretical framework and approaches

This research was approached from a constructivist perspective, using an interpretation that individuals are situated within a cultural and social context, and construct meaning as part of an ongoing dynamic process between internal and external factors (Crotty, 1998). A qualitative approach was used. Acknowledging that some of the definitions and methods of qualitative inquiry can be contested, the term is generally used to describe research that aims to understand the meaning of human action and experiences (Schwandt, 2011), focusing on qualities and features of data rather than measurement (F. Erikson, 2011).

Historically, disaster research has been dominated by quantitative, atheoretical approaches (Tierney, 2007). Increasingly, a wide range of qualitative and quantitative approaches have been used in inquiry into disaster recovery (Stallings, 2006), a testimony to the truly multidisciplinary nature of the field. Qualitative research methods have been demonstrated to be well suited to the richness of disaster-related data, providing insights into the nature of people's experiences (Phillips, 2002).

7.3.2 Study design

A number of ethical and pragmatic considerations influenced the design of this study. Disasters are, by their nature, potentially traumatic events which can impact all facets of life for those affected, and create chaotic, disorienting environments with significant secondary stressors. Sensitivity in study design for topics which are potentially distressing is broadly acknowledged as important (Dyregrov, 2004; L. Gibbs et al., 2018; Parslow et al., 2000).

Additional considerations specific to the study design of this project included a broad geographic spread of participants, researcher positionality as a disaster recovery practitioner employed by the Australian Red Cross, ensuring that a broad range of impacts could be explored by participants, rather than pre-identifying topics of interest, and consideration of research fatigue in disaster-affected communities.

In an attempt to address these considerations, a novel approach to data collection was decided on. Participants who had experienced a disaster event at least two years prior were invited to write a letter to themselves addressing the single question "What did you find most helpful and unhelpful after the disaster/s you experienced?" They were then asked to send the letter to the researcher as an email, voice recording or by postal mail. A second stage of the research regarding participant experience of the research was then undertaken. Discussion of this phase of the research is outside the scope of this paper.

7.3.3 Selection criteria

Individuals who had experienced a disaster event at least two years prior were eligible to participate in the research. Participants were required to be over 18 years of age and to live in Australia or New Zealand and able to participate in English.

7.3.4 Recruitment process

The researcher developed a website with information about the research project. The information was presented in written text and in video format on the website. A combination of sampling approaches was used to recruit participants. A purposive criterion approach was used, by approaching people with known lived experiences of disasters. Noting that this is a contested term, it is used here to reference a sampling approach where individuals who are especially knowledgeable or have experience with particular phenomenon and meet set criterion are invited to participate (Palinkas et al., 2015; Palys, 2008). Snowball sampling was used by asking key informants, (including leaders from disaster-affected communities, people with known lived experience of disasters and recovery workers), to share information about the project with their networks. Convenience sampling was also used by promoting the research project through social media. Additionally, study information postcards were distributed at some disaster related community events and to community leaders upon request.

7.3.5 Analysis approach

A constructivist grounded theory approach to analysis was used, with particular reference to the work of sociologist Charmaz (Charmaz, 2011, 2014). This approach openly acknowledges that subjectivity is inherent in data analysis and inevitably guided by researcher biases. In line with a constructivist grounded theory approach, data analysis was conducted concurrently with data collection.

An abductive process was undertaken, which involved starting with an inductive approach to data analysis and then looking to existing literature and theory to “check hunches” (G. R. Gibbs, 2007) before returning to data analysis, and then repeating this process. Charmaz refers to abductive approaches as an important feature of constructivist grounded theory (Charmaz, 2014).

A line-by-line coding approach with a focus on participants’ actions was initially undertaken with the first letters submitted. As more letters were received, newer letters were analysed using line-by-line coding and by testing the more focused codes which had emerged from the earlier letters received. A process of memo writing to further develop the ideas emergent in the coding was then undertaken. Charmaz (2008) notes that while memos are sometimes regarded as a procedural step between coding and draft writing in grounded theory research, memos can be much more meaningful to researchers making sense of their data, giving the opportunity to learn more about the data and develop theory, rather than as a mere descriptive summary of the codes identified.

7.3.6 Reporting

No names of participants (real or pseudonym) or codes were used to refer to participants and concerted efforts were made to remove description and gender markers where possible in participant quotes. While it is acknowledged that context may be reduced through this approach, this was weighed against the other considerations relating to anonymity and reporting, including potential mistaken identity and de-humanisation of participants through codes (Saunders et al., 2015). A further consideration was the anonymisation of location (Clark, 2006), and disaster hazards.

7.3.7 Ethics approval

This study was approved by the University of Melbourne Human Research Ethics Committee (ID: 1543703.1).

7.4 Findings

7.4.1 Sample characteristics

Twenty people impacted by disasters participated in the first stage of the study by submitting a letter. Fourteen of the participants were female, six male. Six participants did not indicate their age on their demographic information sheet. Of those who provided their age, the youngest participant was 29 years old and the oldest was 89 years old at the time of participation. The mean age of the participants who provided their age was 52.4 years. All participants noted that English was the language used at home. Sixteen participants provided information about their living arrangements, with six married or de facto with no children / no children living at home, five participants were living alone, four married or in a de facto relationship with children at home and one person sharing with other adults.

Seven participants did not indicate their highest level of education, but of those that did, the sample were mostly highly educated, with seven participants indicating they had post graduate qualifications.

Participants had been impacted by six disaster events. Seven participants had been impacted by the Canterbury earthquakes (New Zealand), four by the 1967 Tasmanian bushfires (Australia), three by the 2009 “Black Saturday” fires (Australia) and the 2013 Tasman Peninsula bushfires (Australia) each, and one by Margaret River fires (Australia) and “Ash Wednesday” (Australia) each. One participant noted involvement with multiple disaster events.

7.4.1.1 *Time point nominated for letter to self*

Participants were able to choose what point in time they addressed their letter to self to (e.g. past, present, future self). Two participants wrote to their pre-disaster self, ten participants addressed their present day self, three to themselves shortly after the disaster event, and one to their future self. One

participant wrote to a past self some years after the disaster event, at a specific life milestone where the impacts of the disaster had a new type of impact. Three participants addressed their submission to the researcher.

7.4.2 Hierarchies of affectedness

Hierarchies of affectedness emerged as a theme in the research analysis. While respondents approached this topic in different ways, there was a thread across a number of the letters where participants compared the impacts they were experiencing to others who had been affected and also reflected on how well others understood the impacts to them. There were a number of observations made from the data, including how participants made self-assessments of their own impacts, and whether they felt these self-assessments were validated by others.

7.4.2.1 Self-assessments, including assessment of others impacted

Participants referred to a process of self-assessment when considering the impacts of the disaster on their lives. This included a number of components and took into account tangible and intangible effects. For many participants, comparisons between their current life and their pre-disaster lives featured as part of this process:

Well since the [disaster event], the period you've entered is a whole other kettle of fish! Take busy and multiply it by a thousand. Your home life, your work life, your extended family life, repairing your home – it's going to be an inhuman juggle that you cannot expect to accomplish. Know this now and remember it the whole way through: it doesn't matter how capable you are, how efficient you are, how organised you are, how ambitious you are, how much you've juggled in the past – you can't do this all efficiently, effectively or even at times remotely well. Change your expectations of yourself.

Comparison to others impacted was also a component of participant self-assessment. This assessment of others seemed to be a form of social comparison used by participants as a way to orientate themselves in the new post-disaster landscape:

Our whole [house] repair process was grueling, but we were the lucky ones... you saw all these burdens and complexities that others had and you come home and it's genuinely shitty, but it also feels trivial.

Some participants observed the impacts to others in a manner that demonstrated a deep and genuine empathy. Even where the impacts that others had experienced were very different to their own, some participants were able to identify hardships that others were facing as a result of the disasters that they themselves were not:

Some of us lost people, some of us lost their homes, some of us lost their jobs and livelihoods, and some of us just got lost.

I was lucky. My home wasn't destroyed. We had damage, but it was fixed within 18 months. I didn't have traumatised children or elderly parents... We had money to travel.

Rather than directly comparing impacts, these participants noted that there were differences in the range of impacts but that these differences did not necessarily diminish the experience of others.

For others however, their assessment of impacts to others served primarily to compare and then elevate the hardships they were experiencing, especially where participants felt their impacts had not been sufficiently recognised:

I know they kept saying we were all affected, but I'm sorry but we were all affected at very different levels.

This seemed to be present where participants perceived a clear hierarchy of impacts, and considered that the impacts they had experienced had been invalidated by others.

These comparative self-assessments seemed to be used by participants as a sense-making process to orientate themselves at a time where their pre-disaster social comparisons were no longer meaningful.

7.4.2.2 Validation of self-assessment by others

Participants' experiences of how others viewed their self-assessment was observed as evoking powerful feelings. For participants who felt validated in their self-assessment of impact by outsiders, a deep feeling of support was described:

I do not wish to think of what I would have done without these amazing, caring people who took me under their wing... They had their eye on me, what a wonderful feeling that was to have someone just watching your back and help to monitor my needs with such care.

For participants who felt their self-assessment was not validated by others, it was expressed as a painful and frustrating experience:

There will be times where you will feel so frustrated that you want to explode. When you try to say how it is but no one listens. The bureaucracy will drive you crazy and you will struggle to stay professional and you will struggle to keep it all inside and not say it how it really is.

These experiences seemed to indicate divisions within affected communities as well as a lack of understanding from outsiders:

One of my friends once said to me that I couldn't possibly understand the hurt and pain she was going through as I hadn't grown up in [location name]. This hurt. I have

compassion and empathy. I lived through the [disaster] and witnessed people be hurt or killed. No, I didn't have the same memories of [location] – but I still had an affiliation.

For some participants, these experiences of invalidation of their own self-assessment were accompanied by a deep sense of injustice, especially where the overall effect for participants was a sense that others had diminished their experience and the subsequent impacts:

...the hardest thing we were told from day 1 was we were all affected equally by the [disaster event]. This really cut deep into people as those who still had their homes were saying this to people standing with just the clothes on their back, and the other worst thing said was 'at least no one died.'

However, some participants seemed to accept that others' assessments could only ever be limited. They recognised that those who had not personally experienced the disaster could never truly understand the impacts:

People who were not there will ask you because they are curious and because they care and because that's what people do. Remember that 'disaster' holds such different connotations now that it will be difficult for either of you to be satisfied by the conversation. Offer them a slice of that experience, something relatable.

But the people in that world won't understand. They will have no idea what you've been through, they will have no idea how you feel and they will not have the capacity to help you.

These participants advised themselves to try not to expend precious energy focusing on how others viewed their circumstances or attempting to convince others of their impacts.

7.4.2.3 Self-assessment and assessments made by others are a dynamic process

The experience of validation and invalidation by others was not clear cut or consistent for participants. Participants described a dynamic process by which their self-assessments were validated or invalidated, rather than a linear one. Not only did their self-assessment and assessment by others change over time, but also some aspects of participants' self-assessment could be simultaneously validated by some and invalidated by others:

The best thing I can advise you to do early on is make contact with other people in the same situation. Talking with other people who can identify and offer advice and support is vital while you go through this process... Be careful of the agencies funded by the very people who are screwing with your lives like [agency name], your Insurance Company and other government funded things. Their main objective is to wear you down and not pay what you are entitled to.

While most participants didn't explicitly refer to a hierarchy of affectedness, these elements provide a thought provoking insight into the interplay between self-assessment of own impacts, assessments of the impacts to others and validation or invalidation by others.

7.5 Discussion

This qualitative study exploring participant experiences of disaster recovery indicates a number of important points for consideration.

First, there are a range of assessments of impacts taking place after disasters. Some are explicit or formal, such as disaster aid eligibility and insurance assessments, while others are implicit or informal such as comments and observations from others (Andersen, 2013). Those affected by disasters make self-assessments about the impacts to themselves, and assessments of others affected, while outsiders also make assessments. These are dynamic processes,

and people who are impacted by disasters use all of this information to determine their position in the hierarchy of affectedness. This may not be an explicit thought process.

Second, the assessment that others make can have a strong impact on those who are affected, especially where the assessments made by others do not validate the self-assessment of those affected. This reflects other literature regarding externally created criteria for recognising harm from trauma (Eyre & Dix, 2014; Moffett, 2016; Ramji-Nogales, 2011).

Third, considering the intangible, hidden nature of some impacts, it is difficult for others, especially those who have not been impacted by the disaster, to truly understand the nature of the effects. This is resonant with findings from other studies which indicate that the impacts of disasters may be hidden (Harms et al., 2015) or difficult for outsiders to understand (K. T. Erikson, 1976a; Eyre & Dix, 2014). Even for people who have also been affected by a disaster, it may be difficult to understand the wide range of impacts that others experience.

7.5.1 Reflecting and expanding on Andersen's model

Andersen's hierarchy of affectedness (2013) provides an excellent starting place to examine how hierarchies are developed, and how they are used in disaster contexts. Andersen's exploration of the negotiation between outsiders and those impacted, and how this changes over time, is especially helpful.

However, the findings from this study highlight some gaps in the process Andersen describes and suggest that there is room for further development of a model of hierarchies of affectedness after disasters. The gaps for further consideration are outlined here.

7.5.1.1 Gaps identified

The first gap identified is the role of the assessment of others who are disaster-affected as a component of self-assessment. Disaster impacted individuals use their observations of how others have been affected as part of their self-assessment to position themselves in a hierarchy in relation to others.

Second, there is a difference between self-assessments and the assessments that others (outsiders and other affected people) make. Andersen (2013) alludes to this, but there are explicit elements of this difference. The first refers to what is included in the assessment of impacts. For self-assessment, tangible, intangible and compounding impacts as well as secondary stressors are included. This self-assessment includes comparing their pre- and post-disaster life, and also comparing themselves to others who have been impacted. Some disaster-affected individuals may feel a strong empathy for others who have been impacted in very different ways to themselves, understanding the breadth and complexity of impacts that a disaster can wreak. Others may find it difficult to recognise the impact on others who have not been affected in the same way as themselves. For outsiders, only tangible, direct impacts are generally considered.

Another difference between self-assessment and those acknowledgments made by others is the pace and trajectory of the assessment. This study found that self-assessments are more likely to be nuanced, and may take longer to form, acknowledging the compounding and interrelated nature of the impacts. Outsiders' assessments are likely to be rapid, focussing on quantifiable, direct and tangible harm with little room for recognition of complex or compounding impacts.

The third gap relates to the multifaceted, dynamic nature of disaster-affectedness, which means that some aspects of impacts may be acknowledged by others, while other components simultaneously are not. Whether disaster-affected individuals gain a sense of validation or invalidation from others will

depend on how closely an individual's self-assessment aligns with others' assessments. It is possible for individuals to have one or more elements of their self-assessment validated while simultaneously feeling as though other aspects of their self-assessment are invalidated by others.

The final gap in Andersen's process is to look at the role of hierarchy itself in affected people's recovery. For some people, an understanding of where they are positioned in a hierarchy of affectedness in relation to others may be a helpful, sense-making tool at a time where other social comparison markers are absent (as a result of the disaster). For others however, a hierarchy of affectedness, especially one in which they feel like they have been incorrectly positioned, may create a sense of injustice and anger, serve to further distance the affected person from others, or act as a form of paralysing agent where an individual is confused about the validity of their experience. It is important that there is an improved understanding not only about how hierarchies of affectedness are created, but also the role they can play.

7.5.1.2 Expanding on Andersen's model

Hierarchies of affectedness can be a sense-making tool; both for those who have been impacted by a disaster and for outsiders. For many people after a disaster, there is a sense of disorientation:

It's as if [they] have lost their navigation equipment, both their inner compass and their outer maps. (K. T. Erikson, 2014)

As a sense-making tool, the concept of hierarchies of affectedness can be used as a way for disaster-affected individuals to gauge their recovery progress in the absence of other social comparison markers, which existed prior to the upheaval of a disaster. For outsiders, hierarchies of affectedness can help provide a sense of order and structure to understand the impacts of disasters and to determine if and how they should offer assistance. However, hierarchies of affectedness may also cause secondary stressors, divisions, frustrations and a sense of alienation.

By better understanding the processes that occur, secondary harm may be able to be minimised.

As discussed above, Andersen outlines three stages in her discussion of hierarchies of affectedness after disasters. First, there is a negotiation of affectedness between those impacted and outsiders. Second, a change from agreement to disagreement between those impacted and outsiders, and finally, there is a comparison of those affected in one disaster to people affected by other disasters. Below, the gaps identified from this study have been used to build on Andersen's model of hierarchies of affectedness. The model outlined by Andersen (2013) is modified and additional elements are included.

7.5.1.3 Assessments of affectedness

After a disaster, there is a negotiated process to form a constructed category of "affected". This negotiation comes from three different types of assessments:

- 1) Self-assessment by those who are affected, which includes a) a comparison of their pre- and post-disaster lives and b) a comparison to others who have been affected (which may or may not include impacts which are different to those they have personally experienced). Self-assessments are dynamic, and may include tangible, intangible and compounding affects and secondary stressors.
- 2) Assessments by others who have been affected by the disaster, which may or may not recognise the wide range of impacts experienced.
- 3) Assessments by outsiders, such as media, government, recovery agencies and the general public. The assessments that outsiders construct are generally made faster and in a more linear fashion than self-assessments by those affected. These assessments may only include tangible impacts, and there may be an expectation of a linear recovery process.

7.5.1.4 Validation and invalidation of self-assessment

Those affected may feel as though their self-assessment of impact has been validated or invalidated by others (both those who have been affected and outsiders), and they may sometimes experience both validation and invalidation simultaneously. Even where individuals' self-assessments are mostly validated by others, they can still experience an assessment by others invalidating their experience. In addition to the participants' experiences highlighted above, other examples are present within existing disaster literature. One pertinent example comes from a participant in Eyre and Dix's work:

In January 1989, we received a copy of a letter offering £2000 compensation with comments that as no one had witnessed any loss of life, only four people had died, and two thirds of the passengers hadn't gotten their feet wet, no one should suffer guilt or trauma. The letter came like a beating, hard and brutal. All that we had experienced was assessed in offensive terms. 'Only four' had died. The phrase was so cruel. (Eyre & Dix, 2014 p74)

These examples of unexpected experiences of invalidation demonstrate the ongoing, dynamic process between self-assessment and the assessments of others.

Inevitably, there will be a reduction to the status of affectedness of disaster-affected individuals by outsiders. This may take place after what outsiders may consider a reasonable passage of time (e.g. an anniversary), some form of transaction between outsiders and those affected (e.g. donations or a financial assistance grant), or when a new disaster occurs. With this downgrade in status of affectedness, outsiders will also expect a change in behaviour from those affected. Outsiders may move their characterisation of those affected from being passive victims to active players who are responsible for their own situation. Those affected who are seen to be "picking themselves up by their bootstraps" will often be praised, while those who complain of ongoing impacts may be seen as malingerers, incapable or deficient (Eyre & Dix, 2014).

7.5.1.5 The role of hierarchies of affectedness

There is a range of experiences of hierarchies of affectedness for those impacted by disasters. For some disaster-affected individuals, hierarchies of affectedness may be a helpful meaning-making tool at a time where there is an absence of pre-disaster social comparison indicators. Faced with a new disorientating environment, understanding the impacts of the disaster on their own life in comparison to others may be a helpful way to navigate this “new normal”. For others however, a hierarchy of affectedness is only helpful insofar as it can be used to justify their self-assessment of impacts. Where disaster-affected people feel as though their experience has been invalidated, hierarchies of affectedness may be experienced as a significant secondary stressor.

7.5.2 Strengths and limitations

One of the strengths of this work was the inclusion of a range of perspectives from people who experienced different hazards, in different locations, over different time periods, as well as the mix of ages, gender and circumstances. Limitations identified in this research include a small study sample size, which also represented a gender imbalance skewed toward older female participation. However, despite a small sample size, by aligning these study findings with existing theory and conceptual frameworks, these findings may be able to be elevated to a broader audience than this sample (Daly et al., 2007). Due to pragmatic decisions in the research design, eligibility criteria excluded people without sufficient confidence to participate in English. The researcher notes this limitation, and hopes in future projects there would be capacity for a linguistically diverse research team, or funding for interpretation and translation, so these barriers could be overcome.

7.5.3 Implications for research, policy and practice

A clearer understanding of the development and impacts of hierarchies of affectedness has direct implications for policy and practice. Outsiders, (including government, media and emergency management organisations) must understand that, as outsiders, the actions and words they use to assess impacts have an effect on individuals' conceptualisation of their own levels of affectedness and whether they feel validated or misunderstood. For people who feel invalidated by outsiders, the anger and sense of injustice they experience in response to this assessment may present further hardship, exacerbate stress, and perpetuate divisions within disaster-affected communities. These tensions will also make it more difficult for governments and agencies to work constructively with those who have been affected. By understanding how hierarchies are formed, outsiders can better understand their role and prevent unnecessary injury to those impacted by disasters. This has direct implications for disaster impact assessments, disaster aid eligibility and compensation schemes.

7.6 Further investigation

Further investigation into hierarchies of affectedness is needed to:

- Test this expanded model of hierarchies of affectedness for relevance.
- Understand if the impacts of particular assessments have deeper impacts than others (for example, whether there is more harm from divergent assessments from family and friends, or from governments and other agencies).
- Consider examples in existing social comparison literature of individuals feeling affronted by an “upgrading” of their status to more affected than they consider themselves to be in relation to others (Cytrynbaum, 2010), a concept discussed in some health and disability literature in relation to empowerment (Crossley, 1998; L. Gibbs, 2005). While this concept needs further exploration in relation to disasters, there is a sense that the difficulty individuals may face when their self-assessment is invalidated is

not limited to when their status is “downgraded” per se but when their self-assessed status is not confirmed generally.

- Identify case studies where the stress of invalidation has been successfully minimised.

7.7 Conclusion

Currently there is some evidence to suggest that hierarchies of affectedness are processes that occur after disasters and may have an impact on individuals’ recovery. There is, however, a limited understanding of how these hierarchies are formed and the extent of the impacts they can have.

This study provides a more detailed understanding of Andersen’s 2013 model of hierarchy of affectedness and the impact on disaster-affected people, which requires further testing. There is an indication that hierarchies of affectedness can be helpful and unhelpful for those who have been impacted by disasters. For some people impacted by disasters, using hierarchies of affectedness as a way of sense-making may be a helpful process. For others, especially those who feel that their experiences have been invalidated or diminished, hierarchies of affectedness may exacerbate feelings of distress, anger and isolation. This may present a significant barrier to recovery.

Considering the strong links of hierarchies of affectedness to policy and practice for governments, media and disaster recovery organisations, there is a need to further investigate this model in post-disaster environments with a particular focus on recommendations for reducing any negative impacts to those impacted by disasters.

Chapter 8 (Paper): Recovery workers who have also been personally affected by disasters: Exploring the perspective of people who have dual experiences of disaster recovery.

8.1 Abstract

People who are employed in disaster recovery roles while simultaneously personally recovering from the impacts of disasters hold a unique perspective into the dimensions of disaster recovery. There is a significant paucity of research exploring the experiences of this cohort. This paper presents preliminary findings from a qualitative study involving 20 participants who had previously experienced disaster, writing a letter to themselves about what was helpful or unhelpful to recovery. A sub sample of the study participants were both recovery workers and personally recovering from the impacts of a disaster. We find that recovery workers who have also been personally impacted by the disaster event; 1) experience a misalignment between their personal and professional experiences of recovery; 2) have their personal experiences of recovery reframed by exposure to others impacted as part of their professional experience, and 3) initially prioritise their professional roles, but reach a point where their personal recovery needs to take priority over their professional role. Self-determination theory is presented as a potentially useful theory to understand the experiences of people who have dual experiences of personal and professional involvement in disaster recovery.

8.2 Introduction

Disasters are complex social phenomena whereby a hazard intersects with a human population, wreaking a wide range of disruptions and impacts. There is broad agreement that disasters are increasing in severity, frequency, intensity and scale, and this trajectory is predicted to get worse (Glasser, 2019; UNISDR, 2017).

In the aftermath of disaster, impacted individuals and communities often require a myriad of supports and services to address the many and varied impacts. There is recognition that locally led recovery efforts are generally more effective and sustainable than recovery efforts led by 'outsiders'. Contemporary disaster recovery arrangements in Australia and New Zealand and disaster recovery guidelines highlight the need for disaster recovery efforts to be locally led, despite challenges executing these arrangements (Leadbeater, 2013; Owen, 2018; G. P. Smith & Wenger, 2007).

As a result of the emphasis on locally led responses to disasters, there is a high likelihood that many of the people who work in the wide variety of disaster recovery roles, from construction, logistics, health work, education, media, community services, governance and private enterprise will be members from the disaster-affected community who have been personally impacted by the disaster themselves. These people may find themselves in dual recovery roles – as recovery workers, and as people personally recovering from the disaster.

Despite the increase in frequency and severity of disasters globally, and acknowledgement of the long term impacts on affected populations (Alesch et al., 2009; Eyre, 2006; Leadbeater, 2013; Nicholls & Healy, 2008), disaster recovery is still an under explored and under developed area of scholarship (Abramson et al., 2010; Jordan & Javernick Will, 2012; Peek et al., 2011). There is a paucity of research examining the impacts of working in disaster recovery, and very little work at all examining the impacts on people who work in disaster recovery while also being personally impacted.

8.3 Background

Disaster recovery research, policy, and practice are multi-disciplinary, including (but not limited to) health, infrastructure, economics, natural environment science, political economy, sociology and religious studies. The types of foundational assumptions made depend on the discipline and approach of the authors (Eyre, 2007; Jordan & Javernick Will, 2013). In academic literature, the

term disaster recovery is rarely defined, but authors tend to refer (either implicitly or explicitly) to recovery as either restoration to a pre-disaster status or change to a new state, with a descriptive focus that is often discipline centric (Jordan & Javernick Will, 2013). In policy documents and practice guides (Commonwealth of Australia, 2012; New Zealand Ministry for Civil Defense and Emergency Management, n.d.; United Kingdom Cabinet Office, 2013), disaster recovery is often explicitly defined in relation to the function and responsibilities of organisations and those with roles in post-disaster settings.

In this paper, disaster recovery will be defined as a dynamic spectrum where some impacted people may restore their pre disaster lives while others experience a significant change in their world view and lifestyle and arrive at a “new normal”.

8.3.1 Nature of post-disaster settings

While recovery is the most under-researched area of disasters (Burton et al., 2011a; Nicholls & Healy, 2008; Olshansky, 2005; Peek et al., 2011; Phillips, 2009; C. B. Rubin, 2009), it is often characterised as being a grueling, exhausting and complex time, best measured in years rather than weeks or months (Alesch et al., 2009; Cox & Perry, 2011; Eyre, 2006; Leadbeater, 2013; Whittle et al., 2012; Wills, 2013). The positive impacts of social connections (Aldrich, 2011, 2017; R. A. Bryant et al., 2014; R. A. Bryant, Gallagher, et al., 2017; Norris & Kaniasty, 1996), community led decision making (Alesch et al., 2009; Eyre, 2006; Leadbeater, 2013) and empowerment (Alesch et al., 2009; Eyre & Dix, 2014) have been identified as helpful factors contributing to disaster recovery. Conversely, disruptions to important social connections (Green et al., 1990), overly burdensome, bureaucratic and top down recovery processes (Alesch et al., 2009; Whittle et al., 2012) have been identified as hindrances to strong recovery.

8.3.2 Locally led disaster recovery

Locally led disaster recovery initiatives and community involvement in recovery planning are seen as key characteristics of successful recovery efforts (Alesch et al., 2009; Cretney, 2016; Leadbeater, 2013; Owen, 2018; G. P. Smith & Wenger, 2007; Wills, 2013; Wilson, 2009). One of the six principles of Australian national emergency management guidelines regarding recovery planning recommends using “community-led approaches”, stating “successful recovery is community-centred, responsive and flexible, engaging with community and supporting them to move forward” (Australian Institute of Disaster Resilience, 2018 p.11).

Studies using a variety of exploratory designs point to locally led recovery initiatives being more successful and sustainable than efforts led by outsiders. Positive approaches that were identified included drawing on local knowledge and expertise (Cretney, 2016; Kenney & Phibbs, 2015), reflecting cultural attributes of the impacted community (Kenney & Phibbs, 2015), being able to harness pre-disaster networks and relationships (Cretney, 2016), ensuring buy in and trust from community members (Cretney, 2016; Wilson, 2009), emphasising local empowerment (Garnett & Moore, 2010; Wilson, 2009), and improving sustainability of efforts (Cretney, 2016; Garnett & Moore, 2010). Further research is required to confirm these findings.

In spite of recognition of the importance of community led recovery and the emphasis in emergency management guidelines and doctrine, significant barriers to implementation of community led disaster recovery practices are often observed (Leadbeater, 2013; Owen, 2018). This has been variably attributed to the top-down approaches of political systems and emergency management practice (Alesch et al., 2009; G. P. Smith & Wenger, 2007; Wilson, 2009), the difficulty for non-emergency management personnel or people not in an official position of power to be included in decision making processes (Kenney & Phibbs, 2015; Weber & Messias, 2012; Wilson, 2009), and practical challenges in post-disaster environments where there is a perceived need for immediacy at a time where there are many needs, stressors and impacts (Leadbeater, 2013). Where community recovery initiatives are locally led, there

will be an increased likelihood that people who have been impacted by the disaster events will also be in formal and informal recovery roles.

8.3.3 Impacts to disaster recovery workers

Disaster recovery workers represent a wide range of occupations and are a largely under-researched cohort. Most existing research looking into impacts on disaster workers focuses on first responders. The limited existing research is skewed heavily to screening for psychopathology and acute physical health conditions related to hazard exposure, with the majority of published literature focusing on workers involved in September 11 World Trade Centre recovery efforts. These studies have found that recovery workers experienced a significant burden of mental and physical health complaints (Brackbill et al., 2006; Cukor et al., 2011; Ehring et al., 2011; Johnson et al., 2005; Perrin et al., 2007; Stellman et al., 2008; Wisnivesky et al., 2011). Physical health complications documented include an increase in prevalence of asthma, gastro-esophageal reflux and respiratory disorders over time and compared to the general population (Herbert et al., 2006; Wisnivesky et al., 2011), with a high co-morbidity between physical and mental health symptoms (Wisnivesky et al., 2011). The prevalence of psychopathology such as post-traumatic stress disorder and other mental health and emotional problems has been found to be significantly higher in workers involved in disaster recovery efforts than in the general population (Cukor et al., 2011; Ehring et al., 2011; Johnson et al., 2005; Perrin et al., 2007; Stellman et al., 2008; Wisnivesky et al., 2011), with one study aligning the prevalence rates of psychopathology in World Trade Centre recovery workers to returning North American veterans from Afghanistan (Stellman et al., 2008). Risk factors for psychopathology include role commencement dates close to the disaster event (Perrin et al., 2007), being an unaffiliated volunteer (Perrin et al., 2007), loss of family members and friends in the disaster, disruptions to work, family and social life (Stellman et al., 2008), severity of disaster exposure (Ehring et al., 2011; Wisnivesky et al., 2011), past trauma (Cukor et al., 2011; Ehring et al., 2011), work related stressors, low social supports and being a woman (Ehring et al., 2011). People who were in roles significantly different to their pre-

disaster occupations, including performing their normal tasks in different circumstances or environments (for example, engineers, truck drivers, sanitation workers and carpenters) were also found to be at higher than normal risk of developing psychopathology (Cukor et al., 2011; Johnson et al., 2005; Perrin et al., 2007). However, secondary traumatic stress was also found to be prevalent in unusually high levels in social workers supporting people impacted by disasters (Adams, Figley, & Boscarino, 2008; Naturale, 2007; Pulido, 2007) indicating that the nature of disaster recovery work may be distressing even for those trained to work with people impacted by trauma.

In her 2013 report exploring the experiences of community recovery workers who had also been impacted by a disaster, Wills (2013) outlines the conundrum facing local recovery workers and those who employ and support them. She identifies that community members who have been impacted by the disaster are needed as part of community led recovery efforts, but this comes at a grueling and exhausting time for those involved. Wills notes that while there is much existing guidance for managing stress in emergency management workers, it is almost exclusively targeted at first responders and foreign aid workers.

Thus there is a significant gap in the existing literature regarding exploration of the experiences of disaster recovery workers beyond the prevalence of psychopathology in events with a high death toll, and almost no research regarding local recovery workers in developed countries who are also personally impacted by disasters.

This paper draws on research undertaken as part of a doctoral thesis, where the primary aim of the study was to examine what people who had been impacted by a disaster found helpful and unhelpful in the aftermath. It will report on the themes specifically relating to the sub-sample of participants who were both personally and professionally involved with disaster recovery.

8.4 Method

8.4.1 Theoretical framework and research approach

The research was approached from a constructivist perspective, using an interpretation that individuals are situated within a cultural and social context, and construct meaning as part of an ongoing dynamic process between internal and external factors (Crotty, 1998).

A qualitative approach was taken, acknowledging qualitative inquiry is a contested term, but is generally used to describe research that aims to understand the meaning of human action and experiences (Schwandt, 2011), focusing on qualities and features of data rather than measurement (F. Erikson, 2011).

8.4.2 Study design

A number of ethical and pragmatic considerations influenced the design of the study. Disasters are, by their nature, potentially traumatic events which can impact all facets of life for those affected, and create chaotic, disorienting environments with significant secondary stressors. Sensitivity in study design for topics which are potentially distressing is broadly acknowledged as important (Dyregrov, 2004; L. Gibbs et al., 2018; Parslow et al., 2000). Some considerations specific to the study design of this project included 1) a broad geographic spread of participants, 2) researcher positionality as a disaster recovery practitioner employed by the Australian Red Cross, 3) ensuring that a broad range of impacts could be explored by participants, rather than pre-identifying topics of interest, and 4) consideration of research fatigue in disaster-affected communities.

A novel approach to data collection was decided in an attempt to address these ethical and pragmatic research considerations. Participants who had experienced a disaster event at least two years prior were invited to write a

letter to themselves addressing the single question “What did you find most helpful and unhelpful after the disaster/s you experienced?” They were then asked to send the letter to the researcher as an email, voice recording or by postal mail. A second stage of the research regarding participant experience of the research was then undertaken by electronic survey. Discussion of this phase of the research is outside the scope of this paper.

8.4.3 Selection criteria

Individuals who had experienced a disaster event at least two years prior were eligible to participate in the research. Participants were required to be over 18 years of age and to live in Australia or New Zealand and able to participate in English.

8.4.4 Recruitment process

A combination of sampling approaches was used to recruit participants for the first phase of the research. A purposive criterion approach was used, by approaching people with known lived experiences of disasters. Noting that this is a contested term, it is used here to reference a sampling approach where individuals who are especially knowledgeable or have experience with particular phenomenon and meet set criterion are invited to participate (Palinkas et al., 2015; Palys, 2008). A snowball sampling approach was used by asking key informants (including leaders from disaster-affected communities, people with known lived experience of disasters and recovery workers) to share information about the project with their networks. Convenience sampling was also used by promoting the research project through social media.

The researcher developed a website with information about the research project. The information was presented in written text and in video format on the website. The researcher sent emails containing brief information about the project and a link to the website to community leaders, organisations and key informants within disaster-affected communities. Many of these people were known to the researcher or were recommended by key informants. Some of these people then sent the information to their contacts. Additionally, study

information postcards were distributed at some disaster related community events and to community leaders upon request.

The researcher was available to talk with people interested in learning more, though this option was only taken up by a small number of potential participants. Recruitment was open from June 2015 to September 2017 (noting that there was no active recruitment during 2016 due to the researcher being on maternity leave).

8.4.5 Analysis approach

A constructivist grounded theory approach to analysis was used, with particular reference to the work of Charmaz (Charmaz, 2011, 2014). This approach openly acknowledges that subjectivity is inherent in data analysis and inevitably guided by researcher biases. Data analysis commenced at the time the first letter was received and was conducted concurrently with data collection.

An abductive process was undertaken, which involved starting with an inductive approach to data analysis and then looking to existing literature and theory to 'check hunches' (G. R. Gibbs, 2007) before returning to data analysis, and then repeating this process. Charmaz refers to abductive approaches as an important feature of grounded theory (Charmaz, 2014).

In line with the constructivist grounded theory approach advocated for by Charmaz, a line by line coding approach with a focus on participants' actions was initially undertaken. As more letters were received, newer letters were analysed using line by line coding and by testing the more focused codes which had emerged from the earlier letters received. A process of memo writing to further develop the ideas emergent in the coding was then undertaken. Charmaz (2008) notes that while memos are sometimes regarded as a procedural step between coding and draft writing in grounded theory research, memos can be much more meaningful to researchers making sense of their data, giving the opportunity to learn more about the data and develop theory, rather than a mere descriptive summary of the codes identified.

8.4.6 Reporting

No names of participants (real or pseudonym) or codes were used to refer to participants and concerted efforts were made to remove description markers where possible in participant quotes. While it is acknowledged that context may be reduced through this approach, this was weighed against the other considerations relating to anonymity and reporting, including potential mistaken identity and de-humanisation of participants through codes (Saunders et al., 2015). A further consideration was the anonymisation of location (Clark, 2006), and disaster hazards. Attempts were made to remove identifiers around location and hazard event.

8.4.7 Ethics approval

This study was approved by the University of Melbourne Human Research Ethics Committee (ID: 1543703.1).

8.5 Findings

8.5.1 Sample characteristics

Twenty people impacted by disasters participated in the first stage of the study by submitting a letter. Fourteen of these participants were female, six were male. Six participants did not indicate their age on their demographic information sheet. Of those who provided their age, the youngest participant was 29 years old and the oldest was 89 years old at the time of participation. The average age of the participants who provided their age was 52.4 years. All participants noted that English was the language used at home. Sixteen participants provided information about their living arrangements, with six married or de facto with no children / no children living at home, five participants were living alone, four married or de facto relationships with children at home and one person sharing with other adults. Seven participants did not indicate their highest level of

education, but of those that did the sample were mostly highly educated, with seven participants indicating they had postgraduate qualifications.

The participants in the study had been impacted by six different disaster events (see Table 2) Seven participants had been impacted by the Canterbury earthquakes, four by the 1967 Tasmanian bushfires, three by the 2009 Victorian “Black Saturday” fires, three by the 2013 Tasman Peninsula bushfires, one by Margaret River fires and one by the “Ash Wednesday” fires. One participant noted involvement with multiple disaster events.

Table 2 - Disaster events experienced by participants

Disaster event	Location	Year
“Black Tuesday” bushfires	Tasmania, Australia	1967
“Ash Wednesday” bushfires	Victoria and South Australia, Australia	1983
“Black Saturday” bushfires	Victoria, Australia	2009
Canterbury earthquakes	Canterbury, New Zealand	2010, 2011
Margaret River Bushfires	Western Australia, Australia	2011
Tasman Peninsula Bushfires	Tasmania, Australia	2013

Participants were able to choose what point in time they addressed their letter to self to (e.g. past, present, future self). Two participants wrote to their pre-disaster self, ten participants addressed their present day self, three to themselves shortly after the disaster event, and one to their future self. One participant wrote to a past self some years after the disaster event, at a specific life milestone where the impacts of the disaster had a new type of impact. Three participants addressed their submission to the researcher.

8.5.1.1 Recovery workers who were also personally impacted by the disaster

A sub-sample was identified in the data – recovery workers who had also been personally impacted by the disaster events. This was not a sub-group specifically recruited, but presented an interesting perspective in their letters. A number of themes from these participants emerged specific to their dual experiences of personal and professional involvement in disaster recovery.

Of the four recovery workers who had also been personally impacted by the disaster event, three described the recovery work as a mostly powerful, positive and empowering experience. For the other participant, this was not the case, and the professional experience was described as mostly negative, disempowering, frustrating and isolating. For three participants in this sub-group, these recovery roles were completely new jobs in organisations they had not been previously employed with; while for one participant the recovery focused role was a variation on their previous (non-disaster) employment in the same organisation.

8.5.2 Misalignment between personal and professional lives.

All participants in the sub-sample of recovery workers also impacted by disaster described a misalignment between their personal and professional experiences of recovery. The three participants who described overall positive professional experiences, referred to their work as incredibly intense, powerful and meaningful. One recovery worker recounted the tone and pace of the work to themselves in their letter:

There is so much to do you barely have time to stop to go to the toilet. Your work feels alive and full of meaning.

These participants described feeling that they were able to take meaningful action to support the recovery efforts, and had agency in this domain of their lives, despite the intensity, pressure and volume of the work. There is a propelling urgency in the way they describe the work, a compulsion to work so tirelessly and at such a frenetic pace because of the value and importance they placed on the work, and an immense sense of reward. One participant described

their experience at work as feeling valued and empowered in a way they hadn't previously experienced:

I found the entire thing very empowering. I was appreciated in my work for bringing a particular skill set ... at least for a short period of time you are recognised for your work, people value it and you are thanked. I feel like I was able to come into my own during that time. People were able to see capacities that I was able to bring, like leadership, even though they had been there before, but they were recognised during it.

Another recovery worker summed up the intensity of their experience:

Working in recovery almost broke me, but it was also the best thing ever.

Despite identifying feeling out of their depth at times, these three participants who had mostly positive professional experiences felt supported by a collegiate team of co-workers who were going through similar experiences. For the most part, they felt that the people around them at work "got it", as described by this recovery worker:

...you [and your colleagues] mostly share similar feelings, 'we're building the plane while we're flying it!'. Most of the time you'll feel like you are in it together, that you are part of something good. You are supported by, and are a supporter of, your team and others working in recovery and the wider community.

This sense of camaraderie at work was observed by the participants who had positive experiences, though one commented that this was diminished when their organisation decided to split roles into "business as usual" and "recovery" focused teams. They noted that this was a turning point in the previously shared sense of purpose within the organisation after the disaster.

This strong sense of autonomy, agency and meaningful contribution was contrasted by the way these three participants reflected on their personal lives, where they described often feeling out of control and defeated. For one of the participants, this sense of loss of control in their personal life was manifested through the swift, dramatic changes which took place in their surrounding environment, stemming not only from the destruction wreaked by the disaster but also the decisions from authorities regarding reconstruction. Significant infrastructure and housing damage, and subsequent housing shortages meant that friends had to relocate, and places of significance either had been destroyed or were no longer accessible. The sense of frustration and loss of control is apparent when they recounted the story to themselves in their letter:

Your previous life was made up of routines that reflected all the enjoyable parts of your life. Change occurs quickly and without your permission. You respond by pushing this part of your life to the side. Here you have little agency over the effects of the [disaster event].

For another participant, the disaster impacts in their personal life were amplified by an abusive relationship with their partner. At work, they felt like they had autonomy and power, but at home this feeling of control was absent:

It was totally a temptation to hide in my work. Work became a refuge. It was the one place in my life. It was the one place in my life where I felt vaguely capable and in control. I could be the 'me' that I wanted to be at work. I felt more capable in that environment. In the next two years, work became a place where I was succeeding and everything else was falling apart.

The participant in this sub-sample, who described their professional role as a fairly negative experience nonetheless also identified the professional part of their life as misaligned from the personal part. While this doesn't stem from the same contrast of autonomy and power in their professional role as experienced by the other participants, they do describe an experience of being disempowered

in their personal life as a result of their involvement in the formal recovery process:

... you will no longer have control over what you do, who you speak to and how you feel. Your property will not feel like your own, your life will not feel like your own. You won't be asked what you want; you will be told what you need.

They then go on to identify that their professional role stifles their personal recovery. They experience the professional role as a conflict to being able participate in the broader recovery efforts personally or to seek assistance for their own impacts:

You will forget that you are a local. You won't speak up at meetings because you are being paid to listen not speak as a local. You will be disadvantaged with your recovery as you will feel that it's a 'conflict of interest' to ask for help.

This sense of powerlessness and isolation is further exacerbated by a sense of not being able to adequately support their loved ones who are also struggling from the impacts of the disaster.

8.5.3 The professional experience of recovery influenced the personal experience of recovery.

Participants raised a number of points about how both the narrative of recovery in the professional realm and the exposure to a range of recovery experiences through their work roles, beyond their personal networks, altered the way they framed recovery in their personal lives.

One participant reflected on the gap between the recovery narratives used in the professional recovery realm compared to their personal experiences. The dominant recovery narrative used in their work – that community pulls together and neighbours help neighbours – did not ring true of their own experience as an

impacted person. They reflected that this disparity caused them to struggle to position themselves as a recovering person within this narrative:

I was too busy working to fill up our water buckets at the water tanker so I didn't have those chats. I was too busy working in it to be living it. And the working in it became my life. Was my work place my community? We so often differentiate our audiences by communities, but I genuinely don't think I fell into any of the segmented audiences – and if I didn't, who else didn't?

Another participant described this juxtaposition between the professional narrative and the personal experience simply by writing:

It's different outside of work... it feels like recovery doesn't make as much sense outside of that context.

Participants who were recovery workers, who had also been personally impacted, observed that their professional role exposed them to a range of other people's experiences, which they may not have been privy to otherwise, including people from different socio-economic and ethnic groups. When reflecting on this process, one of the participants stated:

Our whole [house] repair process was grueling, but we were the lucky ones. [At work] you saw all these burdens and complexities that others had, and you come home and it's genuinely shitty, but it also feels trivial.

Two of the participants particularly noted that this caused them to reassess their personal experiences of the disaster and recovery in light of other peoples' experiences.

8.5.4 The personal experience takes a backseat to the professional experience... until it doesn't.

All four participants described how all consuming their recovery work was. For the three participants who had a mostly positive experience at work, there came a point where they preferred to focus on work because of a sense of progress,

reward and recognition which was largely absent in their personal experience. In a letter from one of the participants, they advise themselves to try to avoid this gap:

Start thinking of your life holistically again. Try not to separate out your work and home life to such a degree, deriving too much meaning and pleasure from one over the other. At times it will feel like this approach is okay, or justifiable given the situation, but be honest with yourself, don't make excuses. You will have to deal with the misalignment at some point. Recovery isn't something you are only helping others to do.

All participants with dual experiences reach a point where they can no longer sustain the misalignment between their personal life and the demands of the professional roles they have. All make a decision to leave their professional roles, coming to the decision in different ways.

And then you will come to the point where you need to say no – that your time in the 'recovery team' is over. You will leave, and you will try to return to your 'normal' job and your normal life.

Interestingly, three of the four participants choose to relocate after finishing their roles, and the fourth also considers moving away. Those that move reflect on how the change of environment to a non disaster-affected location is a positive experience which allows them to focus and process their personal experience;

... it helps to move away for a period, to live where everything isn't touched by the event. Where street life and nightlife occur without rubble and road works. But be patient about it. Regarding this point, you can look forward to the fact I think you get this right. You listened to yourself, your personal needs, and balanced these with the incredible experiences and career opportunities that were offered.

The other participant, the same person who didn't have a positive work experience, contemplates moving away as a way to deal with their personal experience after attempts to reclaim their pre-disaster life doesn't work as hoped:

... the people in that world won't understand. They will have no idea what you've been through, they will have no idea how you feel and they will not have the capacity to help you. You see people are starting to get to the end of 'helping' and you will be realising that you have left it too late...You will feel differently about your community too. You will struggle to go to social events and you will isolate yourself from the community. You will struggle with the physical scars of where you live and you will struggle with things that are built around you. You will think about moving away, and you will feel unsettled. Life will be different for you where you live.

Ultimately, they choose not to relocate, but enlist the support of professional assistance to help their personal recovery.

The intensity and ferocity of the pace of recovery work which the participants initially identified, and the misalignment between their personal and professional experiences of recovery seem to only be able to be sustained for a period of time before all of these participants were motivated to make a dramatic change to their work roles in order to prioritise their personal lives.

8.6 Discussion:

Recovery workers who are also personally impacted have a unique perspective in the disaster space, with interesting insights into disaster recovery. The importance of having locally led disaster recovery has been recognised in literature and policy (Alesch et al., 2009; Australian Institute of Disaster Resilience, 2018; Cretney, 2016; Garnett & Moore, 2010; Kenney & Phibbs, 2015;

Leadbeater, 2013; Owen, 2018; G. P. Smith & Wenger, 2007; Wills, 2013). Considering the likelihood for recovery workers to be exposed to work related stressors (Ehring et al., 2011; Wills, 2013), secondary trauma (Adams et al., 2008; Naturale, 2007; Pulido, 2007), and the intensity of the post-disaster environment (Alesch et al., 2009; Cox & Perry, 2011; Eyre, 2006; Leadbeater, 2013; Whittle et al., 2012; Wills, 2013), people who have a dual experience of personal and professional involvement in disaster recovery are an important group to understand how best to support.

One of the most significant components of the themes raised by these participants is the misalignment between their personal and professional experiences of disaster recovery, and how this impacted their sense of wellbeing. This awareness of life segmentation was referred to by other participants in the study sample, who generally referred to the distinction between life that had a disaster focus and life that didn't, but the sense of misalignment was especially pronounced for those with dual roles. For those who had positive work experiences, despite the intensity and volume of the workload, some of the key characteristics they identified as empowering and positive included a strong sense of agency, purpose and connectedness with others around them, which was largely absent in their personal life after the disaster.

When undertaking the data analysis for this study, an abductive process was undertaken, whereby the researcher started by using an iterative inductive approach to data analysis and then looked to existing literature and theory as themes started to emerge (Charmaz, 2014; G. R. Gibbs, 2007). Very few examples regarding the misalignment between personal and professional disaster recovery roles were identified in the literature, though one especially resonant case was present in the work of Whittle and colleagues (2012) who presented the story of a participant with dual roles who identified an uncannily similar trajectory to the recovery workers in this study. Marilyn (not her real name), was the headteacher of a school heavily impacted by a flood and whose own home was also flooded. She played a central role in supporting the staff and student body who had almost all been directly impacted. In her diary entries, Marilyn

describes the intensity and importance of her work, which is prioritised at the expense of her personal recovery, until she eventually retires (earlier than planned) due to the experience (Whittle et al., 2012).

One existing theory that had particular relevance to the themes presented by recovery worker participants was self-determination theory (SDT). Over the last forty years, psychologists Richard Ryan and Edward Deci, with others, have developed SDT to explain motivation and wellbeing (E. Deci & Ryan, 2002). The central tenet of SDT is that all humans have a set of psychological needs, which they naturally and instinctively strive to fulfill. Ryan and Deci categorise these basic needs as competence, relatedness and autonomy:

- *Competence* refers to an individual's feeling of effectiveness in their ongoing interactions within their social environment and the opportunity to experience and express their capacity and potential. Deci and Ryan consider that competence is the sense of confidence and effectiveness felt by an individual about their actions and behaviours (E. Deci & Ryan, 2002).
- *Relatedness* refers to an individual's sense of connectedness with others. Ryan and Deci view relatedness to be reflected in how an individual feels they are cared for by others and care for others, and the sense of belonging they have both with other individuals and with their community (E. Deci & Ryan, 2002).
- *Autonomy* refers to when an individual perceives the origins of their behaviours and decisions as coming from themselves (E. Deci & Ryan, 2002). Ryan and Deci define being autonomous as "to behave with a sense of volition, willingness, and congruence; it means to fully endorse and concur with the behavior one is engaged in" (E. Deci & Ryan, 2012).

SDT posits that individuals' well-being is enhanced when these needs are satisfied (E. Deci & Ryan, 2002, 2012; Ryan & Deci, 2000; Weinstein & Ryan, 2010).

In SDT, humans are considered to be driven to develop their sense of self through both their internal psychological development and connection to others (E. Deci & Ryan, 2002). While Deci and Ryan consider this drive for development and well-being innate, the authors do not consider the ability to engage in activities and actions that enhance this as automatic or taken for granted. Rather, they suggest that there are a number of environmental factors (which they refer to as social contextual factors) which either encourage these innate tendencies to thrive or, conversely, thwart them (E. Deci & Ryan, 2002).

SDT offers a helpful perspective on why people are motivated to act in particular ways, including helping others. The psychological domains of competence, relatedness and autonomy are resonant with issues commonly identified in post-disaster settings usually in relation to the role of social connections, power in decision making and community led action (Aldrich, 2011, 2017; Alesch et al., 2009; R. A. Bryant et al., 2014; R. A. Bryant, Gallagher, et al., 2017; Eyre, 2006; Eyre & Dix, 2014; Leadbeater, 2013; Norris & Kaniasty, 1996). SDT presents a useful lens to explore motivations for helping behaviour following disasters, and potential barriers to satisfying psychological needs and feelings of wellbeing.

Recovery workers who were also personally impacted by disasters identified frustrations in their post-disaster personal lives, characterised by a loss of control, disrupted social connections and frustrated ability to make changes to restore their lives; that is, they experienced a reduced sense of competence, relatedness and autonomy, resonant with existing literature relating to disaster recovery hindrances (Norris & Kaniasty, 1996; Whittle et al., 2012). Where their work experience was positive, it was characterised by components that Edwards and Deci identify as central to meeting the needs of wellbeing. In other words, these workers were in roles that afforded them a sense of competency,

autonomy and relatedness. The framework of SDT is a useful way to consider the misalignment between personal and professional experiences of recovery as identified by participants.

8.6.1 Strengths and limitations

Like all research, this study displayed both strengths and weaknesses. One of the strengths of this work was the inclusion of a range of perspectives from people who experienced different hazards, in different locations, over different time periods, as well as the mix of ages, gender and circumstances. This strength is demonstrated by the emergence of the theme explored in this paper, that of participants with dual roles who were affected.

Due to pragmatic decisions in the research design, eligibility criteria excluded people without sufficient confidence to participate in English. The researcher notes this limitation, and hopes in future projects there would be capacity for a linguistically diverse research team, or funding for interpretation and translation, so these barriers could be overcome.

Considering the unexpected nature of these findings, involving a small number of participants as part of the broader study sample, these findings should be considered preliminary and warrant further investigation.

8.7 Conclusion:

People who have dual experiences in disaster recovery, through both professional and personal involvement, have a unique insight into the dimensions of disaster recovery. Very little is known about this cohort from a research perspective. The limited existing literature indicates that these people carry a significant burden and may be more susceptible to psychopathology, physical health complaints and stress related to both living and working in the post-disaster environment (an environment known for its chaotic, grueling nature and compounding stressors). Considering the predictions of increased frequency and severity of disasters, and a push for locally led recovery efforts in emergency management guidelines, it can be reasonably predicted that this cohort will grow.

This emergent theme from a sub-sample of participants in a broader study offers interesting insights into the experiences of people who hold a dual role in disaster recovery. This study presents findings that people who hold these dual roles may: 1) experience a misalignment between their personal and professional experiences of recovery; 2) have their personal experiences of recovery reframed by exposure to others impacted as part of their professional experience; and 3) initially prioritise their professional roles, but reach a point where their personal recovery needs to take priority over their professional role. Recovery workers who also have personal experience of the disaster play an important role in broader disaster recovery efforts and may experience their work as overwhelming or empowering, or both. The findings indicate a clear need for further enquiry into the experiences of people in these roles and how they can be best supported through the relentless recovery process. Self-determination theory may offer a helpful framework for future research with recovery workers who are also personally affected by the impacts of disasters.

Chapter 9 (Paper): Letter to self: Participant experience of a novel post-disaster research method

9.1 Abstract:

Research into topics that are potentially traumatic requires careful consideration of ethical concerns for participants and sensitive study design. There is a growing body of literature indicating that, despite the distressing nature of some research topics, many participants report high levels of research satisfaction and can experience benefits from participation. This paper reports on findings about participant experiences in a study on disaster recovery using letter writing to self as a data collection method. Twenty people who had been impacted by a range of disasters wrote a letter to themselves regarding what they considered helpful and unhelpful in their recovery. This data was analysed using a constructivist grounded theory approach. We found that most participants did not experience distress while participating. The few participants who reported some levels of distress did not consider this as negating an overall positive research participation experience. We argue that where research projects are sensitively and carefully designed to address ethical concerns, potential participants should be considered the best judge of whether participation is right for them.

9.2 Introduction

Research into potentially traumatic experiences requires thoughtful consideration of related ethical issues, which should in turn inform sensitive and deliberative study design (S. J. Alexander, 2010; Dyregrov, 2004). The first stage of our study looked at the experiences of people in Australia and New Zealand who had been impacted by a disaster. The second stage of this study explored participants' experiences of taking part in research regarding a potentially traumatic event, using a novel data collection method designed to address identified ethical risks in the research. In this paper, the perceived ethical risks relating to research with participants are outlined. An overview of existing

literature relating to the participant experience of research into potentially distressing topics is provided. The results of this research are then presented.

9.3 Background

Disasters are, by their nature distressing and potentially traumatic events. The possibly traumatic nature of some topics has been considered a barrier to undertaking research into some lived experiences (S. J. Alexander, 2010). Existing literature suggests that minimal distress of short duration in a very small minority of participants can be expected during research participation regarding distressing topics (Newman & Kaloupek, 2004; Parslow et al., 2000).

In their evaluation of participant experience in an Australian longitudinal research study looking at the impacts of the 2009 Victorian bushfires, Gibbs and colleagues (2018) noted that reported distress from participants was generally low, while overall satisfaction was relatively high. Participant satisfaction was not associated with levels of psychological distress, nor was participant distress in the first phase of the research a predictor for participation in the second stage of the research. A minority of respondents reported finding survey participation to be distressing, and signs of mental illness were associated with higher levels of participant distress. However, this was not correlated with diminished participation satisfaction. In fact, participants who showed fire related post-traumatic stress disorder symptoms reported increased satisfaction and were more likely to return to the second phase of the research. These authors suggest those who experienced considerable loss and distress as a result of the fires may have found the research experience particularly meaningful (L. Gibbs et al., 2018).

Research with psychiatric inpatients (Carlson et al., 2003) and assault survivors (Griffin et al., 2003) concerning research participation experiences found that most participants were generally untroubled by participation and viewed their experience as interesting and valuable. Other studies with parents of children who had died suddenly (Dyregrov, 2004), and war veterans (Parslow et al.,

2000) reported that participants experienced being upset while participating in the research, but that the levels of distress were generally low, or manageable, with no evidence of long-term harm or prolonged distress. This is in keeping with findings from reviews into research participation experiences (Newman & Kaloupek, 2004).

In studies with bereaved parents (Dyregrov, 2004), people who had been hospitalised as a result of a motor vehicle accident (Ruzek & Zatzick, 2000), war veterans (Parslow et al., 2000), and people who had been assaulted (Griffin et al., 2003), the majority of participants said that they would participate in future research on the topic if the opportunity arose. Participants who were asked if they would recommend a friend in a similar situation to participate in research about their traumatic experience also overwhelmingly agreed they would (Dyregrov, 2004).

Further, some of this literature indicates that there are possible benefits to research participation, including reporting a cathartic effect from participating, having an opportunity to reconstruct or reorder the meaning of experiences, having an opportunity to identify new insights and being able to express pain, confusion and anger to an outsider (Dyregrov, 2004). Acknowledging the need for careful planning and consideration in study design, some researchers have argued that to automatically consider research on potentially traumatic topics as too risky from an ethics perspective may deny access to a potentially beneficial experience (S. J. Alexander, 2010; Dyregrov, 2004). Participants in research relating to potentially traumatic events have been found to be able to assess the cost benefit of participation and exercise control by withdrawing from research (Newman & Kaloupek, 2004). Dyregrov articulated this sentiment clearly when she advocated that:

...the vulnerable groups themselves are the best judge of whether participation in research is perceived as harmful or beneficial. Too often decisions, particularly concerning trauma-related protocols, are influenced by presumed rather

than empirically documented vulnerability. It is often assumed that research on vulnerable populations might be unethical because it ‘may rip open old wounds’ (Dyregrov, 2004).

Existing research suggests that writing about traumatic and emotional experiences, while potentially upsetting for some at the time of writing, overall has a positive effect for a wide range of participants (Landless et al., 2019; Pennebaker, 1993, 1997). Writing about distressing and emotive events has long been recognised as a cathartic experience and is a well established therapeutic tool (Riordan, 1996). Pennebaker (1993, 1997) found that people who wrote about deeply personal or traumatic experiences had improved health outcomes when compared to people who wrote only about superficial events. Some of the benefits documented included decreased number of visits to health centres and physicians, and decreased workplace absenteeism (Pennebaker, 1993). Landless and colleagues (2019) found that where intensive, focused writing sessions were used therapeutically with military service members who had experienced traumatic brain injuries and psychopathology, most of the participants experienced more positive emotions than neutral or negative, and reported feelings of relief after the sessions (Landless et al., 2019).

This paper reports on participant experiences of research regarding disaster recovery, using letter writing to self as a novel approach to data collection.

9.4 Methodology

9.4.1 Theoretical framework and research approach

This research was approached from a constructivist perspective, using an interpretation that individuals are situated within a cultural and social context and construct meaning as part of an ongoing dynamic process between internal and external factors (Crotty, 1998). Consistent with this constructivist perspective, a qualitative approach was undertaken. Acknowledging that some of the definitions and methods of qualitative inquiry can be contested, the term is generally used to describe research that aims to understand the meaning of

human action and experiences (Schwandt, 2011), focusing on qualities and features of data rather than measurement (F. Erikson, 2011).

9.4.2 Study design

The overall study was developed to explore three research questions, split into two phases. The first research question was addressed in the first phase of the study, and research questions two and three were addressed in the second phase of the study. This paper is reporting on the second phase of the study:

- What do people who have been impacted by a disaster consider to be helpful and unhelpful in their recovery?
- **What was the participant experience of research into a potentially traumatic event?**
- **What was the participant experience of a novel data collection method?**

A number of ethical and pragmatic considerations influenced the design of the study. As noted earlier, disasters are, by their nature, potentially traumatic events, which can impact all facets of life for those affected, and create chaotic, disorienting environments with significant secondary stressors.

Some considerations specific to the study design of this project included 1) a broad geographic spread of participants, 2) researcher positionality as a senior disaster recovery practitioner employed by the Australian Red Cross, which may have made withdrawal more difficult for participants known to the researcher 3) ensuring that a broad range of impacts could be explored by participants, rather than pre-identifying topics of interest, and 4) consideration of research fatigue in disaster-affected communities.

For the overall study, a multi-method approach was decided on. To address the first research question, a novel approach to data collection was designed in an attempt to address the ethical considerations. Participants who had experienced

a disaster event at least two years prior were invited to write a letter to themselves addressing the single question “What did you find most helpful and unhelpful after the disaster/s you experienced?” They were then asked to send the letter to the researcher as an email, voice recording or by postal mail. While letter writing as a data collection method is not an established methodology, letter writing, writing to self and journaling are all well established therapeutic tools (Landless et al., 2019; Pennebaker, 1993, 1997; Riordan, 1996). Research participation was not intended to be a therapeutic intervention, but the existing literature indicated that it was unlikely to cause harm. The second and third research questions were addressed using a self-administered electronic survey with structured and unstructured components.

9.4.3 Selection criteria

Individuals who had experienced a disaster event at least two years prior were eligible to participate in the research. Participants were required to be over 18 years of age and to live in Australia or New Zealand and able to participate in English. All participants from the first phase of the research were invited to participate in the second phase.

9.4.4 Recruitment and data collection

A combination of sampling approaches was used to recruit participants for the first phase of the research. A purposive criterion approach was used, by approaching people with known lived experiences of disasters. Noting that this is a contested term, it is used here to reference a sampling approach where individuals who are especially knowledgeable or have experience with particular phenomenon and meet set criterion, are invited to participate (Palinkas et al., 2015; Palys, 2008). A snowball sampling approach was used by asking key informants (including leaders from disaster-affected communities, people with known lived experience of disasters and recovery workers) to share information about the project with their networks. Convenience sampling was also used by promoting the research project through social media.

In addition, the researcher developed a website with information about the research project. The information was presented in written text and in video format on the website. Study information postcards were also distributed at some disaster-related community events and to community leaders upon request.

When participants from the first phase submitted their letter, they were invited by email to take part in the second phase of the research. A link to a self-administered electronic questionnaire (hosted through SurveyMonkey) was sent, with an option for a paper survey and stamped envelope to be sent if the participant preferred it.

9.4.5 Measures

The second stage questionnaire consisted of fifteen questions to identify participant motivation, distress and regret and overall experience of the letter writing stage of the research. Table 1 illustrates each question and its response options.

Table 3 - Second stage questionnaire

Question number	Question	Response option
1	Why did you want to participate in the research (writing the letter)?	Open text response
2a	When you found out that you were being asked to write a letter as part of the research (instead of another research method such as an interview or survey), did it make it:	Likert scale: • More appealing to participate • Neither more or less appealing to participate • Less appealing to participate

2b	Any comments?	Open text response
3a	Did you find the experience of writing your letter:	Likert scale: • Very enjoyable • Somewhat enjoyable • Neither enjoyable nor distressing • Somewhat distressing • Very distressing
3b	Any comments?	Open text response
4	How did you feel about reflecting on your recovery experience?	Open text response
5a	Were there points in your letter writing experience when you wanted to stop participating?	Likert scale: • Yes • No
5b	If so, why?	Open text response
6	What were the things (if any) that you found positive about your letter writing experience?	Open text response
7	Is there anything we could have done differently to improve your letter writing experience?	Open text response
8a	Do you have any regrets about participating in the research?	Likert scale: • Yes • No • Not sure
8b	Any comments?	Open text response
9a	Would you recommend a good friend in a similar situation to participate in research	Likert scale: • Yes • No

	like this?	• Not sure
9b	Any comments?	Open text response
10	Any other comments / information you would like to include?	Open text response

9.4.6 Analysis approach

A multi-method approach was used for analysis of the data from the questionnaire, recognising that there was a small sample size. The Likert scale responses were assessed for trends within the cohort and to get a sense of reaction from participants. The text-based responses to open-ended questions were coded thematically through an inductive process, which commenced after the first five responses had been received. A basic frequency analysis of Likert scale responses was undertaken when all responses had been received. These findings were then integrated. For clarification of findings, individual survey responses were returned to in order to explore further insights between the experiences reported by participants. As an example, where participants had identified some level of distress in participation, the researcher then returned to their individual survey responses to identify how these participants had responded to questions about regret, recommending other people undertake similar research projects and overall sentiment. This contributed to a more nuanced thematic analysis.

9.4.7 Reporting

No names of participants (real or pseudonym) or codes were used to refer to participants and concerted efforts were made to remove description markers where possible in participant quotes. While it is acknowledged that context may be reduced through this approach, this was weighed against the other considerations relating to anonymity and reporting, including potential mistaken identity and de-humanisation of participants through codes (Saunders et al., 2015). A further consideration was the anonymisation of location (Clark, 2006),

and disaster hazards. Attempts were made to remove identifiers around location and hazard event.

9.4.8 Ethics approval

This study was approved by the University of Melbourne Human Research Ethics Committee (ID: 1543703.1).

9.5 Findings

9.5.1 Sample characteristics

All participants from stage one of the research were invited to take part in the second stage questionnaire. Fourteen of the twenty participants from the first stage of the research undertook the survey. Participants were not asked to provide demographic information in the questionnaire as they had been asked for this in the first stage. They were asked only for their names (optional) so that their responses in the second stage could be matched to the demographic information collected in the first stage. One person elected to respond to the questionnaire anonymously, so no demographic information is available for that one participant. Of the thirteen participants who provided their names, six of these participants had not provided completed demographic information in the first stage.

The known sample characteristics between the first and second stage samples were similar. Of the seven participants who provided their age in the second stage sample, the oldest participant was 89 at the time they submitted their letter, and the youngest participant was 29, with a median age of 56.6. Nine participants in the second stage of the research identified as female, and four as male. The disasters represented were the 1967 Tasmanian bushfires, the 1983 “Ash Wednesday” bushfires, the 2009 “Black Saturday” bushfires, the 2010/2011 Canterbury earthquakes and the 2013 Tasman Peninsula bushfires. Of the participants who provided information about highest level of education attained, most were highly educated, with five participants identifying a post graduate qualification.

9.5.2 Motivation to participate in the research

When asked about their reasons for participating in the research, the main reason given by participants was altruism. Participants were motivated to improve the broader understanding of disaster recovery to assist those who experience a disaster in the future. One participant summarised this sentiment in their response:

I think we have an opportunity and perhaps a small obligation to share what we know so others might benefit. Sadly we know there will be in time more [disaster events]. If our stories can give a 'next generation' some idea of what to possibly expect then I think it's good to pass that on.

Other reasons that respondents gave for their participation in the first stage of the research was an opportunity to tell their stories and general interest in the topic.

9.5.3 Participation distress and gladness

Three survey respondents indicated that they found the experience of research participation in the first stage somewhat distressing, with five indicating that they found it neither distressing or enjoyable, three that they found it somewhat enjoyable, and three found it very enjoyable.

None of the three respondents who reported that they found the experience somewhat distressing indicated that they regretted participating in the research. Two of these respondents said they would recommend participating in a similar research project to a good friend who had experienced a disaster, with the third participant noting it would depend on their friends' levels of resilience and available support. It is worth noting that this same participant commented that they had found their participation experience cathartic and stated:

I am glad that I have had the chance to talk about things that have been suppressed for so long.

One of the other respondents who indicated the participation experience had been somewhat distressing made an explanatory comment with their response:

It is still raw, and of course it's emotional.

The participants who had indicated that they found the experience very enjoyable noted that they perceived the experience as helpful, clarifying and healing. One participant observed their own mix of emotions throughout their experience:

I found it both emotional and healing. My experience and reaction was not what I had expected at all. It was like I was preparing myself for the emotion to come, but reassuring myself it would be ok.

This comment was one of many which highlighted that some participants had an overall enjoyable experience despite feeling strong emotions while they were writing their letters, with one participant stating:

I enjoyed the whole process. I don't mind entering dark spaces.

And another:

I did become emotional, but perhaps I needed to do that.

These comments indicate that participants did not necessarily consider strong emotions as negating a positive participation experience.

When asked if they had any participation regret, thirteen respondents said no, with one respondent indicating they weren't sure. This one respondent made a further comment noting a wariness in general to research participation rather than concerns with this study specifically:

It's [research participation] always a trade off between contributing to assist with research versus not being someone's experiment or hypothesis.

Using a similar question to one posed by Dyregrov (2004) in her study with bereaved parents, respondents were asked whether they would recommend to a good friend in a similar situation to take part in a research project about their disaster recovery experience. Twelve participants indicated they would recommend research participation to a good friend in a similar position. No respondents said they would not recommend participation to friends. The two

respondents who indicated that they weren't sure clarified their comments noting consideration for friends' personal recovery timeframes, levels of support and resilience. For participants who would recommend participation to their friends, reasons given included that it had been a positive reflective experience for them, and also wanting to encourage more people to contribute to a greater evidence base to improve knowledge about disaster recovery.

9.5.4 Participant experience of letter writing as a data collection method

Respondents were asked whether they found the method of writing a letter to themselves more or less appealing as a participation method than other data collection methods. They were also asked to reflect on the positive and negative aspects of their letter writing experience. Only two respondents reported that they found being asked to write a letter to themselves diminished the appeal of participating in the research. The other twelve respondents were evenly split as to whether it made it more appealing or had a neutral effect. The level of appeal that participants reported about the letter-writing element of the research was not linked to reported levels of participant distress.

Participants who identified the data collection method as neutral, or more appealing compared to other methods, perceived the letter writing as offering a sense of control, novelty and reward. Some respondents noted that they valued being able to control the form and pace of the letters, and use their own voice throughout, with one participant noting:

It's nice to say what you want and not just answer questions someone else devised.

Another reflected:

It opens up people's ideas on how research can be done in an innovative-fresh way that allows for input in the way you want to give it – and to the degree and to the direction you want to reply in.

The novelty of the format intrigued a number of respondents. These participants identified that they had taken part in research before, and being able to try a

different approach was interesting and appealing. A number of the respondents noted that the letter-writing format was a method that allowed them to give themselves advice and felt cathartic and rewarding. As one participant wrote:

I am over the traditional ways of gathering material around disaster stuff... so to have the process in a form that was interesting gave me 'something back for my efforts' – the something back was my learning as I wrote what was important to me.

This appealed to other participants as well:

Seems a good way of flushing out the inner feelings which probably drive a better research data base than a questionnaire or an 'on the spot' interview.

This opportunity for self-reflection, where the participants were able to focus on their experience was considered valuable. Further, a number of participants noted that writing the letters became an unanticipated sense-making exercise for them. This was countered by some suspicion regarding letter writing as a data collection method, with one respondent referring to it as odd and another expressing concerns as to how the data analysis would be conducted on letters. Two participants identified that they would have preferred an interview format. The reasons given were time commitment, and feeling like they would have been more confident addressing structured questions with interviewer prompts.

A number of respondents noted that writing a letter to themselves was an especially intense approach to reflecting on their experience. For some participants, this was helpful, noting that it allowed them a space for personal reflection, an opportunity to focus on themselves rather than others, and meaning making:

The personal nature of the letter to myself made it more intense than I had imagined... [and] it gave me the feeling that that particular chapter of my life is really finished, and that feels satisfying, to be moving on to something else.

For others, the intensity of their experience hampered their ability to respond:

If I wasn't writing to myself, it would have been easier. If I was relating the experience, I would have been able to write about it with no issues I think.

This reflection had resonance with a number of disaster-affected individuals who initially indicated that they intended to participate, and then later (unprompted) contacted the researcher to explain their change of mind. In correspondence to the researcher, two potential participants wrote about the difficulty in writing to themselves:

See... we both really want to join in and write a letter to ourselves. But we just... can't. We both agreed that we would feel better writing letters to each other, rather than to ourselves.

This discomfort was also seemingly experienced by other participants, two of whom addressed their letters to the researcher, noting that it was easier than writing to themselves, and one who called the researcher and dictated their letter on the grounds that they really wanted to do it, but was finding the experience of writing to their younger self too overwhelming and intense.

9.6 Discussion

The finding that the main reason cited for participation motivation was altruism is consistent with other research regarding potentially distressing topics (S. J. Alexander, 2010; Dyregrov, 2004).

The comments made by participants regarding levels of distress, strong emotions and satisfaction with their participation also reinforce the findings of other researchers. Respondents did not consider strong emotions or some distress as precluding having a positive research participation experience. This is in keeping with the findings of Gibbs and colleagues (2018) who found that post-disaster research experiences can be simultaneously emotional and valued by participants. It is also in keeping with the work of others who suggest that the

perceived benefits for participants outweighed negative costs of participating in post trauma research (S. J. Alexander, 2010; Dyregrov, 2004; Griffin et al., 2003; Newman & Kaloupek, 2004).

9.6.1 The need for nuance in discussions about ethical concerns

Feedback from participants in this study indicates a need for a nuanced approach when considering ethical concerns regarding research into potentially distressing events, resonant with findings from other studies (S. J. Alexander, 2010; Dyregrov, 2004; L. Gibbs et al., 2018; Griffin et al., 2003; Newman & Kaloupek, 2004; Newman & Willard, 2001). It seems increasingly evident that participants who have experienced trauma or distress do not necessarily consider that experiencing strong emotions or some level of distress while participating in research to preclude a positive overall experience of the research experience, or perceiving benefits from their participation (L. Gibbs et al., 2018; Newman & Kaloupek, 2004). Additionally in this study, there were individuals who initially thought they would participate but then confidently withdrew when they changed their mind, similar to other research which has demonstrated participants exercising their right to withdraw (L. Gibbs et al., 2018). This is resonant with Dyregrov's (2004) comments regarding vulnerable research populations being able to judge for themselves whether participation is suitable. While research with people who have experienced potentially distressing events certainly warrants a carefully planned approach, the autonomy and agency of potential participants should be respected (S. J. Alexander, 2010; Dyregrov, 2004). Provided that an ethical and sensitive approach to study design and recruitment is undertaken, participants should be considered to be capable decision makers regarding whether participation in research is in their interests. Automatically precluding people from research opportunities about their lived experience on the basis that they may not be able to make an adequate assessment for themselves about the suitability of participation may reduce their autonomy and access to the established benefits of research (Dyregrov, 2004; Newman & Kaloupek, 2004). Additionally, precluding those affected by potentially traumatic events from research

participation may limit the opportunity for these people to influence the development of evidence that may influence future policy and practice.

9.6.2 Letters to self allows for a high level of participant control

As a data collection method, letters to self allow participants a high level of control over their participation. Participants were able to directly control which topics were and were not addressed, the style of their response, the settings they participated in and the timeframe they took to participate. Participants could review their responses before they sent them to the researcher. They could also withdraw without having to notify anyone at any point until their letter was submitted. Data collection methods which facilitate participant control should be considered given the acknowledged loss of sense of control commonly experienced by people who have experienced trauma (Hobfoll et al., 2007; Newman & Kaloupek, 2004).

9.6.3 Letters to self may intensify the research participation experience

Reflections regarding the intensity of the research experience for some participants indicates that letter writing to self as a data collection method may encourage a high level of self-reflection. Some reported this intensity as overwhelming, while others indicated that it encouraged a positive experience of self-reflection and sense-making. These observations regarding self-reflection and sense-making are resonant with literature about therapeutic writing and using journaling as a self-reflection tool (Landless et al., 2019; Pennebaker, 1993, 1997; Riley-Douchet & Wilson, 1997; Riordan, 1996). The intensity of this method seemed to be a contributing factor for people who chose to withdraw after initially indicating interest in participation. In future research projects where this data collection method is used, it may be helpful to note this feedback to potential participants to assist with an informed consent process and offer alternative methods of participation.

9.6.4 Researchers' reflections on letter writing to self as a data collection method

Based on the experience of conducting this study using the novel approach of letter writing to self as a data collection method, and reflecting on the subsequent participant feedback regarding their experiences, we present some considerations for researchers considering using this technique in the future to address challenges we identified.

First, this data collection method led to potentially lower recruitment levels. While the passive nature of collecting data this way addressed a number of ethical concerns identified in the study design, it possibly yielded lower numbers of participants than a more traditional approach (such as interviews) may have done due to low levels of engagement with the researcher. For future projects, the minimal interaction with the researcher during the data collection method may need to be countered by a more assertive recruitment strategy, such as directly inviting people to participate or hosting writing events if appropriate.

Second, this method has a limited ability to develop a rapport with participants. The ability of researchers to develop rapport with participants has been recognised as an important factor influencing whether people elect to participate in research (Bell, Fahmy, & Gordon, 2016), and as critical to the success of research projects (Griffin et al., 2003; Pitts & Miller-Day, 2007). As part of the study design for this project, interaction between potential participants and the researcher was deliberately limited as an attempt to offset the researcher positionality as a service provider, and someone known to a large number of potential participants. The comments from participants indicated that rapport was still present for some:

Having met Kate I felt comfortable that our stories will be treated with respect and dignity.

However, this deliberately limited interaction with potential participants made it difficult to develop a rapport with any participants who were not known to the researcher. Researchers could consider other ways of developing rapport, such

as presenting face-to-face to groups of potential participants, or using websites and social media to provide more information about themselves and their research motivations.

Third, the way that the method was implemented in this study limited follow up questions. The nature of the participation in the research was a single letter, with an optional follow up survey. All participants indicated they would permit follow up questions from the researcher. The researcher contacted two participants who were also key informants to ask for further information around a particular topic that emerged from the data. These key informants were known to the researcher, who was aware they had experience specific to this topic. For future studies, ensuring that information about potential follow up from researchers is clear in the participation information and consent forms is important. Researchers could also consider purposefully designing a second stage of the research where participants are called by the researcher to follow up.

Fourth was the issue of self-censorship. Self-censorship in participant responses is a consideration in a range of research methods, including interviews (Yanos & Hooper, 2008), focus groups (Överlien, Aronsson, & Hydén, 2007), and solicited diaries (Kenten, 2010) especially in relation to research into sensitive topics (Ho, 2008). Letter writing to self may be a data collection method particularly open to participant self-censorship. Because participants were writing their letter away from the researcher, commonly used techniques by researchers where there is a suspicion of self-censorship, such as using visual observations and reframing questions (Yanos & Hooper, 2008) were not able to be employed in this study. Participants also had the opportunity to review and edit their responses as many times as they wanted before submitting their letter. Following up the letters with participant interviews may reduce this issue, but researchers need to acknowledge potential for self-censorship as a consideration in the study design.

Fifth was the consideration that this method excluded some potential participants. Letter writing, as with other data collection methods, including surveys and solicited diaries may exclude potential participants without sufficient literacy or confidence to write in English (or other languages research is conducted in) (Strelitz, Lawrence, Lyons-Amos, & Macey, 2018). Letter writing as a data collection method required participants to have sufficient confidence and ability to write in English about a complex topic. This was acknowledged in the early stages of the study design. One commonly used technique to circumvent this barrier is to offer options of video or voice recorded submissions (Kenten, 2010), which was offered to participants. Additionally, the researcher received feedback that even for people who felt sufficiently confident to write in English, the intensity of writing about such a stressful event presented difficulties. One participant requested that she dictate her letter over the phone to the researcher, saying it made it easier than writing it down. The researcher transcribed the call, and offered minimal prompts, and returned the transcript to the participant for editing or changes. No other voice or video recordings were submitted. Allowing for different participation options could be planned to allow broader participation. Multilingual research teams or use of translation and interpreter services could also be considered where project resources allow this.

Finally, addressing self became a barrier to participation for some participants. Addressing the letter to self seemed to intensify the activity for some participants. The researcher received written and verbal feedback from some people who had expressed an interest in participating that the process of writing to themselves made the experience “too real”. This intensity was experienced positively by some participants, but for others it became a barrier to participation. Some participants noted that it was too difficult to address the letters to themselves, and instead chose to address the letter to the researcher. Providing participants with the option of addressing the letter to known (or even unknown others) may circumvent this issue.

9.7 Conclusion

Research into potentially traumatic experiences warrants thoughtful consideration and sensitive study design, but the nature of lived experiences should not be seen as an automatic barrier to research participation. This study provided evidence from respondents who participated in research about their disaster recovery experience by writing letters to self. The data collection method was novel and was designed to address identified ethical concerns in the study design phase.

The findings from this research are resonant with the growing body of literature looking at participant experience of research about potentially traumatic topics. Very few respondents reported experiencing distress from participating in the research, and where participants did report some distress this was not linked to diminished participation satisfaction. Participants did not view exploration into a potentially traumatic life experience, or feeling emotional while participating, as negating an overall positive and worthwhile research experience. While the study was not designed as a therapeutic intervention, some participants reported having a cathartic and sense making experience, which is resonant with findings from other studies. Letter writing to self is an interesting data collection method that seems to encourage deep reflection from participants. A number of challenges were identified with the method that could be addressed in future research where this method is used, but overall the method seems well suited to study designs where high levels of participant control and reflection are desirable.

Part 3

*Our strength is with other people, reaching out to one another, helping where we can and being a voice for our most vulnerable people
(Participant).*

Chapter 10 Discussion and conclusion

This thesis has argued that it is important to understand what is helpful and unhelpful after a disaster from the perspective of those with lived experience. To date, much of the literature focusing on disaster recovery has looked at specific impacts in isolation, rather than taking the approach that those affected by disasters face multiple, complex, compounding and cascading impacts simultaneously. For this reason this study has highlighted the interplay between individuals and the social systems they live in, consistent with the constructivist epistemology adopted for this research (Crotty, 1998). In addition, it has been the aim of this study to allow participants to identify the topics of importance to them with minimal guidance or instruction from the researcher so that a broad range of the lived experience of post-disaster life could be explored.

The emergent themes from the participant data point to a diversity of experiences in the post-disaster environment and a range of interpretations of recovery. A small number of participants described their experience as a reasonably straightforward path to restoration of their pre-disaster life. Mostly, however participants' experiences of recovery were not linear or straightforward. Rather, they were characterised by nuance and a range of dynamics that emerged over time. The post-disaster environment was described as somewhat chaotic, disorienting, exhausting and difficult to navigate. At the same time, for some participants, there were highlight experiences of the "best of humanity", kindness and unprecedented opportunities. Participants also reflected on the grueling nature of the many primary and secondary stressors they were required to navigate simultaneously. These findings reflect previous studies which have pointed to the considerable burden of secondary stressors (K. T. Erikson, 2014; Whittle, Medd, Deeming, Kashefi, Mort, Twigger Ross, et al., 2010; Whittle et al., 2012), and the distinct and stressful nature of the post-disaster environment (Abramson et al., 2010; Alesch et al., 2009; K. T. Erikson, 1976a, 2014; Eyre, 2006; Hobfoll et al., 2007; Leadbeater, 2013).

There is often a focus by emergency management organisations, governments and other recovery services on restoring a sense of order in a chaotic environment and to re-establish pre-disaster norms as quickly as possible (Alesch et al., 2009; Leadbeater, 2013). Undertaking rapid assessments, making recovery plans early and addressing disaster impacts as component issues may be a way to facilitate this desired order. However, these findings indicate that, while some participants did systematically tackle the issues they were faced with, most participants did not experience recovery in this linear, component-based fashion but rather as a more dynamic experience. Where participants perceived the available supports as flexible, empathic, kind and human-centred they identified these as helpful to their recovery. Conversely, services that were characterised as bureaucratic, complex and requiring following up were identified as stressful and burdensome. This indicates that services and supports, be they formal or informal, could enhance their role as providers of assistance by better balancing some of their pragmatic requirements for systems and formal processes with consideration for the interface with those affected. This study gives insight into diverse experiences of the post-disaster environment that can both inform service planning and delivery, but also help those affected by disasters make sense of their own experience.

10.1 Addressing the research questions

This study was designed to address three research questions:

- 1) What do people who have been impacted by a disaster consider to be helpful and unhelpful in their recovery?
- 2) What was the participant experience of research into a potentially traumatic event?
- 3) What was the participant experience of a novel data collection method?

Findings from the participants' letters indicate that the things people found helpful and unhelpful after disasters can be framed against the mass trauma intervention principles of safety, hope, calm, connectedness, and self and collective efficacy (Hobfoll et al., 2007). Additionally, the insights from the letters identified kindness as an important approach when enacting these principles.

These principles can be considered as helpful guidance for those affected by disasters as well as policy makers and practitioners. Specific aspects that participants identified, such as connecting with others and to the broader community, proactive behavior and helpful perspective could be linked to one or more of the mass trauma interventions. Where participants identified experiences or interactions that were unhelpful, they could be considered as a failure to enact these principles.

This study also contributes to a growing body of literature which finds that people who participate in research about potentially distressing lived experiences consider the experience as interesting and valuable (S. J. Alexander, 2010; Dyregrov, 2004). Most participants did not experience distress as a result of participating in the research, and even those who experienced strong emotions while taking part did not consider this as negating a positive research experience or precluding research satisfaction. These findings reinforce results from other studies on this topic (S. J. Alexander, 2010; Dyregrov, 2004; L. Gibbs et al., 2018; Griffin et al., 2003; Newman & Kaloupek, 2004; Parslow et al., 2000).

A novel data collection method of letter writing to self was developed for this study as a way of addressing ethical concerns identified and to encourage participant led responses. While letter writing to self is an unusual data collection method, not identified in current methodology literature, existing studies regarding writing about trauma indicate that this should not cause harm (Landless et al., 2019; Pennebaker, 1993, 1997). This method did present some challenges regarding the intensity of experience for some participants, and possible challenges to recruitment and rapport between participants and researcher. However, there were clear strengths to this methodological approach, specifically, as participants themselves identified, letter writing as a data collection method facilitated high levels of participant control and reflection.

10.2 Contributions of this study

This study has developed a number of new contributions to the field from themes that emerged from the research study. Many of these are detailed in the previous chapters, given their publication format.

By way of summary, the first contribution is an understanding of the spectrum of conceptualisations of disaster recovery from the perspective of disaster-affected people. In this study, participants' interpretations of what recovery meant to them extended from *full restoration of pre-disaster life*, to *complete change to a "new normal"*, where the concept of trying to return to pre-disaster life seemed irrelevant or impossible. This finding was integrated with existing theory, specifically that an important factor for determining where participants positioned themselves on this spectrum may be a change to their world view as a result of their disaster experience. Cognitive schema theory (Brewin & Holmes, 2003) and the related shattered assumptions theory (Janoff-Bulman, 1992) was proposed as a way to further explore why people affected by disasters conceptualise recovery differently.

The second contribution made by this study was the application of the mass trauma intervention principles (Hobfoll et al., 2007) as a way to frame what people affected by disasters considered to be helpful and unhelpful in their recovery. Specifically, that services and organisations (be they formal or informal disaster recovery supports) who failed to enact these principles were considered by those affected to be a source of significant secondary stress. A kind, caring approach from others was valued by participants, highlighting that the *way* supports are offered can be as important as *what* is offered (van Kessel et al., 2015). These findings reinforce the usefulness of the mass trauma intervention principles in post-disaster settings, reflecting the versatility of their applications. The emergent themes from participants' letters offered examples of the range of practical ways the principles could be applied, including cognitive approaches, emotional dimensions, social interactions and behavioural components.

The third way this study contributes to existing research is by building on previous models of hierarchies of affectedness in post-disaster environments (Andersen, 2013) to better understand how disaster-affected people conceptualise their own impacts. This study identified that people affected by disasters may use multiple sources of information to determine their disaster impacts. These sources included comparisons to their pre-disaster life, comparisons to others impacted, and assessments made by outsiders. Participants experienced both validation and invalidation of their self assessment by others, reflective of other literature on this topic (Andersen, 2013; Eyre & Dix, 2014; Moffett, 2016). This study noted that hierarchies of affectedness were used by some participants as a sense-making activity. For others, however, hierarchies of affectedness were perceived as a source of stress, especially where participants considered their experience to be misunderstood or invalidated by others. Future research on this topic could be used by “outsiders” such as government, service providers and the media to reduce stress on those in this latter group.

The fourth contribution of this study was to explore the experience of disaster recovery workers who are also personally impacted by disasters. The findings from this study indicate that those holding dual roles 1) experience a misalignment between the personal and professional experiences of recovery, 2) have their personal experience of recovery reframed by their professional exposure and 3) initially prioritise their professional role, before reaching a point where their personal recovery needs to take priority. Self-determination theory (E. Deci & Ryan, 2002) was suggested as a possible theoretical framework to base future research looking at the experience of those holding these dual roles. There is very limited existing literature on this cohort, despite assumptions that they may play an increasing role in future disaster recovery, considering the predicted increase in frequency and intensity of disasters, and emphasis on community led recovery. This study presented findings on a small sample of participants who held this dual role, identifying that these participants

experienced a misalignment between their personal and professional recovery experiences, which eventually had to be reconciled.

The fifth contribution made through this research was to present letter writing to self as a data collection method which facilitates a high level of participant control and participant self-reflection. While this method may exclude some potential participants because of the language demands and intensity of experience, it is a possible study design option for qualitative researchers who want to minimise researcher influence in data collection. Challenges for this method were identified and addressed.

These findings and contributions have implications for both practitioners and future research in the field of disaster recovery. While the focus of qualitative research is not usually to identify broadly generalisable findings, by aligning these study findings with existing theory and conceptual frameworks, these findings may be able to be elevated to a broader audience than this sample (Daly et al., 2007).

10.3 Strengths and limitations of this study

In chapter nine, the strengths and limitations of this study were discussed in detail. Broadly speaking, the strengths of this study included the range of perspectives of people who were different ages, and experienced different disasters over a range of time periods and circumstances. The use of a data collection method designed to address ethical concerns identified in the study design, which participants identified as facilitating high levels of self-reflection and participant control is a strength of this research. In chapter nine, detailed consideration was given to the strengths of the letter writing method. The use of a constructivist epistemology can also be considered a strength, as it enabled the interaction between individuals and their external environments to be highlighted.

This study was limited by a small sample size, a skew to older female participants and the requirement for participants to be confident in English to participate. However, the study's level of alignment with existing theory supports confidence that the findings identified could have application beyond this cohort (Daly et al., 2007).

10.4 Future research

A number of further research questions and areas for enquiry have been identified through this study. These include:

First, exploring why some people affected by disasters conceptualise recovery as restoration, while some consider restoration as unattainable or irrelevant and view recovery as a process of change. By understanding this difference better, disaster recovery interventions could be better targeted to meet the needs of those affected. From this study, impacts to world view as a result of the disaster experience has been identified as a possible predictor of this difference, and should be considered as a research question in future disaster recovery studies. Cognitive schema theory (Brewin & Holmes, 2003) and shattered assumptions theory (Janoff-Bulman, 1992) have been identified as a potential theoretical framework for further inquiry.

Next, identifying why hierarchies of affectedness in post-disaster settings are considered as a helpful, sense-making tool for some individuals, and a distressing secondary stressor for others is an area worthy of further exploration. Findings from this study indicate that whether an individual's experiences are validated by others seems to play an important role in this difference. Understanding this better could result in practical recommendations for recovery service providers, media and community leaders, overall reducing stress experienced by those impacted by disasters.

Finally, this study identified recovery workers who also experienced personal impact from disasters as an under-researched cohort. Considering the world-wide predictions for increasing disasters in coming years, and the push for locally led recovery initiatives, it is important to better understand the challenges and needs of this group. Self-determination theory (E. Deci & Ryan, 2002) has been proposed as a potential theoretical framework for future research exploring the experiences of this group in order to identify ways they can be better supported.

10.5 Conclusion

Disasters are expected to escalate in frequency, intensity and severity, impacting an increasing number of people globally (Glasser, 2019). It is hoped that the findings from this study can contribute to the growing field of disaster recovery research and can improve the disaster recovery experience for those affected by future disasters by deliberately questioning the helpful and unhelpful aspects of recovery.

10.6 Postscript

True to the methodology of letter writing to self used in this research, as an addition to the conclusion I have decided to write a letter to myself. I have written to myself back in my first week of working in disaster recovery, in April 2009. This is not an academic piece per se, but an opportunity to reflect on the way that I think I could have used the findings from this research when I started in my role as a recovery practitioner. It's worth noting that, as a result of this study, I have instigated a similar project in my workplace, where recovery workers nearing the end of their contracts write a letter, addressing the question "what I wish I had known about working in recovery in my first week", to be given to new recovery workers on their first week of the role.

This piece should be considered as a "postscript" to the conclusion, rather than a formal part of the thesis.

Dear Kate,

Yes, it's weird to be getting a letter from yourself 10 years in the future at the end of your first week of working as the Australian Red Cross bushfire recovery coordinator, but don't panic. At least it means you're not dead in 10 years, right? That's got to be good!

I'm sending this to you because I know you're freaking out right now about what you've got yourself into but are trying to seem calm and professional to everyone else. Your first week wasn't exactly what you thought it would be, huh? You basically took a job that sounded interesting, was only for six months and was in the land of program development and service delivery, which is where you knew you needed to go back to after six months in a fundraising job. All sound reasons. But, if you're honest, a lot of the motivation to apply for the role was to escape a near psychopathic boss who was making your life hell so you didn't think too much

about the enormity of the new role before you got here. Anyway, whatever the reasons, you've got the job now and you've made a good call. A great call in fact. This will be one of the most interesting jobs you ever have, it just doesn't feel like it yet.

In case I forget to mention it later, your team member who has started this week, reporting to you, who you are a bit terrified of and are convinced she thinks you're a moron... don't worry. She's amazing. And she'll become a great friend and one of the best colleagues you'll ever work with. She's smart, a progressive and creative thinker, takes absolutely no nonsense and she'll help you figure it out. You'll be a great team. Working in these environments forges really intense working relationships that quickly cut across traditional work boundaries. Also, she will be quite forceful with you at times, challenging both your work and your fashion sense. Trust me, take her advice. All of it. Sometimes you'll be too tempted to lean towards taking a conservative path at work because it means that you won't have to fight with others to make something happen, even though you know something more left field or innovative is actually required. She'll pull you up on that. And the pants you're wearing are ill fitting and make you look frumpy. She's right about it all.

I get that it's been a rough week. You've very much been thrown in the deep end. The Victorian bushfires, mostly focused around the "Black Saturday" fires happened in February and it's now April. You have entered into a team that is shattered. They are so exhausted, and some of them are so cranky. They're mostly just really, really tired and overwhelmed. Some of them seem deeply resentful of "outsiders" coming in. You'll soon learn that's a hallmark of stress in post-disaster settings. Some people will introduce themselves with their name, followed by an aggressive line "I've been here since day one". It's designed to (and does) make you feel inadequate, like you've arrived too late and that you'll never understand what needs to happen. Some of the team are super welcoming and amazing, but it turns out that a surprising number of the people you will work with (inside that team, in the government and elsewhere) don't really "believe in that recovery stuff". It also

turns out a lot of them are not very fond of working with women, and will make this known to you in both overt and insidious ways. Don't worry; they're annoying but ultimately they won't stop you or a lot of the people who really do "believe in that recovery stuff". Shake it off, it's not personal. You'll find that there are so many good people to work with, particularly in these communities that have gone through so much that it's best not to give the others too much of your attention.

In the coming weeks, you'll figure out that holding off on the assumption that someone who knows what they're doing will come and give you a plan for your job isn't going to work out. It's ok. When you figure that out and get stuck into it in earnest, it's actually quite liberating, if a little overwhelming. And despite your assumptions otherwise, you'll be supported by your managers once you get going – your last boss has stripped you of a lot of professional confidence, but you'll find that you actually have pretty good instincts for this work. You don't mind chaos, the changing pace, or grey rather than black and white, and you have a genuine empathy for the enormity of what has happened to the people impacted. In lots of ways, being honest about not knowing what you're doing is one of your greatest strengths in this time (I know, I know, it really doesn't feel like it right now), because it makes you super hungry to listen to what people in those communities have to say. You feel comfortable doing community engagement stuff, and you really, truly believe that the people who have been impacted are the experts and know what's best for them. You think that it's your job to figure out which bits you can help with and add value to, and you're right – that is what you should be doing. You have no idea how well this mindset will serve you, even if it feels naïve, undercooked and unprofessional at the moment.

In a few months you will start frantically trying to read anything you can get your hands on to help point you in the right direction. You just want to know what is helpful and unhelpful after disasters so you feel like you've got some evidence backing up the decisions and plans you're trying to make, and to give you some reassurance you won't be making things worse. Here's where future Kate can help!

Long story short, in a few years time you're going to be convinced to start a PhD looking at this question. Don't overthink it – to be honest, I'm still not entirely sure how it happened.

I wanted to write down a few of the key things that come out as advice for service providers in the findings. There's loads more findings from the research, but your head will probably explode if we try to go through them all right now, and these are the things that as a practitioner you can influence. I'm just going to list them here because I know how hard it is for you to distil information at the moment.

- 1. Recognise the interconnected, compounding nature of the impacts to disaster-affected people, and then advocate as hard as you can for this sort of thinking with others.** *Most services work with a specific focus or boundary. We need to understand the interconnected role of the impact we're trying to address, even if we're working on it in a silo. For example, if your role is to help plan to fix a road, you're not just impacting peoples' transport options. You're impacting their education, their employment, their access to health services, their ability to play sport, to borrow books to read, to connect with family and friends, to care for their loved ones, to be safe and their overall sense of control over their lives. No, a road worker does not have responsibility for all of these things. But they do have an impact on all of these things and should consider this when they think about their work and the approach they take when working with those affected. Yes, it feels overwhelming to have to think of it as an interconnected web rather than in terms of your position description, but you're shortchanging those you're supposed to be helping if you can't.*
- 2. Use the mass trauma intervention principles as guidance for your work.** *I know you're trying to wade through a lot of theory stuff at the moment, but read the paper titled 'Five Essential Elements of Immediate and Mid-Term Mass Trauma Intervention: Empirical Evidence' by Stevan*

Hobfoll and colleagues. Basically, the principles are: promote a sense of safety, calm, connectedness, hope, and self and collective efficacy. Whenever you're working on something – within your own team or with other organisations - ask yourself "which of these principles are being used to guide this intervention? Could I improve this intervention by more explicitly promoting these principles in my work? Is there a lack of links to these principles?" At best, you will be following best practice guidelines in the absence of anything else. At worst, you will be doing no harm.

3. ***Ask yourself how you would want one of your loved ones to be supported after a disaster.*** Sometimes when our jobs feel too hard and too big, we try to regain some control by focusing on processes and trying to reestablish order in what feels like a chaotic environment. To do that, we dehumanise the process. Instead, stop and ask yourself "If this were my grandparent, what would I want my service to do for her? If this was my child, what support would I want to make sure was available? If this was my best friend or sibling who was struggling, how would I hope this service would respond to them?" And then figure out how to do it, or influence it. Everyone affected by a disaster is someone's grandparent, child, sibling or best friend. The more people centric and humanistic we can be, the better the outcomes for those affected. Again, this will feel like a naïve way of thinking to you, unsophisticated and unscientific. It's not.
4. ***Kindness cannot be overrated.*** If we overlay kindness as an approach on our responsibilities, we will probably help more than hinder. When I'm talking about kindness, I'm not talking about saccharine, sycophantic or paternalistic approaches to your interactions. I mean it in the true sense of kindness: generous, considerate and ethical. Be as kind as you can, and push this in discussions about policy that you're involved with. Don't see it as being too Pollyanna-ish, too "female" – see this as taking a humanitarian approach.

I was asked by my supervisors if I could boil the message to policy makers and practitioners right down to a single point and I think I can: It's really helpful to disaster-affected people when we (as people who are supposed to be helping) don't behave like arseholes, either as individuals or as systems. Let's be as humanistic as we can. I know a lot of the time you'll feel totally powerless, but you need to recognise the importance of the roles of people who are supposed to be helping and just make a fist of it.

So, that's it from me. I'll be publishing more on my research findings, but they're the big take away messages for me (you) as a service provider and our role in this.

You'll be ok. And remember to take breaks and look after yourself. Burnt out workers suck at their jobs.

Kate

Appendices

Appendix 1 – Overview of disaster events

There were six disaster events which participants had experienced, outlined below.

Tasmanian “Black Tuesday” bushfires, Australia 1967

Over the summer of 1966-67, Tasmania, Australia experienced severe hot weather and extreme conditions. In February 1967, more than 100 separate fires were active peaking on 7 February, also known as “Black Tuesday”, where fires swept across southern Tasmania coming within two kilometers of the capital city, Hobart. In a number of hours, 62 people were killed, 900 more were injured, nearly 1300 homes were destroyed leaving approximately 7000 people homeless. More than 100 other structures were destroyed including businesses, churches, post offices, schools, hotels and halls. There was significant damage to agriculture and livestock. Thousands of animals, including livestock and pets, were estimated to have died. More than 1500 cars and trucks were destroyed in the blaze, and infrastructure, including communications, power, roads and bridges, was compromised. The financial costs of the Tasmanian fires were estimated in 1967 to be at AU\$40 million. More than AU\$10 million was paid out through insurance claims; the largest payout in Australia’s history at the time. Additionally, more than AU\$14 million was distributed through Commonwealth grants and loans, and more than AU\$5 million was distributed through appeal funds (Bushfire Natural Hazards Cooperative Research Centre, n.d.; National Archives of Australia; Whettenhall, 2006).

“Ash Wednesday” bushfires, Australia 1983

In the lead up to what were later called the “Ash Wednesday” bushfires, south eastern Australia had experienced approximately ten months of drought, followed by a heat wave. On February 16, 1983 more than 180 fires broke out

over South Australia and Victoria resulting in 75 deaths, including volunteer fire fighters. Approximately 400,000 hectares were burnt in the fires, resulting in 3000 homes being destroyed, more than 360,000 livestock killed and an estimated AU\$400 million in damages (in 1983 figures) (Australian Broadcasting Corporation; State Library of Victoria).

Victorian “Black Saturday” bushfires, Australia 2009

In early 2009, amid record breaking temperatures, a severe and prolonged heat wave and extreme dry forest and grassland conditions, a series of bushfires occurred throughout the Australian state of Victoria over a number of weeks. The worst of these days was February 7, known as “Black Saturday”, a day when more than 300 fires were active. One hundred and seventy three people were killed as a result of the fires, approximately 5000 people suffered from physical injuries. Over the course of the fires, 2029 homes and approximately 1500 other buildings including businesses, schools, public facilities, churches and post offices were destroyed. An estimated 1 million domestic pets, wildlife and stock animals were killed, and more than 450,000 hectares of land across the state were burnt (2009 Victorian Bushfire Royal Commission, 2010; Australian Institute of Disaster Resilience). The 2009 Victorian Bushfire Royal Commission estimated the costs of the fires as in excess of AU\$4 billion (Teague et al., 2010). More than AU\$379 million was donated to an appeal fund jointly set up between the Australian Red Cross and the Victorian State Government (Victorian Bushfire Appeal Fund, 2014).

Canterbury earthquakes, New Zealand 2010-2011

At 12.51pm on 22 February, 2011 the Canterbury region of New Zealand was struck by a 6.3 magnitude earthquake, followed by more than 4000 aftershocks in the following four years. This earthquake sequence came almost six months after the 7.1 September 2010 Darfield earthquake in the same region (GeoNet). While often referred to as the Christchurch earthquakes, the earthquakes impacted the broader Canterbury region. One hundred and eighty five people

died on February 22 in the earthquakes, including 113 in the Canterbury Television building alone. There were 7171 physical injuries recorded as a result of the earthquakes (New Zealand History; Potter, Becker, Johnston, & Rossiter, 2015). More than 900,000 tonnes of liquefaction had to be removed following the quakes. Air quality and some water supplies were impacted, the land levels in much of the region changed, and the biodiversity of the area was impacted (Potter et al., 2015). Approximately three quarters of the housing stock of the area was impacted, with more than 9000 homes being declared uninhabitable. The property damage alone was estimated to be approximately NZ\$13 billion (Potter et al., 2015). There was significant damage to schools, businesses and public facilities. Many businesses had to close or relocate for significant periods of time (Potter et al., 2015), and a number of impacted schools had to co-locate with less damaged schools for months (Beaglehole et al., 2017).

Margaret River bushfire, Australia 2011

On 23 November 2011, a prescribed burn escaped containment lines on a day of strong winds and started burning out of control (Pancia, 2015). Hundreds of residents were evacuated for three days until the fire was brought under control (Australian Institute of Disaster Resilience n.d). The fires destroyed 39 homes, damaging a further 26. Some homes were primary places of residence, while others were holiday homes. One hundred and thirty nine people were displaced as a result of the fires, and 3400 hectares were burnt (Keelty, 2012).

Tasman Peninsula bushfires, Australia 2013

In January 2013, hot windy conditions fuelled approximately 40 fires in Tasmania, Australia, which had started due to a variety of causes. On January 4, three main fires destroyed 431 structures, including 203 homes. More than 1000 people were evacuated, complicated by the fact that the fires impacted a significant number of tourists holidaying in the fire impacted areas at the time (Australian Institute of Disaster Resilience; Tasmanian Department of Premier and Cabinet, 2013a). One hundred businesses were reported as being directly

impacted, with a further 150 indirectly impacted. There were extended power outages due to significant electricity infrastructure damage. More than 660km of commercial fencing was destroyed, and an estimated 10,000 livestock animals perished in the fires (Tasmanian Department of Premier and Cabinet, 2013a). The Insurance Council of Australia estimated nearly AU\$90 million worth of damage claims relating to the fires (Australian Institute of Disaster Resilience). Approximately AU\$9 million was raised through the Red Cross Tasmanian Bushfires appeal fund, and was distributed through individual assistance grants, and to community based recovery programs (Tasmanian Department of Premier and Cabinet, 2013b).

Appendix 2 – Plain language statement

We really appreciate your interest in this project. Below is information about the research project and your involvement. More information can be found at:

www.thisiswhathappensafter.com or by emailing kbrady@student.unimelb.edu.au

What is the research about?

This research project is trying to identify what people have found most helpful and unhelpful when recovering from a disaster.

We would like to know what you found to be helpful and unhelpful in your recovery. This study is for a University of Melbourne PhD research project looking at things that are helpful to people who have been impacted by disasters.

Who is doing the research?

The PhD student who is undertaking the research is Kate Brady. Her supervisors are Associate Professor Lisa Gibbs and Associate Professor Louise Harms, who are both employed by the University of Melbourne.

Who can participate?

To participate, you must:

- **Have been impacted by a disaster event that happened at least two years ago**
 - *This is because of how disasters can impact memory, fatigue and emotions*
- **Be 18 years old or over**
 - *This is an ethics requirement for the research*
- **Be in Australia or New Zealand (or have been impacted by disasters in Australia or New Zealand)**
 - *Because there is only one main researcher involved, the scope of the project had to be limited to Australia and New Zealand only*
- **Be willing to share information about what you found helpful and unhelpful in the recovery stage/s after the disaster event**

Are you required to participate in the research?

No. At all times, it is your decision whether you would like to participate or not participate in the study. All involvement in the research is voluntary.

At no time will your decision to participate or not participate affect any access to services that you receive.

If you participate, what will you be asked to do?

In the first part of the research, **you will be asked to write a letter to yourself about what you found helpful in the recovery stage/s after the disaster.** You can handwrite the letter and post

it in or write it on a computer and email it. We anticipate that for most people, it will take them 1 – 3 hours to write the letter.

If you would prefer not to write your letter, you can voice record it, and send that file in (on a USB stick or via email).

If you take part in the first part of the research, you will be invited to participate in the second part of the research. **You will be sent a questionnaire** (either via an email with a weblink or a paper copy depending on your preference). This will ask you questions about how you found the process of writing a letter to yourself about your experience. We are doing this part of the research because letter writing is a reasonably new way of undertaking research, and we want to know how you found the experience.

What will happen to the information once it is collected?

Once the letters are collected, we will be analysing them to see if there are common themes about what people found helpful and unhelpful after the disaster they experienced.

This information will then be published on the website, in the media, in journal articles, and to emergency management organisations. It may also be used to develop training and resources for recovery workers. **You will not be identified in any of these publications.**

What if you become involved and then change your mind?

You can withdraw at any point until the research is processed. Participation is voluntary at all times. **At no time will your decision to participate or not participate affect any access to services that you receive.**

Will you be paid to participate in the research?

No, you will not be paid to participate in the research. If you choose to participate, **all involvement in the research is voluntary.**

Are there any risks or benefits to participating in the research?

It can be very difficult for some people to be involved in activities that require reflection about stressful times or remembering traumatic events. There is a risk that by participating in this research that you may become distressed or upset.

There is research that indicates that some people who participate in research find a benefit in the opportunity to discuss their experience, and feel like they have been able to benefit others that might be in their position in the future.

You are the best judge of whether participating in the research will be beneficial or detrimental to you. There is no pressure or requirement for you to take part in the study. If you start participating and decide that you don't want to go ahead, you can stop whenever you want.

If you become distressed at any time from taking part in the study, a list of organisations that can help and their contact details will be listed on the website. You can also contact the researcher at kbrady@student.unimelb.edu.au and they will help provide information about health professionals and organisations in your area.

What to do if you have concerns about the study or the researcher?

If you have any concerns about the study or the researcher, you can contact:

Associate Professor Lisa Gibbs

University of Melbourne Ethics

Project supervisor

+61 3 8344 2000

lgibbs@unimelb.edu.au

+61 3 8344 0920

Appendix 3 – Consent and demographics form

- I have seen a copy of the “<i>This is what happens after</i>” information sheet, understand the information and would like to take part in this study. - I understand that my participation is voluntary and if I don’t want to be involved or if I change my mind I can withdraw from the study at any time without explanation and without any negative consequences. If I do so, any unprocessed data I have provided will also be withdrawn. - I understand that I am being invited to write a letter about my disaster recovery experience. I understand that I will also be invited to complete a questionnaire about my research experience. - I understand that while all possible measures will be taken to protect my privacy and confidentially, due to the small number of people taking part in interviews it is possible that some details I provide may be recognisable to people I know. - OPTIONAL: ☒ I agree to be contacted about future projects, including further interviews that may arise within the study, but am under no obligation to join these projects.	
Information about you	
Which disaster/s have you been impacted by? When did it / they happen?	
Where were you living when the disaster event happened?	
In this study, you are being asked to write a letter to you. It could be you some time before the disaster, you some time after the disaster, you in the present day or you in the future.	
Which “you’ will you be writing to? (Be as specific as you can)	
Month and year of birth	

Phone:	Email:	There are more questions on the next page Please turn over / scroll down

Information about you continued		
Where do you live?	☐ Australia ☐ New Zealand ☐ Other _____	Thank you for completing the information and consent form. Please make sure that you send a copy of this completed form in with your letter. You can do this in two ways: Post: If you are going to post your letter, please print out a copy of this completed form and post it with your letter. If you can't print the letter, please email kbrady@student.unimelb.edu.au or call XXXXXX and we can assist you Email: If you are going to email your letter, please save a copy of this completed form and attach it to the email.
Are you	☐ Aboriginal ☐ Torres Strait Islander ☐ Maori ☐ Pasifika ☐ None of the above	
What language do you speak at home?		
What is the highest level of education you have completed?		
Which best describes your household?	☐ A person living alone ☐ Married or defacto ONLY ☐ Married or defacto with one or more children living at home ☐ Single adult with one or more children living at home ☐ People sharing a house / flat	

	☐ Other _____	
Approximate household income	☐ Less than \$20,000 ☐ \$20,000 – \$65,000 ☐ \$65,000 - \$100,000 ☐ More than \$100,000 ☐ I'd prefer not to say	

Appendix 4 – Draft text for 3rd party promotion messages

Kate Brady is a PhD student from the University of Melbourne is undertaking a research about disaster recovery. She is hoping to learn more about what people have found most helpful and unhelpful when they have been impacted by a disaster.

The study is open to adults who have experienced a disaster event a minimum of two years. Participants will be asked to write a letter to themselves about what they found helpful and unhelpful after the disaster they experienced.

For more information, go to www.thisiswhathappensafter.com or contact Kate Brady at kbrady@student.unimelb.edu.au

Have you been impacted by a disaster? Are you interested in participating in research about what is helpful when recovering from a disaster? The University of Melbourne is conducting research about disaster recovery. For more information about how you can participate, go to www.thisiswhathappensafter.com

What did you find helpful when recovering from xxxxx disaster? The University of Melbourne is undertaking a study to look at what people find helpful when recovering from a disaster. For more information, go to www.thisiswhathappensafter.com

We're conducting research about what is helpful in disaster recovery. If you have been impacted by a disaster and would like more information about how you can participate, go to www.thisiswhathappensafter.com

"This is what happens after..." is a research project looking at what is helpful when recovering from a disaster. If you would like to be involved in the research, go to www.thisiswhathappensafter.com for more information.

Do you have something to say about disaster recovery? www.thisiswhathappensafter.com is a research project that is looking to learn more about what people have found most helpful and unhelpful when they have been impacted by a disaster.

Appendix 5 – Second phase research questionnaire

The questions below were sent to participants who had submitted a letter as part of stage one of the research. The questionnaire was sent via a web link in an email to a SurveyMonkey hosted questionnaire. Participants were also offered a paper copy of the questionnaire with a self addressed stamped envelope to be sent out to them. There were no requests for a paper version of the survey. Participants were able to skip any of the questions they did not want to answer.

Table 4 - Second stage questionnaire

Question number	Question	Response option
1	Why did you want to participate in the research (writing the letter)?	Open text response
2a	When you found out that you were being asked to write a letter as part of the research (instead of another research method such as an interview or survey), did it make it:	Likert scale: • More appealing to participate • Neither more or less appealing to participate • Less appealing to participate
2b	Any comments?	
3a	Did you find the experience of writing your letter:	Likert scale: • Very enjoyable • Somewhat enjoyable • Neither enjoyable nor distressing • Somewhat distressing • Very distressing
3b	Any comments?	Open text response

4	How did you feel about reflecting on your recovery experience?	Open text response
5a	Were there points in your letter writing experience when you wanted to stop participating?	Likert scale: • Yes • No
5b	If so, why?	Open text response
6	What were the things (if any) that you found positive about your letter writing experience?	Open text response
7	Is there anything we could have done differently to improve your letter writing experience?	Open text response
8a	Do you have any regrets about participating in the research?	Likert scale: • Yes • No • Not sure
8b	Any comments?	Open text response
9a	Would you recommend a good friend in a similar situation to participate in research like this?	Likert scale: • Yes • No • Not sure
9b	Any comments?	Open text response
10	Any other comments / information you would like to include?	Open text response

Appendix 6 – Table of findings

Table 5 – Table of findings

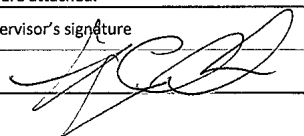
Section of study	Key findings	Contribution of study
How do disaster affected people conceptualise recovery?	Disaster affected people hold a range of conceptualisations of what recovery means.	It provides an understanding of the spectrum of conceptualisations of disaster recovery from the perspective of disaster-affected people.
	Some participants experienced a change to their world view as a result of the disaster experience.	In this study, participants' interpretations of what recovery meant to them extended from <i>full restoration of pre-disaster life</i> , to <i>complete change to a "new normal"</i> , where the concept of trying to return to pre-disaster life seemed irrelevant or impossible. This finding was integrated with existing theory, specifically that an important factor for determining where participants positioned themselves on this spectrum may be a change to their world view as a result of their disaster experience.
Disaster recovery: What people consider helpful and unhelpful	A range of connections is helpful.	The study demonstrated that the application of the mass trauma intervention principles could be used as a way to frame what people affected by disasters considered to be helpful and unhelpful in their recovery.
	There was a focus on the <i>approach</i> taken after the disaster, rather than the	

	<i>outcomes or outputs.</i>	
	The importance of prioritising wellbeing.	
	The way recovery issues were framed, either internally by participants or from external sources, often shaped whether these issues were perceived as helpful or unhelpful.	
	Participants identified external and internal types of loss, including loss of place and relationships, and a loss of sense of control and autonomy in their own lives.	
Hierarchies of affectedness	Participants undertook a number of self assessments of affectedness.	Building on previous models of hierarchies of affectedness in post-disaster environments to better understand how disaster-affected people conceptualise their own impacts.
	Importance of validation of self assessment by others.	
	Participants described a dynamic process by which their self-assessments were validated or invalidated,	

	rather than a linear one.	
Recovery workers who have also been personally affected by disasters: Exploring the perspective of people who have dual experiences of disaster recovery.	All participants in the sub-sample of recovery workers also impacted by disaster described a misalignment between their personal and professional experiences of recovery.	Exploration of the experience of disaster recovery workers who are also personally impacted by disasters. There is very limited existing literature on this cohort, despite assumptions that they may play an increasing role in future disaster recovery, considering the predicted increase in frequency and intensity of disasters, and emphasis on community led recovery.
	The narrative of recovery in the professional realm and the exposure to a range of recovery experiences through their work roles, beyond their personal networks, altered the way they framed recovery in their personal lives.	
	Description of the intensity of the recovery work.	
Letter to self: Participant experience of a novel post-disaster research method	Participants identified a range of motivations to participate in the research.	Present letter writing to self as a data collection method which facilitates a high level of participant control and participant self-reflection.
	They experienced both distress and gladness.	
	Identifying participants'	

	experiences of letter writing as a data collection method.	

Appendix 7 – Thesis with publication declaration

 Declaration for a thesis with publication	
PhD and MPhil students may include a primary research publication in their thesis in lieu of a chapter if: • The student contributed greater than 50% of the content in the publication and is the “primary author”, ie. the student was responsible primarily for the planning, execution and preparation of the work for publication • The student has approval to include the publication in their thesis from their Advisory Committee • It is a primary publication that reports on original research conducted by the student during their enrolment • The initial draft of the work was written by the student and any subsequent editing in response to co-authors and editors reviews was performed by the student • The publication is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in the thesis Students must submit this form, along with <i>Co-author authorisation forms</i> completed by each co-author, when the thesis is submitted to the Thesis Examination System: https://tes.app.unimelb.edu.au/. If you are including multiple publications in your thesis you will need to complete a separate form for each publication. Further information on this policy is available at: gradresearch.unimelb.edu.au/preparing-my-thesis/thesis-with-publication	
A. PUBLICATION DETAILS (to be completed by the student)	
Full title	Different conceptualisations of recovery among disaster affected people
Authors	Kate Brady, Lisa Gibbs, Louise Harms
Student's contribution (%)	80%
Journal or book name	
Volume/page numbers	
Status ☐ Accepted and In press ☐ Published ☒ In progress	Date accepted/ published
B. STUDENT'S DECLARATION	
I declare that the publication above meets the requirements to be included in the thesis	
Student's name	Student's signature
Kate Brady	Kate Brady
Date (dd/mm/yy)	14/08/19
C. PRINCIPAL SUPERVISOR'S DECLARATION	
I declare that:	
• the information above is accurate • The advisory committee has met and agreed to the inclusion of this publication in the student's thesis • All of the co-authors of the publication have reviewed the above information and have agreed to its veracity • 'Co-Author Authorisation' forms for each co-author are attached.	
Supervisor's name	Supervisor's signature
Lisa Gibbs	
Date (dd/mm/yy)	15/08/19

Declaration for a thesis with publication

PhD and MPhil students may include a primary research publication in their thesis in lieu of a chapter if:

- The student contributed greater than 50% of the content in the publication and is the "primary author", ie. the student was responsible primarily for the planning, execution and preparation of the work for publication
- The student has approval to include the publication in their thesis from their Advisory Committee
- It is a primary publication that reports on original research conducted by the student during their enrolment
- The initial draft of the work was written by the student and any subsequent editing in response to co-authors and editors reviews was performed by the student
- The publication is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in the thesis

Students must submit this form, along with *Co-author authorisation forms* completed by each co-author, when the thesis is submitted to the Thesis Examination System: <https://tes.app.unimelb.edu.au/>. If you are including multiple publications in your thesis you will need to complete a separate form for each publication. Further information on this policy is available at: gradresearch.unimelb.edu.au/preparing-my-thesis/thesis-with-publication

A. PUBLICATION DETAILS (to be completed by the student)

Full title	Disaster recovery: What people consider helpful and unhelpful	
Authors	Kate Brady, Lisa Gibbs, Louise Harms	
Student's contribution (%)	80%	
Journal or book name		
Volume/page numbers		
Status	☐ Accepted and In press ☐ Published ☒ In progress	Date accepted/ published

B. STUDENT'S DECLARATION

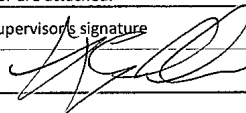
I declare that the publication above meets the requirements to be included in the thesis

Student's name	Student's signature	Date (dd/mm/yy)
Kate Brady	Kate Brady	14/08/19

C. PRINCIPAL SUPERVISOR'S DECLARATION

I declare that:

- the information above is accurate
- The advisory committee has met and agreed to the inclusion of this publication in the student's thesis
- All of the co-authors of the publication have reviewed the above information and have agreed to its veracity
- 'Co-Author Authorisation' forms for each co-author are attached.

Supervisor's name	Supervisor's signature	Date (dd/mm/yy)
Lisa Gibbs		15/08/19

Declaration for a thesis with publication

PhD and MPhil students may include a primary research publication in their thesis in lieu of a chapter if:

- The student contributed greater than 50% of the content in the publication and is the "primary author", ie. the student was responsible primarily for the planning, execution and preparation of the work for publication
- The student has approval to include the publication in their thesis from their Advisory Committee
- It is a primary publication that reports on original research conducted by the student during their enrolment
- The initial draft of the work was written by the student and any subsequent editing in response to co-authors and editors reviews was performed by the student
- The publication is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in the thesis

Students must submit this form, along with *Co-author authorisation forms* completed by each co-author, when the thesis is submitted to the Thesis Examination System: <https://tes.app.unimelb.edu.au/>. If you are including multiple publications in your thesis you will need to complete a separate form for each publication. Further information on this policy is available at: gradresearch.unimelb.edu.au/preparing-my-thesis/thesis-with-publication

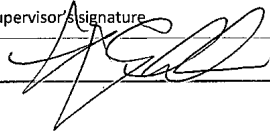
A. PUBLICATION DETAILS (to be completed by the student)

Full title	Hierarchies of affectedness after disasters		
Authors	Kate Brady, Lisa Gibbs, Louise Harms		
Student's contribution (%)	80%		
Journal or book name			
Volume/page numbers			
Status	☐ Accepted and In press ☐ Published ☒ In progress	Date accepted/ published	

B. STUDENT'S DECLARATION

I declare that the publication above meets the requirements to be included in the thesis		
Student's name	Student's signature	Date (dd/mm/yy)
Kate Brady	Kate Brady	14/08/19

C. PRINCIPAL SUPERVISOR'S DECLARATION

I declare that:		
• the information above is accurate • The advisory committee has met and agreed to the inclusion of this publication in the student's thesis • All of the co-authors of the publication have reviewed the above information and have agreed to its veracity • 'Co-Author Authorisation' forms for each co-author are attached.		
Supervisor's name	Supervisor's signature	Date (dd/mm/yy)
Lisa Gibbs		15/08/19

Declaration for a thesis with publication

PhD and MPhil students may include a primary research publication in their thesis in lieu of a chapter if:

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- The student has approval to include the publication in their thesis from their Advisory Committee
- It is a primary publication that reports on original research conducted by the student during their enrolment
- The initial draft of the work was written by the student and any subsequent editing in response to co-authors and editors reviews was performed by the student
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Students must submit this form, along with *Co-author authorisation forms* completed by each co-author, when the thesis is submitted to the Thesis Examination System: <https://tes.app.unimelb.edu.au/>. If you are including multiple publications in your thesis you will need to complete a separate form for each publication. Further information on this policy is available at: gradresearch.unimelb.edu.au/preparing-my-thesis/thesis-with-publication

A. PUBLICATION DETAILS (to be completed by the student)

Full title	Recovery workers who have also been personally affected by disasters	
Authors	Kate Brady, Lisa Gibbs, Louise Harms	
Student's contribution (%)	80%	
Journal or book name		
Volume/page numbers		
Status	☐ Accepted and In press ☐ Published ☒ In progress	Date accepted/ published

B. STUDENT'S DECLARATION

I declare that the publication above meets the requirements to be included in the thesis

Student's name	Student's signature	Date (dd/mm/yy)
Kate Brady	Kate Brady	14/08/19

C. PRINCIPAL SUPERVISOR'S DECLARATION

I declare that:

- the information above is accurate
- The advisory committee has met and agreed to the inclusion of this publication in the student's thesis
- All of the co-authors of the publication have reviewed the above information and have agreed to its veracity
- 'Co-Author Authorisation' forms for each co-author are attached.

Supervisor's name	Supervisor's signature	Date (dd/mm/yy)
Lisa Gibbs		15/08/19

Declaration for a thesis with publication

PhD and MPhil students may include a primary research publication in their thesis in lieu of a chapter if:

- The student contributed greater than 50% of the content in the publication and is the "primary author", ie. the student was responsible primarily for the planning, execution and preparation of the work for publication
- The student has approval to include the publication in their thesis from their Advisory Committee
- It is a primary publication that reports on original research conducted by the student during their enrolment
- The initial draft of the work was written by the student and any subsequent editing in response to co-authors and editors reviews was performed by the student
- The publication is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in the thesis

Students must submit this form, along with *Co-author authorisation forms* completed by each co-author, when the thesis is submitted to the Thesis Examination System: <https://tes.app.unimelb.edu.au/>. If you are including multiple publications in your thesis you will need to complete a separate form for each publication. Further information on this policy is available at: gradresearch.unimelb.edu.au/preparing-my-thesis/thesis-with-publication

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Full title	Letter to self: Participant experiences of a novel post-disaster research		
Authors	Kate Brady, Lisa Gibbs, Louise Harms		
Student's contribution (%)	80%		
Journal or book name			
Volume/page numbers			
Status	☐ Accepted and In press ☒ In progress	☐ Published	Date accepted/ published

B. STUDENT'S DECLARATION

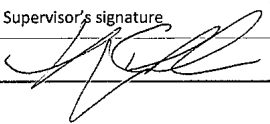
I declare that the publication above meets the requirements to be included in the thesis

Student's name	Student's signature	Date (dd/mm/yy)
Kate Brady	Kate Brady	14/08/19

C. PRINCIPAL SUPERVISOR'S DECLARATION

I declare that:

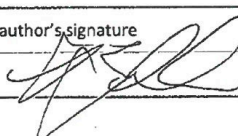
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Supervisor's name	Supervisor's signature	Date (dd/mm/yy)
Lisa Gibbs		16/08/19

Appendix 8 – Co-author consent forms

 Co-author authorisation form
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B. CO-AUTHOR'S DECLARATION (to be completed by the collaborator)		
I authorise the inclusion of this publication in the student's thesis and certify that: - the declaration made by the student on the <i>Declaration for a thesis with publication form</i> correctly reflects the extent of the student's contribution to this work; - the student contributed greater than 50% of the content of the publication and is the "primary author" ie. the student was responsible primarily for the planning, execution and preparation of the work for publication.		
Co-author's name	Co-author's signature	Date (dd/mm/yy)
Lisa Gibbs		15/08/19

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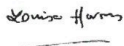
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Co-author's name	Co-author's signature	Date (dd/mm/yy)
Louise Harms		15-8-2019



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Full title	Different conceptualisations of recovery among disaster affected people		
Authors	Kate Brady, Lisa Gibbs, Louise Harms		
Student's contribution (%)	80%		
Journal or book name			
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Lisa Gibbs		15/08/19

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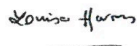
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Louise Harms		15-8-2019



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Authors	Kate Brady, Lisa Gibbs, Louise Harms		
Student's contribution (%)	80 1/2		
Journal or book name			
Volume/page numbers			
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Lisa Gibbs		15/08/19



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MELBOURNE

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Full title	Hierarchies of affectedness after disasters		
Authors	Kate Brady, Lisa Gibbs, Louise Harms		
Student's contribution (%)	80%		
Journal or book name			
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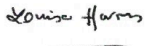
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Full title	Disaster recovery: What people consider helpful and unhelpful		
Authors	Kate Brady, Lisa Gibbs, Louise Harms		
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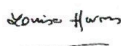
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Louise Harms		15-8-2019

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