

Manuscript Title: Post-disaster social work research: A scoping review of the evidence for practice

Running head: A scoping review of the evidence for practice

Abstract

Aim: The aim of this study was to understand the extent, range and nature of social work research activity after natural disasters and to identify the implications for future research and practice.

Method: Scoping review methodology framework proposed by Arksey and O'Malley (2005). A search of three data bases: Web of Science, ProQuest and Informit was conducted to identify relevant studies between 2000 and 2018. Selection of studies was based on empirical research about social work and natural disasters and/or authored by social workers.

Results: Study selection found a total of 38 relevant articles. Charting the data was conducted and the following areas of focus were summarised: (1) interventions relating to psychosocial care, aid work and community work; (2) the effects of disasters on people and mediators of these effects; (3) social work education and challenges in disaster relief; and (4) measuring mental health outcomes of people who have experienced a disaster event.

Conclusion:

This scoping review has established that there is a range of social work literature focused on natural disasters that primarily examines social work interventions, the effects of disasters, and social work education.

Key words: disaster, social work, interventions, mental health

Introduction

Alongside other emergency services, health and social care professionals, social workers play important key roles in response and recovery efforts in many disaster contexts. As such, they contribute to practice, policy and research. A Social Work Disaster Network was established in 2016 to bring together social work academics and practitioners from Australia and New Zealand through an annual workshop. This network has sought to articulate the social work contribution to disaster management, and in doing so, has become aware of the need to establish a research agenda. The paucity of appropriate literature available means the evidence for social work practice in disaster contexts is still in its infancy with much of the published literature providing a description of practice approaches (Abbas and Sulman, 2016), programmatic or educational interventions through case studies (Findley et al., 2017, Ku and Ma, 2015, Cooper and Briggs, 2014) or reflective pieces (Du Plooy et al., 2014, Corin, 2011). While these forms of knowledge are critical for our profession (reflecting the values-based and reflexive stance of social work), it makes establishing an evidence for social work practice challenging and, therefore, the development of a knowledge-base more urgent. This study highlights the valuable social work research endeavours that have been undertaken to date and the implications these have for future social work research and practice.

This aim of this scoping review is to establish the extent, range and nature of the published literature relating to social work research in disaster contexts to date, to identify the implications for current practice and to propose a future research agenda. The emphasis in this scoping review is on the role of social work practice *following* natural disaster events. Less research evidence for social work contributions to disaster risk reduction and mitigation is apparent, despite growing recognition of the socio-environmental dimensions of disasters (WHO, 2019a).

Given our national contexts and particular disaster experiences, we chose to focus on natural disasters. For the purposes of this review, the World Health Organisation's (WHO) description of natural disaster events was used (World Health Organization, 2019b), which includes events such as:

earthquakes, tsunamis, volcanic eruptions, landslides, hurricanes, floods and wildfires. They have an immediate impact on human lives and often result in the destruction of the physical, biological and social environment of the affected people, thereby having a longer-term impact on their health, wellbeing and survival. (WHO, 2019).

We note from the outset that the term 'natural' disasters is highly contentious given that many so-called 'natural' disasters have very real human causal factors (Drolet & Fulton, 2019) – including the impacts of climate change, land degradation and arson (in the case of many bushfires). We note, for instance, that the United Nations Office for Disaster Risk Reduction (UNDRR, 2017) defines disasters as being natural, anthropogenic or socionatural in origin. In this scoping review we use the WHO definition (2019b) in acknowledgement of our primary focus on these types of disaster events (as distinct from a terrorist-related disaster or conflict, for example) where there is always a major impact on both the physical environment and people's lives. Those disasters to which we refer in this review as 'natural disaster' events were chosen as a focus as these are more likely to prompt an immediate and collective response that will involve the social work profession regardless of their origin. We also noted that while 'natural hazards' is the more contemporary term (cite), a preliminary literature search yielded no results for social work studies according to our inclusion criteria.

Method

A scoping review method enables the identification of research knowledge and gaps. As Arksey and O'Malley's (2005) note, rather than examining the quality of the research activity, scoping reviews are a way to understand phenomena and are often used as a first step as they allow researchers to see whether undertaking a full systematic review is a feasible option. The scoping review method proposed by Arksey and O'Malley (2005) was used to establish 'the extent, range, and nature of research activity' in relation to social work and disasters. This method involves five stages: (1) identifying the research question; (2) identifying relevant studies; (3) study selection; (4) charting the data; and (5) collating, summarizing and reporting results (Arksey and O'Malley, 2005). It was anticipated that there would be a paucity of evidence in the social work literature related to natural disasters and this would methodological approach would elicit the richness and depth of the quality of the research that has been done on this topic.

This scoping review wanted to understand the following *research question*: 'What is the extent, range and nature of social work research activity following natural disaster events?'

Searches were conducted using the Web of Science, ProQuest, and Informat databases for literature published between January 2000 and December 2018 *to identify relevant studies* to current social work practice. The search was limited to this time period as this is more reflective of contemporary practice and research in disaster events/management that are ever-changing and evolving. During this period, there has been much change in how disaster management is conceptualised, and the intention of this review was to understand this

evidence to inform and drive a future research agenda. The search terms used were ‘social work’ and ‘disaster’. Table 1 summarises the inclusion and exclusion criteria.

INSERT TABLE 1: Inclusion and exclusion criteria

As shown in Figure 1, based on the search terms (‘social work’ and ‘disaster’) and the inclusion criteria, a total of 556 articles were initially retrieved, with 63 articles identified as potentially relevant to the study. To determine *study selection*, close full text review of these 63 articles by three of the authors (LA, JB and LH) led to the exclusion of a further 25 articles based on non-empirical research, book chapters and disasters that were not within the WHO definition of a natural disaster (World Health Organization, 2019). After full review of the remaining articles, 38 met all study inclusion criteria. Throughout screening and full review, any disagreements about inclusion or exclusion were discussed and reconciled as a team.

INSERT FIGURE 1 HERE

Results

Study design and features of post-disaster social work empirical literature

Following *study selection*, a total of 38 articles met the inclusion criteria, as shown in Table 2. These 38 articles related to 35 different empirical studies. Three articles related to one study after the Sri Lankan tsunami (Dominelli, 2014, Dominelli, 2015, Vickers and Dominelli, 2015), two articles related to one post-hurricane study in the USA (Tosone et al., 2016, Tosone et al.,

2015), two articles related to one study related to the Wenchuan Earthquake in China (Huang et al., 2014, Huang and Wong, 2013).

INSERT TABLE 2 HERE

Table 3 summarises the nature of these articles by way of disaster type and location and shows that most studies relating to social work and disasters have been published in the United States and focus on hurricanes.

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Of note is that many of these studies were conducted by researchers located outside of the country where the disaster occurred (Becker, 2009, Benson et al., 2016, Cooper et al., 2018, Dominelli, 2014, Dominelli, 2015, Doostgharin, 2009, Drolet and Sampson, 2017, Huang et al., 2014, Huang and Wong, 2013, Larson et al., 2015, Pentaraki, 2013, Powell and Leytham, 2014, Sim et al., 2013, Vickers and Dominelli, 2015). Studies of disasters in Australia, Barbados, Finland, Hong Kong, South Korea, Taiwan and the USA were conducted by researchers from within those countries (Bell, 2008, Chae et al., 2005, Harms et al., 2015, Hawkins and Maurer, 2010, Hickson and Lehmann, 2014, Kreuger and Stretch, 2003, Kulkarni et al., 2008, Leitch et al., 2009, Lemieux et al., 2010, Liu and Mishna, 2014, Marlowe, 2015, Plummer et al., 2008, Pyles, 2011, Rock and Corbin, 2007, Tang and Cheung, 2007, Tosone et al., 2016, Tosone et al., 2015, Tudor et al., 2015, First et al., 2018, Fogel, 2017, Kranke et al., 2017, Prost et al., 2018, Rapeli, 2018). Disasters occurring in China, Iran and New Zealand also had studies that involved collaborations of both insider and outsider researchers

(Doostgharin, 2009, Huang and Wong, 2013, Benson et al., 2016, Drolet et al., 2018, Cooper et al., 2018).

The research methods employed in the 35 studies were diverse, as illustrated in Table 4. The majority were qualitative studies (n=18, 51.4%), which used interviews (structured and semi-structured) and focus groups to collect data from participants. Data were also collected using surveys designed by the researchers or validated measures used in other study samples. Only two adopted mixed method designs (Harms et al., 2018, Hickson and Lehmann, 2014). A notable feature of these empirical studies is that most used multiple qualitative methods within their overall design.

INSERT TABLE 4 HERE

Areas of focus in social work research

Charting the data showed that articles describing social work research in disaster contexts

focused on (i) social work interventions (n =13); (ii) the effects of disasters on people and mediators of these effects (n = 19; (iii) social work education and challenges in disaster relief (n =11; and (iv) use of validated measures or development of research measures (n =2). Many of the 38 articles focused on multiple themes, as outlined below.

Social Work Interventions

Of the 13 articles that focus on social work interventions: five discuss psychosocial care and therapy (Becker, 2009, Bell, 2008, Benson et al., 2016, Hickson and Lehmann, 2014, Cooper et al., 2018); five articles focus on aid work (Alipour et al., 2015, Dominelli, 2014, Dominelli, 2015, Kulkarni et al., 2008, Drolet et al., 2018); and another four look at groupwork (Tudor et

al., 2015, Powell and Leytham, 2014, Larson et al., 2015, Huang and Wong, 2013), and one article examines community work (Tudor et al., 2015).

The findings from these studies highlighted the importance of psychosocial care, assessment, case management, and counselling in responding to the mental health and wellbeing needs of individuals post disaster (Becker 2009; Bell, 2008; Hickson & Lehmann, 2014). Typically, case management in disasters has entailed identifying, assessing, planning, linking, monitoring and advocating for survivors, with coordination being a critical element of a successful response (Bell, 2008). According to a study by Hickson and Lehmann (2014), Australian social workers involved in the Victorian bushfire recovery in 2009 (n=22) were surveyed about the skills and qualities needed for effective interventions during a disaster recovery response. Strong practice skills in assessment, listening, engagement, debriefing, crisis intervention, grief counselling and problem solving were reported as valuable skills. Social workers should also be confident, empathetic, reflective, willing to help, compassionate, flexible and patient amongst other things. In a study by Cooper and colleagues (2018), the concept of psychosocial care was extended to volunteer counsellors, many of whom were also exposed to the disaster. Soon after the disaster event, these volunteer counsellors recognised their own need for self-care management plans and supervision in order to optimise the psychosocial care delivered to the survivors (Cooper et al., 2018). In addition to these professional skills, personal qualities, and organisational support, Alipour and colleagues (2015) also recommend that social workers have good knowledge of local social capital as part of an effective skill set (Alipour, et al., 2015).

Social work interventions in disasters may be founded in crisis intervention frameworks. In India, a study was conducted to ascertain the efficacy of a community-based mental health

psychosocial program aimed at reducing negative physical and emotional effects of a disaster (Becker, 2009). The program was designed using the 'train the trainer model'; three social workers and one psychiatrist trained community health workers to deliver three months of psychosocial care to a group of women (n=100) who had survived a tsunami two years previously. The program intervention targeted trauma symptoms of hypervigilance, avoidance and intrusion as measured by the Impact of Event Scale (IES). The IES was administered to the intervention group and a control group (n=100) who lived in the neighbouring village and also affected by the disaster. Pre-and post-intervention outcomes of the intervention group were compared with the control group. The intervention group showed significant improvement in trauma symptoms in all three domains compared to the control group outcomes (Becker 2009). Similarly, a brief intervention therapy (one to two sessions) informed by Somatic Experiencing was shown to reduce Post Traumatic Stress Disorder (PTSD) symptoms and promote resiliency in social work clinicians who had been exposed to a disaster recovery effort following the intervention and again at 3 months post intervention (Leitch, Vanslyke, & Allen, 2009). In a multi-national study by Benson and colleagues (2016) social workers reported varying levels of comfort and skill exploring religion and spirituality with clients who had experienced a disaster. Despite some reservations, the majority of respondents did perceive positive effects when social work assessments and interventions recognised and acknowledged the importance of spirituality to people, particularly in times of trauma (Benson et al., 2016).

Social work research in this scoping review also emphasises the importance of providing aid in a bottom-up approach (Alipour, Khankeh, Fekrazad, Kamali, Rafiey, & Ahmadi, 2015; Dominelli, 2015), which is one that involves community participation in solving problems arising from disasters, is reciprocal in nature, and responsive to local needs and cultures

(Dominelli, 2014). Such approaches are thought to reinforce social capital, while also promoting empowerment and resilience amongst community members (Alipour, 2015; Dominelli, 2015). Such work is hampered when there are limited local resources due to underfunding and reliance on non-government sources of support (Kulkarni, et al. 2008).

These studies suggest that group work, including self-help groups (Larson, et al 2015), recreation activities (Huang & Wong, 2013), and parental psycho-educational curriculum (Powell & Leytham, 2014), may be beneficial. Groups can alleviate distress and depression, while improving people's wellbeing and recovery (Huang & Wong, 2013). Further, they can help group members locate social supports, recognise their stress, identify ways of coping with stress, and provide a sense of hope (Powell & Leytham, 2014). In Larson et al.'s (2015) study following a tsunami in India, survivors (n=109) reported that self-help groups provided women with new social and economic opportunities, by providing employment and income generating opportunities, training, access to microcredit and savings, and the ability to undertake banking. Thus, social groupwork can be healing and empowering for survivors.

Social work practice described in the research has also drawn from innovative approaches, including for example craft (Tudor, Maidment, Campbell, & Whittaker, 2015), and can align well with community-led practice initiatives that focus on relationship healing and community growth. There is some, albeit limited, focus on the use of social and community development type approaches following disasters. Tudor et al. (2015), for example, describe how a community work project which used a craft group promoted recovery and healing, social connectedness, meaning making, giving and hope for the future.

The effects of disasters on people and mediators of these effects

Nineteen articles in this scoping review focused on the effects and/or mediating influences in disasters (Drolet et al., 2018, Alipour et al., 2015, Bell, 2008, Chae et al., 2005, Doostgharin, 2009, First et al., 2018, Hawkins and Maurer, 2010, Huang and Wong, 2013, Kreuger and Stretch, 2003, Kulkarni et al., 2008, Liu and Mishna, 2014, Marlowe, 2015, Pentaraki, 2011, Lemieux et al., 2010, Prost et al., 2018, Tosone et al., 2015, Harms et al., 2015, Plummer et al., 2008, Dominelli, 2014).

Many of these articles highlighted the *effects of disasters* on people and communities, particularly as it relates to mental health outcomes and grief and loss (Chae et al., 2005, Doostgharin, 2009, First et al., 2018, Harms et al., 2015, Huang and Wong, 2013, Kreuger and Stretch, 2003, Lemieux et al., 2010, Plummer et al., 2008, Tosone et al., 2016). The negative effects on mental health and complicated grief and loss associated with the disaster events was common for survivors in all these studies. It was only after psychosocial interventions that survivors started to experience improvement in these outcomes that could be described as a form of recovery. The literature describes how adverse effects are felt more acutely amongst marginalised groups (Drolet et al., 2018, Fogel, 2017, Pentaraki, 2013). Further, some literature highlights how factors, such as social connectedness, particularly as it relates to culture, social capital, and sense of belonging, mediate the adverse effects of disasters on people and communities (Dominelli, 2014, Hawkins and Maurer, 2010, Liu and Mishna, 2014, Marlowe, 2015).

As shown in Table 5, nine articles examine the *effects of disasters* (Alipour et al., 2015, Bell, 2008, Chae et al., 2005, Doostgharin, 2009, Kreuger and Stretch, 2003, Prost et al., 2018, First et al., 2018, Harms et al., 2015). Of the nine articles that describe post-disaster effects: (1) six articles focus on the psychological effects (Chae et al., 2005, Doostgharin, 2009, Harms et al., 2015, First et al., 2018, Kreuger and Stretch, 2003, Prost et al., 2018): and (2) three focus on each social effects and physical effects (Chae et al., 2005, Doostgharin, 2009, Huang and Wong, 2013).

Seven articles examine *mediating factors* that reduce the negative impacts of disaster events on people: (1) four identify social connectedness as a mediator (Drolet et al., 2018, Hawkins and Maurer, 2010, Liu and Mishna, 2014, Marlowe, 2015); (2) another three identified higher socioeconomic status as a mediator (Kulkarni et al., 2008, Alipour et al., 2015, Pentaraki, 2013); (3) three comment on reconstruction and recovery policies and responses as mediators (Kulkarni et al., 2008, Pentaraki, 2013, Alipour et al., 2015); and (4) one highlights the mediating effect of the degree of exposure to the disaster (Kreuger and Stretch, 2003).

INSERT TABLE 5 HERE

The effects of disasters on individuals and communities are extensive. The social work literature emphasises how disasters can increase people's vulnerability (Alipour et al., 2015), with the effects from disasters compounded for people who are marginalised and disadvantaged (Pentaraki, 2013, Kulkarni et al., 2008). Disasters can also create a sense of uncertainty and confusion (Alipour et al., 2015), impact people's ability to be self-sufficient (Bell, 2008), reduce people's sense of safety, and increase grief in both adults (Harms, et al., 2015) and

children (Doostgharin, 2009). These events can have lasting impacts on people's mental health, with survivors reporting increased rates of post-traumatic stress disorder (Chae, et al. 2005; Kreuger & Stretch, 2003), as well as stress, anxiety, and depression (Chae, et al. 2005). For adults, death of close friends and community members is predictive of poorer mental health outcomes (Harms et al., 2015). While for children and young people, experiencing loss of family members, friends, and protection from caregivers can make them vulnerable to malnutrition, diseases, injuries, nightmares, and harm from others (Doostgharin, 2009). Thus, incorporating knowledge and understanding about grief and its role and effect on disaster recovery is important (Harms, et al., 2015).

Studies show that effects of disasters, are mediated by some factors. High levels of social capital (Hawkins & Maurer, 2010) and a sense of community belonging through civic participation and social connection (Marlowe, 2015) appear to reduce the adverse impacts of disasters. For example, following Hurricane Katrina in the US, people used connections and close ties for immediate support (that is, bonding social capital), and bridging and linking social capital to revitalise their communities (Hawkins & Maurer, 2010). Thus, it is important for social workers to build community capacity by harnessing social capital, while also recognising, where appropriate, the value of cultural norms in promoting resiliency (Liu & Mishna, 2014). Further, recovery and reconstruction policies that exacerbate socioeconomic and structural inequalities can mean that the effects of disasters are more acutely felt by vulnerable, low income groups within a community affected by a natural disaster (Kulkarni, Bell, Beausoleil, Lein, Angel, & Mason, 2008). Finally, the degree to which a young person is exposed to a disaster can also mediate risks such as PTSD (Kreuger & Stretch, 2003). It is thus important for practitioners to recognise the interconnected nature of physical environment,

access to services, education and employment, policies, and community and social capital in recovery from disasters.

Social work education and challenges in disaster relief

Of the 11 articles focused on the challenges of working in disasters and the importance of education in these areas (Bell, 2008, Benson et al., 2016, Hickson and Lehmann, 2014, Huang et al., 2014, Lemieux et al., 2010, Rock and Corbin, 2007, Du Plooy et al., 2014, Tang and Cheung, 2007, Tosone et al., 2015, Vickers and Dominelli, 2015), four comment on the importance and role of education in preparing social workers for disaster work (Benson et al., 2016, Rock and Corbin, 2007, Vickers and Dominelli, 2015), five articles comment on the challenges faced by practitioners (Bell, 2008, Hickson and Lehmann, 2014, Huang et al., 2014, Sim et al., 2013, Tosone et al., 2015), and four comment on the challenges faced by students (Plummer et al., 2008, Tang and Cheung, 2007, Rock and Corbin, 2007, Lemieux et al., 2010).

Social work practice in disasters can be particularly challenging, as disaster situations are characterised by trauma, grief, and chaos. The impacts on social workers can be exacerbated when they are unfamiliar with the geography of the area, backgrounds and experiences of residents affected by disasters, details of the disaster, local cultures and social networks, and available resources (Bell, 2008, Hickson and Lehmann, 2014). Further, social workers can face challenges around lack of support and supervision, coordination amongst services, and experience and knowledge in disaster related work, which is compounded by the rapidly changing environment of disasters and the low professional status of social work (Huang et al., 2014, Sim et al., 2013). Such challenges can mean working in disasters adversely affects social workers' wellbeing (Hickson and Lehmann, 2014, Huang et al., 2014, Sim et al., 2013).

It can contribute to increased rates of secondary trauma (Tosone et al., 2015), meaning that social workers must be particularly adept at self-care (Hickson and Lehmann, 2014). The importance of self-care care management and supervision was recognised by a sample of counsellors (n=19) who volunteered to deliver therapeutic support to survivors of the earthquakes in Canterbury, New Zealand. In this qualitative study, the counsellors noted the challenges associated with maintaining professional boundaries when they also shared the experience of surviving the disaster. In this post-recovery response, many of the systems and supports that are typically in place were not initially present. However, supervision, debriefing, and documentation of learning were all recognised as valuable and necessary for the counsellors and were put in place on the run (Cooper et al., 2018).

Adverse impacts can also be felt by students who volunteer in disasters, as students confront the horror of disasters, and experience a range of emotional responses, such as fear, anxiety, worry, and disbelief (Lemieux et al., 2010). Plummer and colleagues (2008) pointed out in their study (n=416) that at times students are survivors of the disaster themselves and for others disasters can trigger recollections of past traumatic experiences (Plummer et al., 2008). Tang and Cheung (2007) described that students who helped survivors of the 2004 Indian Ocean tsunami by caring for and supporting survivors materially and emotionally, while also fund raising, experienced difficulties which arose from cultural barriers, differing language and lifestyles, and a lack of knowledge about social work and service systems (Tang and Cheung, 2007). Unfortunately, many students concluded that their efforts were unsuccessful.

Considering the impacts on social workers and students, many authors have made recommendations around education and training. Rock and Corbin (2007), for example,

recommend training social work students in stress management, grief counselling, conflict resolution, groupwork, problem solving, data collection and research, case management, networking, advocacy and leadership (Rock and Corbin, 2007). Vickers and Dominelli (2015) also describe how real-time disasters can provide opportunities for educators to work with students to equip them with skills and knowledge for responding to disasters and that this can be particularly successful when working with local partners (Vickers and Dominelli, 2015). In addition, participants in Benson's study (2016) said they had not received formal education around how to address spirituality in disaster responses, but most thought this would be important (Benson et al., 2016). Greater education and training may reduce the secondary trauma at times experienced by social workers and better prepare social workers for responding helpfully following disasters.

Use of validated measures or development of research measures

Finally, two articles describe the development of measures. One of these articles (Tosone et al., 2016) describes the development of the Shared Trauma and Professional Posttraumatic Growth (STPPG) Inventory, while the other (Pyles, 2011) describes the development of baseline indicators to measure community recovery from disasters. It stipulates seven domains that research participants identified as important to revitalizing neighbours including: (a) physical space/environment; (b) crime and safety; (c) housing; (d) health and social services; (e) children, youth, and family; (f) education and employment; and (g) community and social capital. Findings reveal that the domains are mutually dependent.

Discussion

The aim of this study was to understand the extent, range and nature of social work research activity following natural disaster events and the implications for future research and practice. Collating, summarising and reporting the scoping review results related to the research question provides a foundation for ongoing empirical research about social work and disasters internationally. In combination, the articles signal the value and importance of social work practice in disaster-related work. The predominant focus of the research has been on post-disaster work where social workers have engaged with a range of practice activities, as opposed to pre-disaster social work practice about which there is less recognition and research activity. These include: groupwork, case management, aid and psychosocial care. Social workers are trained in assessment and intervention and therefore have much to contribute in the immediate response and ongoing recovery phases of disaster management (Mathbor, 2007). They are also equipped to engage with diversity and so have the skills to communicate and build relationships with people across the community. The recognition in the empirical articles that social workers may themselves be immediately impacted by the disaster is important and supports the emphasis in initial and continuing social work education around self-care and stress management. Ensuring their own wellbeing enables them to successfully support others. Sustaining additional support for students who are engaged in responding to disasters should be a consideration for both educational providers and responding organisations so that they do not become disillusioned about social work practice or personally burnt out.

Further research into the elements that would create a robust organisational infrastructure including clear policies and procedures around immediate response to a disaster is critical within social workers' own organisations. Understanding their role and responsibilities supports the maintenance of personal and professional boundaries further ensuring protection

of social workers themselves (Cooper et al., 2018). International conversations around best practice in preparation for social work organisations could add considerable impetus to disaster readiness of the social work community. Of course, these conversations are important not only for the social work profession, but for all those concerned in disaster management work, a context described in the Sendai Framework for Disaster Risk Reduction (UNDRR, 2015) as typically multidisciplinary, as well as multi-layered from local initiatives through to the international. While the focus of this review has been on post-disaster social work, we also acknowledge the important role of social workers in preventing and managing disasters. Such work is consistent not only with the United Nations 2030 Agenda for Sustainable Development (United Nations, 2015) but aligns with the Global Agenda for Social Work and Social Development 2020-2030 (IFSW, 2020).

Possible gaps in current tertiary curriculum are suggested in the found literature although this may differ across countries and in specific higher education institutions. Further examination of what is taught and learned and then applied by students would add value to current practice and research. Preparing students for social work practice in disaster management may be seen to be of more relevance in some countries that experience disasters more frequently. That said, the international nature of social workers and transferability of skills required for disaster work could be an argument for increased focus across all social work curriculum.

The articles also point to the devastating effects on people, some of whom will already have been engaged with social workers prior to the disaster. The disproportionate impact of disasters on marginalised and vulnerable individuals and communities has been well canvassed but requires particular attention by social workers in frontline practice, policy and management. Mitigating the extent of these impacts can be assisted by a deliberate focus pre-

disaster event on building social capital, educating people around disaster preparedness and having a strong local and regional policy framework that can be actioned immediately after the event.

The use of baseline indicators and other measurements to assess community and individual growth is of considerable value and is a current gap in the social work research to date. The use of validated measures for constructs related to disaster effects and recovery require further examination in the research. The development and validation of measures that test the efficacy of social work interventions with populations affected by natural disasters is also needed. Ideally, these measures would also have clinical utility so that they can be integrated into social work practice and used for research purposes.

While the social work literature articulates the interventions and role of social work in disaster relief, there is less certainty in the empirical literature about the extent to which social workers are utilised and their work is understood both by other professionals and by community members. Huang and Wong (2013) noted the low professional status of social workers and the limited resources and support often available to them. The research agenda could further examine the previous engagement of social workers in disaster work, especially in countries where there is limited understanding of their engagement in this domain (Huang and Wong, 2013).

Understanding what roles social workers have had in the span of disaster events from readiness, reduction, response through to recovery may raise the visibility of social work activity and support future engagement locally, regionally, nationally and internationally. The Global Definition of Social Work (IFSW/IASSW, 2014) emphasises the commitment of social workers to human rights and social justice, thus appropriately positioning the social

work profession in the disaster space. Whether social workers and their practice is understood and appreciated by other professionals, and so whether they are being utilised to their full potential is another question for further research. Another area for future research is on social workers' engagement in the typically multidisciplinary context of disaster management work.

The emphasis in the literature on individual interventions raises questions as to the appropriateness of these methods for indigenous communities who may prefer group or community focused models of practice. Understanding the impact of disasters on indigenous peoples and how social workers can best practice in these environments is important. This has implications for the teaching curriculum, policy and practice so that non-indigenous social workers are equipped to engage in culturally relevant ways both pre- and post-disaster. An understanding of the timing of when social work interventions are most effective is also needed. The studies to date provide important insights into the range of interventions that can be helpful for individuals and communities post-disaster event. Future research needs to examine the types and timing of interventions in order to test their efficacy in improving recovery trajectory outcomes.

The articles describe research that has occurred on: a range of natural disasters, across multiple nations (developed and developing countries), in diverse social work contexts and varying stages of disaster recovery. This makes it challenging for social work practitioners and drivers of social policy to draw any meaningful conclusions as to best practice approaches in a disaster event. This further supports the need for a research agenda that will inform a way of conceptualising disaster recovery responses regardless of their type, location and context.

Limitations

The aim of this study was to review the empirical literature on social work research following natural disaster events using a scoping review methodology. Consequently, the search terms were limited to 'social work' and 'disaster'. This means that the scope of the review was limited and some studies that social workers contribute to, such as those focused on psychosocial research and disaster management more broadly, may not have been included. Importantly, however, we verified that no articles met the selection criteria by using the alternate term 'natural hazard'. Further, this scoping review focused only on social work research in the context of natural disasters, rather than disasters in a broader sense. Given there are some differences in the responses to and impact of human-made disasters compared with natural disasters (Shaluf, 2007) this was deemed appropriate (Shaluf, 2007). Another limitation was including only those studies published in the English language as this precluded any research reported in other languages. As a scoping review, the quality and rigour of studies was not assessed.

However, by using a scoping review methodology we were able to include a range of study designs, which can be valuable in a growing field of practice and research.

Conclusion

This scoping review has established that there is range of social work literature focused on disasters that primarily examines social work interventions, the effects of disasters, and social work education. It is evident from this literature that the social work profession can play an integral role in responding to, disaster events at various levels (micro, meso and macro) to minimise the harmful effects and promote recovery. In the multidisciplinary context of disaster management, understanding the unique disciplinary contributions of social work is important. To advance this field of practice, more research is needed on the types, timing,

role and extent of social work practice and interventions after disasters. This should coincide with examination of the elements that would create a robust organisational infrastructure during disasters including clear policies and procedures around immediate responses to a disaster. Educators should reflect upon what is taught, learned and then applied by social work students regarding disasters. Finally, the field would benefit from the development of validated measures for constructs related to disasters.

Beyond the focus of this paper, more research is also needed in relation to social work's broader role in disaster prevention and response. While there has been considerable work undertaken in both the research and practice of social work in disasters, there is clearly still more to be done.

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Table 1: Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Keyword: 'social work'	
Keyword: 'disaster'	
Empirical studies only, relating to disasters according to the WHO definition: 'earthquakes, tsunamis, volcanic eruptions, landslides, hurricanes, floods and wildfires'	<ul style="list-style-type: none"> - Articles relating to social work policy, theory or critical reflections - Articles relating to human-made disasters such as terrorist attacks or war
Peer-reviewed journals	Grey literature, conference papers, reviews, reflections
English language	Book chapters
No geographic limitation	Inaccessible online

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Table 2: Summary of articles included in the scoping review

Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Alipour, F., et.al. (2015)	Earthquake, Iran	Qualitative. Interviews, focus groups and field notes	N=27 participants (20 earthquake survivors; 3 social workers; 3 psychologists; and 2 local health workers with expertise in disaster recovery).	Not applicable.	Themes 1) Social vulnerability: 2) Social uncertainty: 3) Ignorance of local social capital	<u>Mediator</u> - (social) social capital.
Becker, S. (2009)	Tsunami, India	Randomized Control Trial. Quantitative	N=200 (100 women in psychosocial care group and 100 women in control group)	Impact on Event Scale (IES) and Self-Reporting Questionnaire.	Intervention group showed improvement in post-trauma symptoms after 3 months of psychosocial care intervention.	<u>Psychosocial care. Measuring outcomes</u>
Bell, H. (2008)	Hurricane, USA	Qualitative. In-depth interviews, public meeting observations and document analysis.	N=78 case managers, volunteers, supervisors, and managers from 50 agencies.	Not applicable.	Survivors continued to struggle toward self-sufficiency with many not understanding, trusting, or engaging with service providers. Lack of cultural knowledge, lack of jobs, transportation, and affordable housing coupled with survivors' trauma and pre-existing needs created new difficulties for both survivors and case managers. Case managers reported positively about their coordination of efforts to assist hurricane survivors.	<u>Psychosocial care. Effects:</u> (social) self-sufficiency. <u>Challenges for practitioners.</u>
Benson, P. W., et.al. (2016)	Multiple natural disasters, UK/NZ/USA/Norway	Quantitative.	N=2,884 Social Workers were randomly sampled from their professional	Surveys developed by research team. Demographic information,	Social Workers reported on the importance of religion and spirituality for practice, including in the event of	<u>Psychosocial care. Professional Education required. Measures:</u>

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Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
			membership; 789 from the UK (2000), 162 from NZ (2006), 1804 from the USA (2008) and 134 Norway (2011).	educational background, religious and spiritual affiliation, and level of agreement on raising the topics of religion and spirituality with specific client issues.	disasters. A large majority in each country believe that spirituality is a fundamental aspect of being human, yet there is a wide range of opinion about the appropriateness of various spiritually oriented helping activities and resources. Social workers reported that they did not receive formal educational preparation for addressing spirituality.	<i>developed by research team</i> Methodology
Chae, E.-H., et.al.(2005)	Flood, South Korea	Quantitative measures	N=584 (339 individuals from the Gangneung area, 246 individuals from Yeosu County (non-disaster area).	Wellbeing - Psychological Well-being Index Short Form (PWI-SF); Depression - Zung Self-Rating Depression Scale (ZRDS); Anxiety - State Trait Anxiety Inventory (STAI); and Post Traumatic Stress Disorder - adapted from the DSM-IV PTSD symptom list.	Individuals exposed to the natural disaster experienced negative changes in their mental health, compared with respondents from the unexposed control group. The exposed group experienced PTSD, depression, anxiety and health problems, whereas the non-exposed group did not.	<i>Effects</i> (psychological) PTSD, depression and anxiety; (physical) health problems. <i>Measuring outcomes.</i>
Cooper, L., et.al. (2018)	Earthquake, New Zealand	Qualitative. Semi-structured interviews.	N=19 participants 13 females and 6 males. 14 semi-structured interviews. Counsellors - social work, nursing, medicine, psychology, or counselling.	Not applicable	Disaster exposed volunteer counsellors shared experiences with clients making clinical distance challenging. Systems such as supervision and self-care arrangements to support volunteer counsellors were set up within a short period of time.	<i>Psychosocial care.</i>

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Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Dominelli, L. (2014)	Tsunami, Sri Lanka	Mixed method - 'ethnographic case-study' - field notes	N=100 (62 villagers, 38 university staff). Data from 173 interviews.	Not applicable	Themes: Assistance in the immediate aftermath was welcomed; reciprocal assistance and exchanges were advantageous to parties concerned and met local need; people with connections in the right places received help sooner and more in keeping with their needs; inequitable distribution of aid.	<u>Humanitarian Aid</u>
Dominelli, L. (2015)	Tsunami, Sri Lanka	Same study as above.	Data from 368 interviews, 10 focus groups and 35 sets of field notes with staff, volunteers, villagers	No applicable	Top-down approaches from external agencies as the most likely to become exploitative. Majority of villagers welcomed major players (such as Oxfam, the Red Cross and Save the Children) especially during the immediate relief and recovery phases. Bottom-up approaches were valued for the long-term sustainable development and reconstruction.	<u>Humanitarian Aid</u>
Doostgharin, T. (2009)	Earthquake, Iran	Qualitative - Interviews	N= 8 male youths.	No applicable	The findings underline the need for immediate support by adults with training in disasters and developmentally appropriate mental health care for earthquake survivors.	<u>Effects</u> - Psychological effects (shock, nightmares, sadness and grief, uncertainty, concerns about family members) and physical effects (lack of appetite).

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Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Drolet, J., et.al. (2018)	Hurricanes, USA	Qualitative - focus groups	N=26 (6 participants from emergency management and disaster service organisations and 20 participants from focus groups from the migrant Latin American and hispanic farm worker community) affected by the disaster.	Not applicable	Migrant workers faced challenges due to the lack of consideration with regard to immigration status, linguistics, and cultural needs in disaster recovery. Humanitarian Aid Emergency management saw the hurricanes as an opportunity to promote preparedness within the community. Church communities and local health departments provided practical support and material aid. Mexican community came together to mobilise supports for those affected. Grass roots collective action was used to bridge the gap between formal emergency response plans and marginalised migrant community.	<u>Humanitarian Aid.</u> <u>Social Capital, Mediator</u>

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Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
First, J., et.al. (2018)	Tornado, USA	Quantitative - measures	N=438 adults of Joplin residents who were present during the tornado disaster event.	Tornado experience - seven items used in other studies. Post-traumatic stress reactions - Impact on Event Scale - Revised (IES-R); Tornado interpersonal communication; & Post Traumatic Growth Inventory Short Form (PTGI-SF) .	More tornado exposure and tornado post trauma stress were related to more post traumatic growth. Communication with family and community supports was related to post-traumatic growth. Female reported more positive post traumatic growth than males. No association between education level and post traumatic growth outcomes.	<u>Developing measures and measuring outcomes.</u>

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Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Fogel, S. (2017)	Multiple natural disasters, USA	Qualitative - focus groups	Group 1 N= 31 participants identified as homeless in the Hillsborough/ Pinella counties of southern Florida. Group 2 N=16 Social Service and first responders.	No applicable	Homeless adults identified the need for early actions for evacuations and provisions to aide recovery after the event. Shared concern for homeless adults and social services/first responders was the challenge in transporting individuals to safety in the event of a disaster.	<u>Effects</u>
Harms, L., et al. (2015)	Bushfire, Australia	Mixed methods, longitudinal - quantitative measures via survey, and a sub-sample took part in interviews	N=1,016 participants (612 females and 404 males) completed the baseline survey. The bereaved sub-sample comprised the 294 (29.2 per cent) participants who reported that they had experienced the death of someone close to them as a result of the Black Saturday bushfires (117 males and 177 females).	Survey questions focused on: interpersonal loss, fear and property loss and mental health. <u>Probable major depressive episode</u> (MDE) - Patient Health Questionnaire; <u>Non-specific psychological distress</u> - K6; and <u>Grief</u> - Inventory for Complicated Grief.	The loss through death of friends and community members was found to be predictive of poorer mental health outcomes, although prolonged grief outcomes were rare. The sense of relationships as being 'like family' was identified by interviewees as an important dimension of their communities, as was coping with multiple deaths and the hierarchy of grief that emerged, and the stress of notifying others of these deaths.	<u>Effects</u> - (Psychological) Poor mental health outcomes (caused by death of close friends), <u>Developing measures and measuring outcomes.</u>

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Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Hawkins, R. L., & Maurer, K. (2010)	Hurricane, USA	Qualitative. Longitudinal study with two interviews, observation and field notes.	N = 40 (female - 34 and male - 6).	Not applicable	Participants described a process through which close ties (bonding) were important for immediate support. Bridging and linking social capital offered pathways to longer term survival and wider neighborhood and community revitalisation.	<u>Mediator</u> - (social) social capital.
Hickson, H., & Lehmann, J. (2014)	Bushfire, Australia	Mixed methods, qualitative - online survey and sub-sample of interviews.	N=22 Social Workers	Not applicable.	Demands placed on social work practice were exacerbated by the lack of familiarity with geography, social networks, and resources, as well as by higher levels of uncertainty and lack of clarity and detail relating to the event itself.	<u>Psychosocial care and Challenges for practitioners.</u>
Huang, Y. N., & Wong, H. (2013)	Earthquake, China	Qualitative - focus groups and in-depth interviews	N=24 adults	No applicable.	Disaster survivors had resilience to loss and trauma and could recover themselves. Group participation via recreational activities facilitated disaster survivors' self-recovery and had positive effects on them physically and psychologically and socially. Their lives became more meaningful and their social network was broadened and strengthened.	<u>Psychosocial care and Mediator</u> - groupwork participants reported that distress and depressive symptoms were alleviated through group process.

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Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Huang, Y. N., et.al. (2014)	Earthquake, China	Qualitative. In-depth interviews.	N=6 (Social Workers)	Not applicable	Social workers reported lack of government support; low professional status of social work; rapid changes in the social environment in disaster-affected areas; lack of supervision; lack of cooperation and coordination among social service agencies'; and lack of experience and knowledge in working with disaster survivors.	<u>Challenges for practitioners.</u>
Kranke, D., et.al. (2017)	Multiple natural disasters, USA	Qualitative. Interviews.	N=9 male combat veterans who volunteered with Team Rubicon - a disaster relief social service organisation.	Not applicable.	Veterans did not experience negative mental health effects because of prior military training and preparedness relevant to disaster situations.	<u>Psychosocial care and Mediator</u> - Peer support and preparedness was perceived as influencing positive health outcomes.
Kreuger, L., & Stretch, J. (2003)	Flood, USA	Quantitative - measures	N=3876 children and adolescents, thirty percent (1,167) of whom were in grades K-3, and the remaining 70 percent (2,719) were in grades 4-12.	Child and Adolescent Protocol on Flood Impact (CAPFI), Anxiety: Revised Children's Manifest Anxiety Scale (RCMAS), and Depression: Children's Depression Inventory (CDI).	83% children and adolescents were in the lowest magnitudes, 6.3% in level 3, 5.6% were in level 4, and the remaining 5.3% were in level 5, (highest magnitude of flood impact). Longer term risk was empirically related to magnitude, with evacuation a major predictor of risk, and water in the residence (without evacuation) less well correlated to risk.	<u>Effects</u> (psychological) PTSD. <u>Mediator</u> - risk mediated by magnitude of the disaster. <u>Developing measures and measuring outcomes.</u>

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Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Kulkarni, S., et.al. (2008)	Hurricane, USA	Qualitative. Observational notes, field notes and interviews.	N = 14 (8 evacuees and 6 service providers).	Not applicable	Evacuees forced to navigate formal benefit systems that were tightly rationed and required proof of eligibility (criteria for access was often undecipherable). Local social services struggled with coordination but showed remarkable flexibility and agility in identifying needs and developing responses to address the needs of evacuees.	<u>Humanitarian Aid.</u> <u>Mediator</u> - recovery and reconstruction policies. <u>Mediator</u> - socioeconomic and structural inequalities
Larson, G., et.al. (2015)	Tsunami, India	Qualitative. Semi-structured focus groups and interviews.	N= 109 individuals (57 female and 52 male).	Not applicable.	Self-help groups were reported as having provided women with a measure of new social and economic opportunities, status and power. Little evidence existed for a substantial reduction of poverty levels or a change in the prevailing patriarchal attitudes.	<u>Psychosocial care</u> - groupwork.
Leitch, M. L., et.al. (2009)	Hurricane, USA	Quantitative. Non-randomised control trial.	N=142 (Social Service workers who were survivors of Hurricanes Katrina and Rita in New Orleans and Baton Rouge, Louisiana, two to three months after the disasters).	Demographics. Coping: four item scale used by the agencies (not specified). Symptom Checklist - 90-revised (SCL- 90-R).	Somatic Experiencing proved beneficial with the treatment group having statistically significant gains in resiliency indicators and decreases in posttraumatic stress disorder symptoms. Although psychological symptoms increased in both groups at the three to four-month follow-up, the treatment group's psychological symptoms were statistically lower than those of the comparison group.	<u>Psychosocial care</u> (Therapy)
Lemieux, C. M., et.al. (2010)	Hurricane, USA	Quantitative - measures	N=416 Social Work students.	Demographics and intern status. Spirituality support: Spiritual Support Scale (SSS). Altruism: Self Report Altruism Scale Optimism: Life Orientation Test (LOT)	Respondents experienced, on average, approximately six hurricane-related stressors, with the number of stressors ranging from 0 to 18. The most frequently reported negative emotional responses: horror/shock, fear/anxiety/worry, and numbness/disbelief.	<u>Challenges for students.</u>

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Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
				<p>Peritraumatic emotional responses: Types of Peritraumatic Emotional Responses checklist.</p> <p>Hurricane related stressors: checklist designed by researchers that included common stressors experiences in various domains of living, previous traumatic experiences and negative reactions. Coping: Brief COPE.</p>	<p>Participants also demonstrated high levels of volunteerism. Among participants, 47% scored at or above the clinical level for depression, with 6% of students showing clinical PTSD-like symptoms, and 16.9% reporting substance use. Two thirds (66.9%) employed 8 of the 10 adaptive coping responses. Negative cognitive and emotional reactions to the hurricanes correlated positively with mental health symptomology and 7 of the 10 adaptive coping responses.</p>	
<p>Liu, C. L. J., & Mishna, F. (2014)</p>	<p>Earthquake, Taiwan</p>	<p>Qualitative. Interviews.</p>	<p>16 female earthquake survivors</p>	<p>Not applicable.</p>	<p>Coping strategies guided by female gender norms in the family, embedded in Taiwanese culture, including: children’s needs are the first priority as a maternal role norm; men working outside and women working inside; and female gender norms of supporting the family when husbands could not, were the major resources participants accessed and utilized to successfully cope with the difficulties after the 921 Earthquake. The participants’ narratives demonstrated that cultural norms can serve as coping resources for survivors.</p>	<p><i>Mediator</i> - Culture as a mediator.</p>

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Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Marlowe, J. (2015)	Earthquake, NZ	Qualitative. Semi-structured interviews and focus groups.	N = 101 participants who have a refugee background.	No applicable.	A sense of belonging as individuals and as a wider community was important in the recovery effort. Belonging had contextual, chronological and gendered dimensions that helped inform effective and resonant disaster responses with culturally and linguistically diverse populations. This analysis also illustrates how the participants' perspectives of belonging shifted over time.	<u>Mediator</u> - Sense of belonging.
Pentaraki, M.(2013)	Bushfire, Greece	Qualitative - interviews and community forums	N = 36 Individuals who are villagers affected by the fires and attended community forums.	Not applicable.	One-size-fits-all recovery policies tended to enhance socioeconomic disparities and the larger political and economic context mediated and exacerbated the class-differentiation of the impact of the recovery policies.	<u>Mediator</u> - recovery and reconstruction policies. <u>Socioeconomic and structural inequalities.</u>

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Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Plummer, C. A., et.al. (2008)	Hurricane, USA	Quantitative. Self-report measures.	N=416 graduate and undergraduate Social Work students.	Demographics and previous volunteer experience. Hurricane related stress - 18 item scale developed by researchers. Previous traumatic experiences - seven item measure developed by researchers. Faith - 2 questions adapted by a previous study. Altruism - SRAC. Increased commitment to Social Work Values - 13 item checklist developed by researchers. Volunteerism - 16 item checklist developed by researchers.	Most participants experienced numerous stressors: students lost personal property and were evacuees themselves, as well as shared their homes with other evacuees. Hurricanes KR triggered recollections of previous traumatic experiences for almost one quarter of participants. Even though participants experienced a wide range of disaster-related stressors, social work students responded in great numbers (94%) to the urgent need for voluntary assistance.	<u>Challenges for students.</u> <u>Developing measures and measuring outcomes.</u>
Powell, T., & Leytham, S. (2014)	Earthquake, NZ	Quantitative. Survey.	N=106 parents who participated in the Journey of Hope workshop after the earthquake.	Surveys developed by research team. Basic demographic information, educational background, religious and spiritual affiliation, and level of agreement on raising the topics of religion and spirituality with specific client issues.	After the Journey of Hope workshop, findings indicate statistically significant gains ($p < .05$) in knowledge and reductions in stress. Parents were more able to identify: (1) social supports in their community, (2) the ability to identify signs of stress and how stress affects their body, (3) how to cope with stress, and (4) a more positive outlook for the future.	<u>Psychosocial Care</u> - Groupwork

Scoping Review of Post-Disaster Social Work Research

Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Prost, S., et.al. (2018)	Hurricanes (2), USA	Quantitative. Self-report measures.	N=357 college students enrolled in social work programs across five universities and who provided answers to questions regarding prayer, coping strategies and PTSS in a cross-sectional survey administered 3 months after Hurricane Rita.	Demographics. Prayer - Prayer Used for Coping, Active and Avoidant Coping Strategies. Active and Avoidant Coping - Brief COPE. Post-Trauma Symptoms - Modified PTSD Symptom Scale-Self report.	Majority of respondents were female. Minority students used coping via prayer more often than their non-minority peers. Moderate, positive associations between the use of avoidant coping strategies and PTSS for minority and non-minority groups.	<i>Effects</i> - Poorer coping is associated with post-trauma symptoms. <u>Developing measures and measuring outcomes.</u>
Pyles, L. (2011)	Hurricane, USA	Qualitative - focus groups	N=11 participants (40yrs +, 9 participants were African American and 2 were White; 7 female and 4 male)	Not applicable.	7 domains identified by research participants as central to neighborhood revitalization: (a) physical space/environment; (b) crime and safety; (c) housing; (d) health and social services; (e) children, youth, and family; (f) education and employment; and (g) community and social capital. Domains are mutually dependent.	<u>Developing measures and measuring outcomes.</u> - development of baseline indicators to measure recovery at the neighbourhood level.

Scoping Review of Post-Disaster Social Work Research

Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Rapeli, M. (2017)	Multiple natural disasters, Finland	Quantitative - content analysis	Data consisted of 255 Finnish municipalities social service disaster preparedness plan documents (2013-2014).	Content analysis of documents. Categories 1. roles of the sector (social workers in this study) 2. cooperation partners 3. management related tasks or structures, such as alarming procedures 4. risk assessment 5. training and exercises.	Micro-level social work interventions and bonding social capital are emphasised more than cooperation or management roles in disaster plans. Finnish social sector preparedness had deficiencies, especially in bridging to the private social sector and in supporting management and decision-making with situational picture, alarming systems and information to the public. Social Workers were not linked adequately to the local-level disaster management actors. Social workers role of supporting clients was present, but it is not enough for sustainable recovery. Bridging and linking social capital is needed to post-disaster recovery.	<u>Mediator</u> - (social) social capital.
Rock, L. F., & Corbin, C. A. (2007)	Multiple natural disasters, Barbados	Quantitative. Survey.	N=72 Social work Students and Practitioners.	Survey designed by Research Team.	Social workers and other human service professionals should be trained in disaster management. Workshop and in-service training identified as the preferred mode of delivery. 75% wanted a course on disaster management to be offered in the BSc Degree in SW and 94% were of the view that the field of disaster management was becoming more important given the recent disasters worldwide.	<u>Professional education</u> is required to improve Social Work response to natural disasters. <u>Developing measures and measuring outcomes</u>
Sim, T., Ki, A., et.al. (2013)	Earthquake, China	Quantitative - survey	N=45 Social Workers.	Survey designed by Research Team.	Social Workers reported poor professional recognition, harsh working conditions and limited prospects and support in the early aftermath of the earthquake. Recovery and	<u>Challenges for practitioners.</u> <u>Developing measures and measuring outcomes</u>

Scoping Review of Post-Disaster Social Work Research

Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
					reconstruction have given new purpose for the profession to integrate theory, values and further develop practice for disaster social work response.	
Tang, K. L., & Cheung, C. K. (2007)	Tsunami, Hong Kong	Quantitative. Survey.	N=215 Social Work Students.	No applicable.	Social work students encountered difficulties arising from barriers of culture, language, lifestyles and social work or service systems and concluded that their relief efforts were not a success.	<u>Challenges for students.</u>
Tosone, C., et.al. (2016)	Hurricane, USA	Quantitative. Measures	N=244 Mental Health clinicians.	Post-traumatic growth - The Shared Trauma and Professional Posttraumatic Growth (STPPG) Inventory.	(STPPG) supports the reciprocal nature of shared trauma and correlates well to existing measures for posttraumatic stress, secondary trauma, shared trauma, and posttraumatic growth. STPPG suggests that personal traumatic experience can impact professional practice, and client traumatic narratives influence one's personal trauma responses.	<u>Developing measures and measuring outcomes.</u>
Tosone, C., et.al. (2015)	Hurricane, USA	Quantitative. Measures - same study as above.	N=244 Social Workers.	Shared Traumatic Stress Among social Workers (SdTS)	Insecure attachment, greater exposure to potentially traumatic life events in general and distress related to the events surrounding Hurricane Katrina were predictive of higher levels of shared traumatic stress (SdTS). Resilience was found to mediate the relationship between insecure attachment, enduring distress attributed to Katrina and SdTS but not the relationship between exposure to potentially traumatic life events and SdTS.	<u>Challenges for practitioners.</u>

Scoping Review of Post-Disaster Social Work Research

Author, Year	Disaster Type and Country	Research Design	Sample	Measured Variables	Key Findings	Theme
Tudor, R., et.al. (2015)	Earthquake, NZ	Qualitative - interviews and focus groups	N=32 (9 had individual interviews: 8 female, one male; and 23 participated in focus groups).	Not applicable.	The five main themes derived from the data were 'Crafting for recovery and healing', 'Social connection', 'Learning and meaning making', 'Giving to others' and 'A vision for the future'.	<i><u>Psychosocial Care</u></i> - Groupwork. Community Work
Vickers, T., & Dominelli, L. (2015)	Tsunami, Sri Lanka	Qualitative - interviews, focus groups and field notes, a subsample of the other Dominelli study cited.	N=173 (70 students and 38 staff from universities in the UK, Slovenia and Sri Lanka of which thirty students and seven staff were from social work programs and the remainder were from other programs.	Not applicable.	Structural inequalities perpetuated inegalitarian relationships, despite individual attempts to the contrary.	<i><u>Professional education is required to improve Social Work response to natural disasters.</u></i>

Table 3: Disaster types and locations

Country of disaster	bushfire	earthquake	flood	tornado	hurricane	multiple	tsunami
Australia	2						
Barbados						1	
China		3					
Greece	1						
Hong Kong							1
India							2
Iran		2					
NZ		4					
South Korea			1				
Sri Lanka							3
Taiwan		1					
UK/NZ/USA/ Norway						1	
Finland						1	
USA			1	1	12	2	
Total	3	10	2	1	12	5	6

Table 4: Research design

Research method*	Number of studies (n=35)	% of studies
Interviews	19	54.3%
Focus groups	8	22.9%
Field notes	4	13.8%
Observation	3	10.3%
Document analysis	3	8.6%
Community forums	1	3.5%
Survey designed by researchers	7	24.1%
Standardised measures	8	22.8%

*Not mutually exclusive

Table 5: Effects and mediators

Theme	No of articles
Effects	9
Psychological effects	6
Social effects	3
Physical effects	3
Mediators	11
Social connectedness (culture, social capital, and sense of belonging)	4
Socioeconomic influences	3
Reconstruction and recovery policies and responses	3
Degree of exposure to disaster	1