



“A shovel or a shopping cart”: lessons from ten years of disaster response by a student-led volunteer group

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Received: 14 February 2021 / Accepted: 16 September 2021
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Abstract

Recent years have seen growing interest in enabling volunteers to play a more pronounced role in disaster response, and yet efforts to systematically analyse this crisis volunteer action, particularly among young people, have been surprisingly limited. This study examines the case of the Student Volunteer Army (SVA) in Aotearoa New Zealand, a student-led group which over the space of a decade has responded to multiple disasters, including earthquakes, floods, fires, a terrorist attack and the Covid-19 pandemic. Drawing on in-depth interviews, our analysis compares the practices adopted by the SVA in response to these different crises and identifies how members and supporters of the group have come to understand its capabilities, limitations, and conditions for effective operation. We present a framework of cross-cutting lessons of “why”, “who”, “when”, “what” and “how” and demonstrate the ways they have been built upon for each new disaster mobilisation. In distilling, the key lessons of a youth-led crisis volunteer group that has mobilised for a spectrum of disasters, this paper contributes to theoretical understandings of how groups at a local level learn after sequential disasters, and the conditions and considerations that enable such groups to effectively—and repeatedly—“meet a need” in disaster response.

Keywords Crisis volunteerism · Disaster response · Youth · Student Volunteer Army

1 Introduction

Volunteerism by groups of citizens is a frequent and long-recognised feature of the aftermath of disaster (Quarantelli and Dynes 1977), and recent years have seen growing interest at an international level in enabling volunteers to play a more pronounced role in disaster response (McLennan et al. 2016; Twigg and Mosel 2017). Most notably, the Sendai Framework for Disaster Risk Reduction (2015) urges states to encourage “civil society, volunteers, organised voluntary work organisations and community-based organisations” to participate and collaborate in disaster response, including giving “space and modalities”

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to children and youth as “agents of change” (p. 23). However, despite rising expectations for volunteer participation, efforts to systematically analyse crisis volunteerism have been surprisingly limited, particularly in its more informal forms (Strandh and Eklund 2018) and among children and young people (Peek 2008; Fothergill 2017), prompting calls for more situated and diverse understandings of its expression (Whittaker et al. 2015; Strandh 2019). In particular, if volunteer action is to be effectively encouraged and sustained in disaster response there is a practical need to explore the learnings of successful local groups over time (Betten et al., 2021), specifically how crisis volunteer groups understand their capabilities and limitations, as well as conditions for effective operation (McLennan et al. 2016), and how approaches to crisis volunteerism might develop over time and across different disasters (Simsa et al. 2019).

In the light of this, this article examines the case of a student-led crisis volunteer organisation that has responded to multiple disasters: the Student Volunteer Army (SVA) in Aotearoa New Zealand. The genesis of the SVA was during the Canterbury earthquake sequence of 2010–2011, when the group co-ordinated an estimated 13–15,000 volunteers to help shovel silt from the streets and residents’ properties (Nissen et al. 2021a, b; Carlton and Mills 2017; Lewis 2013; Mutch 2014). While the SVA is most strongly associated with this earthquake period, over the subsequent decade it has evolved into a youth volunteer organisation that has mobilised in the aftermath of several other disasters in Aotearoa New Zealand involving the natural world, including floods, fires and another major earthquake. Further, it has responded to a terrorist attack on two mosques in Canterbury and the Covid-19 pandemic and resultant national lockdown.

This paper examines this decade of disaster responses by the SVA, drawing out how people close to the group have come to perceive the SVA’s capabilities, limitations and conditions for effective operation through repeated crisis response. Learning after a disaster is key to emergency preparedness for future disasters which has practical implications for a resilient community (Drupsteen and Guldenmund, 2014), particularly if the learning occurs at a localised level (Betten et al., 2021). The significant impact of the SVA in each of these responses has meant it has featured as a disaster relief success story internationally (Whittaker et al. 2015), and as a potential blueprint for youth-centred post-disaster civic action (Lewis 2013; Mutch 2014). The case of the SVA is also interesting for academics and practitioners because in the space of a decade the group has responded to several different types of disasters—spanning so-called “natural”, “manmade” and “health” disasters—and thus offers insight across both time and a disaster spectrum. Drawing on a dataset of in-depth interviews with SVA leaders, volunteers and practitioners across the ten years of its operation, our findings consider how the SVA has negotiated these various disaster situations, and the ways these practices have gradually been built on over time. We present a framework of the cross-cutting ideas and practices that those close to the group considered significant in enabling the SVA to repeatedly “meet a need” in disaster response.

2 Volunteer groups in disaster response

Crisis volunteerism is a frequent and important feature of the disaster landscape, either as part of the formal disaster response by governments or non-government organisations, but also through groups of citizens outside of this response. This action can be “spontaneous” and only last for relatively brief periods (for instance involving convergence on a site), but

also involves the activities of “informal” groups that are outside of the official response but are nevertheless vital to the lasting response and recovery of communities (Whittaker et al. 2015; Strandh and Eklund 2018). Typically based within or near to a disaster-affected community, the activities of these volunteers often include search and rescue, removing debris, transporting and distributing relief supplies, and providing food and drink to victims and emergency workers (Twigg and Mosel 2017). This civic action is recognised as an expression of social altruism and connectedness in the wake of crisis (Helsloot and Ruitenber, 2004) and as an important contributor to community psycho-social recovery (Steffen and Fothergill 2009; Vallance 2015).

Despite being long-recognised, volunteer groups have often been peripheral to disaster management, which tends to rely on bureaucratic, command-and-control approaches (Whittaker et al. 2015). With no formal skills, training and experience, volunteer action by citizens has tended to be considered a nuisance or liability. However, there has been growing recognition that volunteers have particular capacity and capabilities that can be highly valuable to disaster response, for instance the additional “surge” capacity they can provide and their localised knowledge and experience (Alexander 2010; Twigg and Mosel 2017). Further, these volunteer groups are rarely constrained by pre-established structures or systems, and so improvisation and innovation can be features of this civic action (Kendra and Wachtendorf 2003), especially with the rise of social media to assist organisations, sharing of knowledge, and support for community members (Bird et al. 2012; Taylor et al. 2012).

However, despite growing interest in understanding how these volunteers can be more effectively supported and integrated into disaster response, research that systematically analyses more informal forms of crisis volunteer organisation has been surprisingly sparse. A particular limitation of existing research, noted by Strand and Eklund (2018: 334), is a tendency to examine volunteer groups in relation to the primacy of established response agencies (for instance to enable more well-organised volunteer behaviour), rather than as important entities in and of themselves that can generate and carry forward localised knowledge across disaster responses (i.e. organisational learning). This knowledge acquisition is an iterative, dynamic, and continual process; existing knowledge sets the context of how actors involved in crisis volunteer groups think and act in response to a future disaster, which then generate more localised knowledge within the groups themselves (Crossan et al. 1999). Crisis volunteer groups are not homogenous, and so there is also an empirical need to explore the diverse, often flexible approaches they adopt in disaster response (Strandh 2019; Yumagulova et al. 2019).

In examining these approaches, McLennan et al. (2016) note the importance of exploring the perspectives of actors involved in crisis volunteer groups, to advance the theoretical understanding of the conditions and considerations for effective operation and organisational learning over time of these groups. While the learning after a disaster response occurs within actors, these lessons can integrate and institutionalise at a group-level, allowing for key localised knowledge to transcend time (Friedman 2001). These perspectives are likely distinct based on the type of group and the context into which they are volunteering. For example, youth volunteer groups have been noted to have particular knowledge, creativity, energy, enthusiasm and social networks to assist disaster response (Peek 2008; Fothergill 2017). Crisis volunteerism also manifests in response to a range of disasters beyond those involving the natural world, which can encourage different forms of internal organisation (Strandh 2019; Simsa et al. 2019). Particularly with the increasing prevalence of disaster and growing expectations of volunteer involvement (McLennan et al. 2016), there is an empirical and practical need to examine how localised groups involved in post-disaster volunteerism might conceive of the conditions required for their effective

operation, including how those understandings might be developed across successive disaster responses.

3 The study: the Student Volunteer Army

On 4 September 2010, a magnitude 7.1 earthquake occurred 40 km outside Christchurch city in Aotearoa New Zealand. This earthquake caused significant damage to land, buildings and infrastructure, especially in townships to the north of the city and in Christchurch's eastern suburbs, but no loss of life. This earthquake proved to be the first in a protracted earthquake sequence comprising several major aftershocks, including the devastating 22 February 2011 event which resulted in 185 deaths, thousands of injuries and extensive damage both to residential property and the central city (Potter et al. 2015; McManus et al. 2015; Vallance 2015). Other major aftershocks occurred in June and December 2011.

The SVA first mobilised as an informal volunteer group in response to the 2010–2011 Canterbury earthquakes, and have re-mobilised over the years to aid in these subsequent disasters in the Canterbury region. This has included widespread flooding in Christchurch in 2014, a magnitude 7.8 earthquake in the seaside town of Kaikōura (200 km to the north of Christchurch) in November 2016, and wildfires in Christchurch's Port Hills in early 2017. Further, on 15 March 2019, a gunman entered two Christchurch mosques, killing 51 people and injuring many more, and livestreaming the violence on social media. Then, just over a year later, Aotearoa New Zealand went into Alert Level 4 lockdown on 26 March 2020 in a proactive bid to try and stem the transmission of Covid-19. In addition to mobilising volunteers in response to local disasters, the SVA has sent representatives to help coordinate responses to disasters, both in other parts of Aotearoa New Zealand and overseas, including the 2011 Great East Japan earthquake and tsunami, Hurricane Sandy in New York in October 2012, and the April 2015 Nepal earthquake.

In this paper, we examine how the SVA responded to these multiple disasters, and how these successive responses have contributed to perceptions of the group's capabilities, limitations and conditions for effective operation. We draw on 54 in-depth interviews as part of a wider study examining the long-term legacies of the SVA, conducted nearly a decade after the earthquakes, between February and June 2020. In order to develop a longitudinal perspective of the movement over its ten years and the different disaster responses (Blee and Taylor 2002; Robinson 2014), we interviewed people engaged with the SVA at different times and in different capacities including those within and external to the movement and with "core" or more peripheral involvement (Table 1). An initial pool of respondents was suggested by SVA founder Sam Johnson, following which a snowball sampling approach was adopted, with participants contacted via phone, email and LinkedIn

Table 1 Summary of interview respondents

Respondents	Number
Volunteers involved in 2010–2011 mobilisation, including those in the core team as well as those more peripherally engaged as labourers	19 respondents (4 female; 15 male)
Officials, professionals or community members that interacted with or supported the group	19 respondents (7 female; 12 male)
Students involved with the SVA in the decade since its establishment	16 respondents (9 female; 7 male)

following e-introductions. Of the potential participants we approached, three declined to participate. All research procedures had ethics approval.

The interviews were typically between one and two hours long, and conducted either face-to-face or via Zoom (as New Zealand headed into Covid-19 lockdown). Participants were asked a range of open-ended questions about their memories of their involvement or interactions with the SVA disaster mobilisations, the challenges they had encountered and how they negotiated them, and their reflections on the groups' strengths, limitations and potential. Full transcripts of the interviews were uploaded into NVivo and the results coded for descriptive, topic, and broad analytic insights. Subsequent rounds of coding provided more detailed and nuanced analysis of elements which contributed to the SVA's ability to remobilise in response to a range of disasters, and the cross-cutting lessons that the actors involved considered significant. These codes were subsequently reviewed, synthesised and refined by the authors to develop interpretive convergence. In presenting the interview data, numbers have been randomly assigned to respondents to ensure their anonymity; however, we have provided background information to contextualise their response where possible.

4 A decade of disaster mobilisations

In this section, we outline how the SVA has responded to various disasters over the past decade, spanning the Canterbury earthquake sequence, the responses to fires and floods, the mosque terrorist shootings, and the Covid-19 pandemic. Each of these mobilisations was quite different, influenced by the type, severity, context and location of the disaster, but also by the different personalities of the SVA leaders at the time and the ways in which these leaders viewed disaster response. In examining how the group negotiated these disaster situations, our focus is on the approaches, tools and ideas that people close to the group considered significant in enabling the SVA's effective operation, including those which were incorporated from the group's earlier operations.

4.1 Canterbury earthquakes (2010–2011)

The genesis of the SVA was a Facebook page, set up by local university student Sam Johnson calling for volunteers to help clean up in the wake of the first Canterbury earthquake on 4 September 2010. More than one hundred students and a media crew turned up on the first day of volunteering, prompting concerns from New Zealand's emergency management body, Civil Defence. The initial reaction of the agency was to "shut it down" (Respondent 9), given the potential risks of "having a whole lot of people, untrained, unqualified, no real structure, turning up into the worst-hit areas and trying to do good" (Respondent 28). Yet, high-level backing from local politicians and burgeoning social and traditional media interest in the SVA made this action untenable, and Civil Defence instead reached out to the students (Nissen et al. 2021b).

In the initial days and weeks of this response, the SVA came to establish some patterns that were reflected in many of their later mobilisations. Early on, the SVA showed itself willing to be flexible to carry out whatever work would prove useful—in this case, shovelling silt. This work was low-risk but high-impact; beyond the scope of what official agencies could resource and yet vital to community wellbeing. These activities also directly helped affected communities; after a few experiments getting volunteers to help with requests from politicians and other officials, the group concluded, "No, we do shovelling

of silt” (Respondent 20). The students also implemented a series of actions early on that made it easy for anyone to volunteer. For instance, following volunteer frustration with sign-in notebooks provided by Civil Defence, the SVA developed “in less than 24 h” its own electronic sign-in system (Respondent 9). After being assigned military personnel to lead student volunteers, the group further learnt that “when the students weren’t running it, the motivation to volunteer completely evaporated” (Respondent 20).

Over the summer of 2010–11, the group formalised into a student club at the University of Canterbury called the Student Volunteer Army—and it was under this name that the volunteers mobilised when the second major earthquake occurred, on 22 February 2011. Yet despite significant “expectation” and “hounding” from community members and media, some student leaders emphasised their cautiousness in responding. Recognising the huge increase in scale and severity of the event, they asked themselves, “Do we go back into action? Can we go back into action? Should we go back into action?” (Respondent 3). Once they determined they would respond, the group moved quickly. For several interviewees, the intensification of the February 2011 response and the speed at which it happened was an overriding memory of this period. Respondent 33, for example, marvelled, “We had a call centre set up, we had an office, we had a warehouse ... like, the scale of how quickly it grew!”.

This rapid scale-up was possible because the September 2010 “practice run” (Respondent 32) had put important relationships, communication channels, publicity, structures and knowledge in place, as well as established both a core team of leaders and a volunteer base (Nissen et al. 2021a). The SVA had also developed a “brand”: in becoming a university club, the SVA had given itself a name and logo, set up a Facebook page and printed hundreds of green t-shirts. These t-shirts became a powerful symbol of the earthquake response, creating a distinct SVA volunteer “image” that was drawn on in subsequent disaster responses: “Everybody was wearing gumboots, shorts and a green t-shirt or a high-visibility top and carrying a shovel, like an army of Minions” (Respondent 38). Interviewees also drew attention to the importance of the media in helping reinforce the SVA brand through coverage of its activities, which members of the SVA leveraged “to prove to the authorities that, actually, this was something special” and “worth allowing” (Respondent 7), and to push for donations and volunteers.

As well as consciously fostering its external image, members of the SVA worked to provide its volunteers with a positive experience. For the 15–20 members of the “core team”, self-care took the form of facilitated daily debrief sessions. Recognising the extremely demanding circumstances of working in a post-disaster context, these debriefs were identified as necessary to “unwind” after the day and “get it off your chest” (Respondent 36). Interviewees also emphasised the importance of a positive experience for the SVA’s casual volunteers who carried out manual labour. As one member of the core team reflected, “What could we put on for these students that would [...] make them want to keep coming back and keep volunteering every day once the initial feel good factor had gone and it started to become a bit of a drag shovelling silt?” (Respondent 2). Effort went into making the SVA headquarters a welcoming space where “there was lots of food, there was always water, there was always help if you needed it, there was music, there was couches to sit on” such that “it created a feeling of hope” (Respondent 15). When volunteers got off the buses in the evenings, they were met with food and live music where the “fun vibe at SVA” provided a stark “counterbalance to the rawness of actually what was going on in the city” (Respondent 20).

That the SVA’s volunteer base comprised largely of students lent it other distinct characteristics. Students tended to be young, healthy and with few family or work commitments

or major assets to worry about, and with university closed after the earthquakes, they found themselves “not really doing much” (Respondent 15). Furthermore, interviewees emphasised that—contrary to stereotypes of student apathy—students were motivated to help out. For instance, Respondent 13 reflected that “if you can give a person, sort of, like, an opportunity to respond or want to be a part of something, most people are willing”. The confidence of most students with social media and technology was also noted to give the SVA an edge in disaster response, which they sought to utilise through constant innovation. As one interviewee argued, “there wasn’t a lot of red tape because people didn’t know what to do, they almost couldn’t keep up with us. [...] I think we were almost so ahead of the game people couldn’t really stop us” (Respondent 15).

While the SVA’s February response demonstrated the many significant advantages of mobilising students for disaster response, the SVA’s June and December 2011 mobilisations revealed an important limitation: student availability is closely tied to university scheduling. The 13 June 2011 aftershock occurred when “it was grim, it was winter and we were heading into exams”, and the 23 December 2011 aftershock occurred “two days before Christmas [when] everyone was away on holidays” (Respondent 32). The SVA instead mobilised a much smaller number of volunteers for both these events, working closely with a rural earthquake response group and bringing its “very clever IT logistics” and “tremendous support” (Respondent 37) to the partnership.

4.2 Other natural disaster events (2011–2020)

Soon after the Canterbury earthquake sequence, the SVA “decided as an organisation not to focus on disasters” (Respondent 20) and instead directed its energies towards encouraging young people into volunteering. However, a series of disasters saw the group mobilise again, including flooding, another earthquake, and fires. Apart from requiring the group to grapple with responding to these different types of disaster, the SVA by this time also had new leaders who brought different personalities and perspectives on disaster response. None of these disaster responses generated anything like the amount of interest from the public, (potential) volunteers or the media of the first response.

In response to the 2014 flooding, the SVA tried to help where it could, partnering with a local school and putting out a call for volunteers that consciously drew on the public memory of the SVA’s earthquake response in stating, “We’re back at it” (Respondent 12). Most of this response echoed the type of work reflected in the earlier responses with volunteers engaging in low-skilled tasks, such as shovelling mud and rubbish. However, interviewees reflected there were moments when some volunteers may have taken on work beyond their expertise and experience. For instance, one interviewee recounted students “trying to pull this, like, tree that had come down [...] and it was braced against a house and they were having to try to winch it up”. The concern was that volunteers “felt like they needed to do it because they were expected to do it”, rather than because they “should” (Respondent 3).

The Kaikōura earthquake necessitated a different approach to the SVA’s standard approach because the SVA volunteers were physically separated from the damage as major landslides had blocked road access. Although the SVA considered various possibilities of getting to the site, “spending a lot of time on the phone to different four-wheel-drive clubs” to try and find viable options, the group decided that sending volunteers to an isolated rural disaster zone was not “really feasible or safe or practical” and instead concentrated on “what we could do reasonably” (Respondent 54). Thus, the SVA became a central point for funnelling donations to the response effort, and organised a team of volunteers to clean

the university halls of residence (empty for the holidays) in preparation for accommodating tourists who had been stranded in Kaikōura. Reflecting back on this period, one interviewee described it as a “very messy couple of days [...] It was very, sort of, confused what we were actually going to be doing” (Respondent 27). Contributing to this uncertainty was the fact that the earthquake occurred out of semester time, making it difficult for the SVA to recruit student volunteers.

The SVA again took a different approach in its response to the Port Hills fires. In previous disasters the SVA had mobilised during or immediately after the event, and while the fires were burning people contacted the group asking how it was going to respond. However, the student leaders at the time determined an immediate response was not possible. As with the Kaikōura earthquake, the Port Hills fires occurred during the summer holidays, affecting the SVA’s effectiveness in mobilising students. However, more significant was that firefighting required specialised training whereas the SVA “foot-soldiers” (Respondent 10) could only carry out low-skilled, low-risk work. One respondent summarised the group’s response to expectations the group mobilise as “we can’t really do anything because it’s a fire” (Respondent 27). Instead, the SVA decided to organise planting days to revegetate the damaged area several weeks after the disaster.

4.3 Christchurch mosque terrorist attacks (2019)

The terrorist attacks on two mosques in Christchurch constituted another crisis for the SVA, albeit completely different in nature to what the group had previously faced. While it was common for interviewees to acknowledge that the SVA’s disaster response events tended to be “pretty chaotic at the start”, this sentiment appeared to be especially true of the group’s response to the 15 March shootings. Whereas the group has previously mobilised in response to natural disasters “where you could look around and see all this damage”, in the event of a terrorist attack “it was hard for the SVA initially to know what to do” (Respondent 51). As Respondent 22 explained:

This is a whole different kettle of fish; this isn’t an earthquake where we can get shovels and wheelbarrows, or a flooding, or something like that. This is (a) a crime scene in action—we’re not going to roll in there and do anything—but also (b) deeply personal.

Because of the sensitivity of the situation, and because the attack had targeted a minority population, SVA student leaders at the time were highly cautious of their actions. Pushing back on expectations that they mobilise, some members were “firmly in the view of maybe this isn’t the place for SVA to get involved”. Yet for most of the team, “when those things happen, your immediate thought is ‘What can we do?’” As such, the group did respond, although it was described as “a very different type of response” to its other mobilisations (Respondent 22).

In addition to consciously reflecting on whether to get involved, the leaders of the SVA emphasised the importance of listening before acting, recalling how they chose to “sit back and listen to other areas in the student community” (Respondent 27). They spoke of mindful collaboration, particularly with the Muslim Students’ Association at the University of Canterbury, as well as with the university itself and other student clubs. This collaboration was enabled in part because of diversity within its own leadership, which helped create a mind-set of openness as well as facilitating connectivity into a range of communities. For seven of the eight interviewees who discussed the SVA’s response to the 15 March attacks, taking advice

from people intimately connected to the affected communities was vital because it ensured the SVA responded in a way that both filled a need and was sensitive and culturally appropriate.

In the days and weeks following the attacks, members of the SVA provided support to Muslim students in recognition that “international students might be a little bit forgotten because everyone [other Muslims in Christchurch] has that community, everyone has their families” (Respondent 16). Some of this assistance was symbolic, which interviewees acknowledged did not “do much apart from provide support and provide that sort of nice feeling” (Respondent 22). For example, on the first day back at university after the attacks, the SVA stationed “happy greeters” around the university neighbourhood “to check everybody was OK” (Respondent 51). The SVA also played a large role in helping organise the university’s vigil for the victims, including coordinating volunteers and contacting florists for off-clippings to fill wheelbarrows of flowers.

In addition to these more symbolic activities, the SVA instigated some highly practical services after listening to people connected into the affected communities. Most notably, members of the SVA Club Executive co-ordinated a driving service for students who did not want to walk or take public transport, carrying out an estimated 120 trips in the weeks following the attacks (Respondent 27). While some of these trips were helping people with day-to-day activities such as attending classes, appointments or carrying out chores, the situation also meant the volunteers drove students to activities connected to the attacks, including vigils, hospital visits and funerals. SVA members also delivered food to Muslim students who were too nervous to leave their accommodation. The experience of driving Muslim students around was described by interviewees as “pretty humbling in a lot of ways and I think we were quite fortunate to be able to find a way to help” (Respondent 27). Likewise, another SVA member who carried out this chauffeur work for a week full-time described it as “probably something that’s quite hard to comprehend unless you actually experience being there with the students, being ... driving these students to and from the funerals”. Many of these interviewees spoke of being acutely conscious of the high level of trust being placed in them by Muslim students to take care of them at such a significant time. The importance of trust was underscored by one Muslim interviewee, who noted that the SVA’s driving service was successful precisely because the community knows SVA volunteers “have the skills [and] they’re going to be compassionate”. SVA volunteers involved in the response, particularly those driving people to funerals or to the hospital, were supported by their peers through informal “checking up” and support through pre-packed lunches to relieve some of the pressures (Respondent 21).

The SVA’s response to 15 March has continued over the two years since the attacks. For instance, to mark the first anniversary of the shootings, members of the SVA helped coordinate and hang 1 km of bunting containing messages of support. In addition to these events, the group has provided continuing practical assistance to some of the families most affected by the event— “people who had lost someone or had someone injured” (Respondent 51)—in the form of physical labour and gardening. As well as “aligning well with what the SVA [is] good at, which [is] getting people out doing physical work in one-off ways” (Respondent 22), the chance to help these families was described as being “special” for the volunteers involved (Respondent 27).

4.4 Covid-19 lockdown (2020)

The SVA initiated a number of services in response to the New Zealand lockdown in response to Covid-19 pandemic. Initially, in Christchurch, the SVA assisted professional cleaners to conduct a clinical clean of an unopened hospital ward to prepare for a possible

influx of cases, and helped a meal delivery service as the organisation was dealing with the dual challenge of increased demand and fewer regular volunteers. However, the SVA soon began undertaking activities on a national scale, as benefitting a national crisis. These activities included recruiting volunteers to look after the children of essential workers while schools were closed, and establishing an online contactless grocery and pharmaceutical delivery service for elderly and vulnerable members of society which was “really very smart, very easy to use” (Respondent 26). The SVA was also on stand-by to provide call centre support for some official agencies, such as the police. The grocery service in particular proved successful, such that the SVA carried out 1,500 deliveries over the course of the lockdown (SVA 2020).

Similar to other responses, interviewees external to the response team tended to view the process as seamless, with one expressing admiration that when “another unprecedented event happens, [the SVA] can find some way to mobilise”. Yet there was recognition among SVA members involved in the response that, as with “all our events” there was “a period of scrambling, of throwing a whole bunch of stuff at the wall and seeing what will stick” (Respondent 51). Interviewees additionally stressed the SVA’s ability to recognise and rapidly respond to a community need: “We went from having one small meeting in our office to having a grocery store on our website within just over a week-and-a-half. We signed up 1000 volunteers in a couple of days. [...] The speed, I think, is the thing that’s just, like, crazy the most” (Respondent 21).

Resonating with previous disaster mobilisations, interviewees reflected on the important social component with the disaster response—even if undertaken from a physical distance. One respondent described encountering how serious some people’s situations had become: “I had some pretty intense phone calls with people who had been locked down for three weeks and had no family and hadn’t eaten for three days [...] I had to teach them how to use their cards and just, the internet”. Another interviewee, describing what they had heard from “people manning the phones”, likewise spoke of the psychosocial first aid component of the SVA’s service: “Just being able to talk to some of the people, like the elderly people who are worried and scared and feeling alone, even just like that outreach is a really cool part of it, a really helpful part of it” (Respondent 18).

5 Discussion: cross-cutting lessons

With growing interest involving volunteers in disaster response, this paper has examined how the SVA as a student-led group has responded to different disasters over the course of a decade—earthquakes, floods, fires, terrorist attacks and a pandemic. In comparing the practices adopted in response to these different crises, we now turn to consider some of the cross-cutting lessons that those involved considered significant in enabling the group’s successful operation, and which have been consciously built on and integrated into later responses by the group as organisational learning. While recognising their interconnections, we present the cross-cutting lessons organised by a modified Kipling 5W1H Method (Carmagnola 2008)—the 4W1H Framework (“why”, “who”, “when”, “what” and “how”), with “where” staying consistent across lessons within the Canterbury region (Table 2). Kipling 5W1H Method originated in journalism as a structured questioning strategy to comprehensively capture need-to-know information, and has been used since by researchers across disciplines to thoroughly analyse a topic and highlight interconnectivity between key questioning points (e.g. Almeida et al. 2020). In distilling these lessons for a youth-led

crisis volunteer group that has mobilised across a spectrum of disasters over time, our discussion contributes to understandings of the conditions and considerations that enable such groups to repeatedly “meet a need” in disaster response.

5.1 Why

Crisis volunteerism, particularly in its more informal forms, has long been recognised as filling a disaster response “gap” (Twigg and Mosel 2017), and this issue has certainly been reflected in the case of the SVA. The ability to meet a response gap across different disasters was summarised by Respondent 26:

Post-earthquake, they did a lot of liquefaction shovelling and something that was very relevant for the time. But equally, when we look at 15 March, the response from the student club was again fit for purpose, agile, focussed on people’s needs. And then the Covid response, I think exactly the same—focussed on what people’s needs are and trying to devise something that is fit for purpose and that actually meets the circumstances.

Improvisation has long been an identified feature of crisis volunteerism (Kendra and Wachtendorf 2003), but what was especially striking in the case of the SVA across multiple mobilisations was the degree of experimentation involved in the process of identifying a need and then filling a response gap in the chaotic aftermath of disaster. In some cases, this process was developed through listening and sharing knowledge with individuals and groups with experience or expertise (Sect. 5.3). However, interviewees across the different SVA responses tended to be upfront that early efforts to find and fill a response gap—contrary to some external assumptions—could be “chaotic”, involving a period of “scrambling” and trial and error to see “what would stick”.

For members of the SVA, it was also notable that the “why” of crisis volunteerism was not solely a matter of assisting affected communities (e.g. through moving silt, or delivering groceries), but also of enabling people to engage in the act of volunteering in the face of an overwhelmingly disempowering event. Resonating with studies that emphasise the significance of post-disaster agency (Helsloot and Ruitenbergh 2004; Steffen and Fothergill

Table 2 Cross-cutting lessons of the SVA mobilisations across disasters

Why	Meet an unmet need / fill a disaster response gap Volunteering after a disaster can be empowering
Who	Students care about their communities and can bring a lot to disaster response Students want to be led by students
When	Take time to determine whether to respond to an event; know your limits Take time to collaborate or work with groups to identify possibilities for action Act as quickly as possible
What	Carry out work with tangible or visible impact Psychosocial first aid is an inherent component of disaster response work
How	Operate under a brand and leverage (social) media Create a “culture” which supports casual and enjoyable volunteering Maximise innovation and adaptability, and improve efficiency wherever possible Ask for forgiveness not permission, although this brings risks

2009), many members of the SVA argued that in the wake of disaster “people want to help; find a way for people to help and they will just throw everything at it” (Respondent 6). Likewise, Respondent 8 suggested, “The best thing you could do for someone is give them an opportunity to help someone else—and I felt that was really the role we played”. Resonating with Steffen and Fothergill (2009), members of the SVA similarly noted how the sense of purpose they derived from their participation helped them personally deal with the effects of the disaster.

5.2 Who

While anyone is enabled to participate in the SVA mobilisations, the greatest number of the group’s volunteers have been university students. Young people have often tended to be overlooked in disaster response (Peek 2008; Fothergill 2017), as have students, perhaps reinforced by dominant notions of student apathy (Nissen 2019). However, in describing their experiences with the SVA, interviewees tended to reject assumptions of apathy and emphasised the importance of enabling students (and young people more broadly) to get involved in disaster response. In part, students were noted to form a generally “mobile, youthful, healthy workforce” (Respondent 36), which could “come in really handy” when “a large mobilisation is needed” (Respondent 18). However, more than simply a “resource”, there was a belief that young people care about and want to help their communities, and that when “put in the deep end”, young people “can really pull together and do stuff” (Respondent 15).

Nevertheless, interviewees also identified two considerations about working with student volunteers in disaster response. First, the potential for students to mobilise was noted to be highly dependent on the event being during semester time, reflecting wider literature that points to the significance of social networks in enabling student mobilisations (Crossley 2008; Nissen 2019). Second, interviewees emphasised the importance that students were led by students, and not disaster managers, a lesson learnt early in the SVA’s September 2010 earthquake response. This element of maintaining distance from established response agencies, whilst also fostering cooperative working relationships to enable access to the disaster area or information briefings, is a tension that reoccurred through the SVA’s other disaster responses, and which resonates with research by McLennan et al. (2021).

5.3 When

Timing—and, perhaps more crucially, taking time—has been a vital part of the SVA’s disaster mobilisations. Most fundamentally, the SVA mobilisations highlight the importance of volunteer groups taking time to determine whether or not to respond to an event. This cautiousness is particularly significant given wider expectations of volunteer participation in disaster response, as well as the likely increasing prevalence of disaster events (McLennan et al. 2016). Although disasters can bring a sense of urgency, many SVA leaders have shown willingness to push back on external expectations that the SVA will mobilise, in order to ensure the group has adequately considered the particular circumstances of the disaster and the group’s own internal capabilities. This consideration was especially applicable when a disaster was “new” to the group in terms of scale (e.g. the February 2011 earthquake relative to the September 2010 response) or a different type of disaster (e.g. a fire or terrorist attack). As one interviewee reflected “just because they’ve got a container full of tools doesn’t mean they know how to fix any situation that comes along” (Respondent 3).

Reflecting back on the four-month period which encompassed both the Kaikōura and Port Hills disasters, one interviewee believed that “one of the big learnings was handling ‘No’” and recognising that “we need to step back from this in some way” (Respondent 27).

Taking time has also provided an opportunity for members of the SVA to listen to and collaborate with individuals or groups with knowledge into or experience of the particular circumstances of disaster. In many respects, this approach to gaining insight is contrary to some accounts of informal crisis volunteerism, which tend to consider these groups as possessors of situational knowledge (see Whittaker et al. 2015). In the case of the SVA, however, this knowledge has tended to be through connections with others—emergency management, other student groups, key community members or organisations, and the university, among others—and a willingness to listen to their needs and respond appropriately. Especially in the case of the response to the mosque shootings, the leadership of SVA Club Executive was significant in pushing back on expectations that the group would respond quickly, and instead taking time to consciously listen to multiple perspectives within and external to the group before deciding to respond.

After taking time, members of the SVA tended to emphasise the importance of speed. Particularly in relation to the February 2011 earthquake response and the Covid-19 grocery service, interviewees noted the impressiveness of “how quickly things were scaled up” (Respondent 28). Acting as quickly as possible was identified as vital for several reasons, not least to bring timely assistance to affected communities and provided them with a sense of comfort and agency during a time of uncertainty. However, there was an additional pressure for the group to act quickly to demonstrate the SVA’s continued relevance in the aftermath of disaster and help foster trust in the group. Speed was also identified as vital for the innovativeness often associated with informal volunteer groups (Kendra and Wachtendorf 2003), allowing the SVA to “cut through red tape” (Respondent 10) and respond without standard business-as-usual constraints and bureaucratic structures (see Sect. 5.4). This emphasis on speed in order to demonstrate the group’s usefulness and reliability in the post-disaster environment are in part reflective of the struggle that informal groups can have to be recognised as legitimate actors in the post-disaster environment, with dominant hierarchical approaches to emergency management tending to exclude or marginalise volunteers (McLennan et al. 2021). For volunteer groups within this context, a potential source of tension if seeking to repeatedly respond to disaster is the juxtaposition of the need to act with speed, on the one hand, and the importance of taking time to listen to affected groups, reflect on internal capabilities, and having adequate security to decide *not* to act, on the other.

5.4 What

While a key strength of the SVA is its ability to mobilise large numbers of “young bodies with a bit of energy” (Respondent 34), it was recognised that those volunteers can only provide low-skilled, low-risk labour that involves no specialised training or knowledge, reflecting approaches taken by other spontaneous volunteering groups (Whittaker et al. 2015; Twigg and Mosel 2017). Additionally, there was a belief among many of the SVA leaders in the value of disaster response work that has an obvious and tangible impact. For instance, reflecting on the piles of liquefaction shifted during the Canterbury earthquake response, Respondent 12 summarised: “that’s what we learnt: that when you do volunteering projects, the best ones are the ones where you can step back and see your impact” (Respondent 12). Being able to “see your impact” was described as being helpful

in encouraging volunteers to keep participating in physically and mentally exhausting response work.

However, while the volunteers carried out work of a practical nature (e.g. clearing liquefaction after the earthquakes, driving people to funerals after the shootings), these tasks have all involved one-on-one communication with affected people during or soon after a disaster. As such, SVA volunteers have often inadvertently acted as front-line responders providing essential psychosocial first aid. Resonating with experiences of other crisis volunteers in different disaster contexts (Simsa et al. 2019; Yumagulova et al. 2019), this work raises questions of the wider types of support that need to be in place for volunteers post-disaster, but also of the internal structures and processes that can develop within crisis volunteer groups to support wellbeing. It is notable, for instance, that volunteers within the SVA across multiple disasters consciously took on the role of supporting their peers; as Respondent 8 recognised when reflecting on the earthquake mobilisations, “for those of us at the core of it, like, at the centre—we had each other”.

5.5 How

Many of the SVA’s responses have actively harnessed their brand and leveraged (social) media to attract volunteers. This approach brought benefits to the SVA (e.g. through visibility and publicity, likely leading to an increased number of volunteers, donations and resources), but also for affected communities (e.g. seeing recognisable symbols of response groups can provide a sense of safety and hope). The SVA’s conscious promotion of its brand stemmed from its September 2010 experiences which demonstrated how media and publicity could be advantageous, for example in soliciting donations and building up credibility. By the time of the group’s Covid-19 mobilisation in 2020, the SVA was described as being a “trusted brand” (Respondent 50), which was identified as critical to its ability to successfully undertake a new form of disaster response at a national scale. However, it is also notable that in some cases—notably the mosque shootings—the group has actively avoided media attention and the elevation of the brand, in favour of more small-scale interactions.

Recruitment is just part of volunteering; the SVA also recognised that retaining volunteers depended on creating a “culture” which supported casual (easy and commitment-free) and enjoyable volunteering. In many respects reflecting wider trends towards shorter-term, episodic volunteering (McLennan et al. 2016), the SVA has worked across successive disasters to minimise time-consuming processes to make it straightforward for volunteers to engage, creating systems which clearly lay out volunteer tasks (“‘Come, be told what to do, be taken there to do it, come back’, rather than having too many variables” (Respondent 15)) and which have allowed volunteers to “dip in and out as [they] require” (Respondent 40). One interviewee described the SVA as “a way of spinning people up quickly to do stuff” and it has used “exactly the same principle” and a “very similar set up” across the different mobilisations to enable the large and rapid mobilisation of its volunteers (Respondent 34). Wherever possible, efforts have also been made to make the volunteering experience enjoyable to encourage ongoing participation.

The SVA’s ability to attract volunteers to its disaster responses lies in part in its capacity to continually adapt and innovate, including its willingness to use (and develop if necessary) systems and processes that align with volunteers’ interests and expectations, and improve efficiency wherever possible. Related to the SVA’s innovation is a further lesson: in the post-disaster context, it can be “easier to ask for forgiveness than permission”

(Respondent 8). While Respondent 8 interpreted this belief as “you can’t underestimate the effectiveness of ignoring people in authority”, other interviewees noted that the SVA’s ability to “cut through red tape” provided an important distinguishing feature of the volunteer group relative to other disaster response organisations and agencies, and vital to their continued relevance in disaster response:

Whether it’s a shovel or a shopping cart, it doesn’t really matter; it’s finding a way to cut through that bureaucracy when things happen. I think that’s their [the SVA’s] point of difference from other government agencies and possibly other NGOs (Respondent 10).

Yet although this do-now-ask-later attitude could be enabling, it also contains inherent risk. Across different disaster responses, interviewees expressed concerns about health and safety, for instance noting, “we just did a lot of things and didn’t necessarily ask for permission and we didn’t necessarily think through everything as far as we should have” (Respondent 6). The question of where risk and responsibility lies in the post-disaster environment remains a source of tension as the group repeatedly responds to disasters, particularly since a degree of autonomy in operation is needed (Sect. 5.2, also Nissen et al. 2021b).

6 Conclusion

This paper compared the practices adopted by the SVA in response to the many disasters across the decade since its inception, highlighting the capabilities and limitations of the group and conditions for effective operation as perceived by actors involved. Utilising a modified Kipling 5WIH Method (Carmagnola, 2008), we identified cross-cutting lessons of “why”, “who”, “when”, “what” and “how” (4WIH Framework), and showed the ways that they have been shaped both by the variety of disasters to which the SVA has responded and by the passing of time, which has enabled the SVA to consciously draw on its experiences for each new mobilisation. In this way, the SVA has been able to “reshap[e] itself and respond to the specific needs and issues of the community in a new way” (Respondent 26) for each successive disaster response. The SVA, as an entity, was capable of organisational learning, as lessons learned by individual actors are woven into the fabric of the group and enabled actors across time and disaster responses to utilise institutional knowledge. To our knowledge, this is the first study to demonstrate organisational learning in a crisis volunteer group over a decade of mobilisations, and this was possible due to the longitudinal nature of the SVA members and supporters’ recollections. From our analysis of its cross-cutting lessons, the SVA was able to maintain its flexibility and innovation in their approaches to successive disaster responses evident by the way institutional knowledge is generated and maintained by the group’s members, which implies that sustained volunteer groups can exhibit dualities that may enable them to adapt.

In distilling these lessons, this paper has also contributed to theoretical understandings of the conditions and considerations that has enabled a youth-led crisis volunteer group to effectively and repeatedly “meet a need” for a “spectrum” of disasters over a timeframe. As the case of the SVA indicates, various elements come into play when volunteer groups mobilise in response to disaster: the contextual particularities of the disaster; the wider social and political context; the personalities, preferences and capabilities of group leaders; the group’s internal competencies; and external pressures and expectations. Yet despite this

vast array of influencing factors, the SVA also demonstrates that important cross-cutting lessons can be drawn from across different disaster response mobilisations, and that these lessons can have significant impact in terms of how future mobilisations are carried out. It also has pointed to some persistent considerations that can exist across responses: of the creativity involved in finding a response gap that might “stick”; the timing of the disaster for the student population; the tension between taking time to reflect (and potentially not act) and the need respond quickly to demonstrate usefulness and reliability; questions of how volunteers might be supported through and after disaster responses; the importance of publicity in gaining legitimacy but also its appropriateness across different disasters; and questions of risk and responsibility. This analysis opens scope to further explore the extent to which these lessons and the process of organisational learning might extend to other crisis volunteer groups, informal or formal, and especially those that are youth- or student-led, providing a means of developing more robust understanding of and practices supporting the capabilities of crisis volunteer groups and their conditions for effective operation in disaster response.

Acknowledgements The authors would like to thank the research participants for generously contributing their time and reflections to this project. We would also like to thank Emma Hall for her research assistance, the Student Volunteer Army for their support for the project, and the anonymous reviewers for their thoughtful feedback.

Author contributions SN and SC contributed to the study conception and design. Material preparation, data collection and analysis were performed by SC, SN and JW. The first draft of the manuscript was written by SC and SN, and all authors assisted in revising and finalising the manuscript. All authors read and approved the final manuscript.

Funding This study was funded by a grant from the Marsden Fund, administered by Te Apārangi | The Royal Society of New Zealand on behalf of the Marsden Fund Council [MFP-LIU1801].

Declarations

Conflicts of interest The authors have no relevant financial or non-financial interests to disclose.

Ethics approval All research procedures were reviewed and approved by the Lincoln University Human Ethics Committee.

Consent to participate All participants gave their written consent to participate in this research.

Consent for publication Not applicable.

References

- Alexander D (2010) The voluntary sector in emergency response and civil protection: review and recommendations. *Int J Emergency Manage* 7:151–166. <https://doi.org/10.1504/IJEM.2010.033654>
- Almeida D, Machado D, Andrade JC, Mendo S, Gomes AM, Freitas AC (2020) Evolving trends in next-generation probiotics: A 5W1H perspective. *Crit Rev Food Sci Nutr* 60(11):1783–1796. <https://doi.org/10.1080/10408398.2019.1599812>
- Betten T, Vian Pettersen K, Albrechtsen E (2021) Learning in municipalities after disasters. *Disaster Prev Manag* 30(3):400–411. <https://doi.org/10.1108/DPM-04-2020-0092>
- Bird D, Ling M, Haynes K (2012) Flooding facebook - the use of social media during the Queensland and Victorian floods. *Aust J Emerg Manage* 27(1):27–33

- Blee K, Taylor V (2002) Semi-Structured Interviewing in Social Movement Research. In: Klandermans B, Staggenborg S (eds) *Methods of Social Movement Research*, vol 16. University of Minnesota Press, London, pp 92–116
- Carlton S, Mills CE (2017) The Student Volunteer Army: a ‘repeat emergent’ emergency response organisation. *Disasters* 41:764–787. <https://doi.org/10.1111/disa.12225>
- Carmagnola F (2008) The five Ws for user model interoperability. In: *Ubiquitous User Modeling*, 30–36.
- Crossan MM, Lane HW, White RE (1999) An organizational learning framework: from intuition to institution. *Acad Manag Rev* 24(3):522–537. <https://doi.org/10.5465/amr.1999.2202135>
- Crossley N (2008) Social networks and student activism: on the politicising effect of campus connections. *The Social Review* 56:18–38. <https://doi.org/10.1111/j.1467-954X.2008.00775>
- Drupsteen L, Guldenmund FW (2014) What is learning? A review of the safety literature to define learning from incidents, accidents and disasters. *J Conting Crisis Manag* 22(2):81–96. <https://doi.org/10.1111/1468-5973.12039>
- Fothergill A (2017) Children, Youth, and Disaster. *Oxford Res Encycl Nat Hazard Sci*. <https://doi.org/10.1093/acrefore/9780199389407.013.23>
- Friedman VJ (2001) The Individual as Agent for Organizational Learning. In: Dierkes M, Antal AB, Child J, Nonaka I (eds) *Handbook of Organizational Learning and Knowledge*. Oxford University Press, New York, pp 398–414
- Helsloot I, Ruitenbergh A (2004) Citizen response to disasters: a survey of literature and some practical implications. *J Conting Crisis Manag* 12:98–111. <https://doi.org/10.1111/j.0966-0879.2004.00440.x>
- Kendra JM, Wachtendorf T (2003) Elements of resilience after the world trade center disaster: reconstituting New York city’s emergency operations centre. *Disasters* 27:37–53. <https://doi.org/10.1111/1467-7717.00218>
- Lewis KV (2013) The power of interaction rituals: the student volunteer army and the Christchurch earthquakes. *Int Small Bus J* 31:811–831. <https://doi.org/10.1177/0266242613478438>
- McLennan B, Whittaker J, Handmer J (2016) The changing landscape of disaster volunteering: opportunities, responses and gaps in Australia. *Nat Hazards* 84:2031–2048. <https://doi.org/10.1007/s11069-016-2532-5>
- McLennan B, Whittaker J, Kruger T, Handmer J (2021) Navigating authority and legitimacy when ‘outsider’ volunteers co-produce emergency management services. *Environ Hazards* 20:7–22. <https://doi.org/10.1080/17477891.2020.1727829>
- McManus R, Johnston D, Glavovic B (2015) Contested meanings of recovery: a critical exploration of the Canterbury earthquakes—voices from the social sciences. *Kōtuitui N. Z. J Social Sci Online* 10:69–71. <https://doi.org/10.1080/1177083X.2015.1076863>
- Mutch C (2014) Citizenship in action: young people in the aftermath of the 2010–2011 New Zealand earthquakes. *Sisyphus J Educ* 1:76–99
- Nissen S (2019) *Student Political Action in New Zealand*. Bridget Williams Books, Wellington
- Nissen S, Carlton S, Wong JHK, Johnson S (2021a) ‘Spontaneous’ volunteers? Factors enabling the student volunteer army mobilisation following the Canterbury earthquakes, 2010–2011. *Int J Disaster Risk Reduction* 53(1). <https://doi.org/10.1016/j.ijdrr.2020.102008>
- Nissen S, Carlton S, Wong JHK, Johnson S (2021b) Gaining ‘authority to operate’: student-led emergent volunteers and established response agencies in the Canterbury earthquakes. *Disasters*. <https://doi.org/10.1111/disa.12496>
- Peek L (2008) Children and disasters: understanding vulnerability, developing capacities, and promoting resilience - an introduction. *Child Youth Environ* 18:1–29
- Potter SH, Becker JS, Johnston DM, Rossiter KP (2015) An overview of the impacts of the 2010–2011 Canterbury earthquakes. *Int J Disaster Risk Reduct* 14:6–14. <https://doi.org/10.1016/j.ijdrr.2015.01.014>
- Quarantelli EL, Dynes RR (1977) Response to social crisis and disaster. *Ann Rev Sociol* 3:23–49. <https://doi.org/10.1146/annurev.so.03.080177.000323>
- Robinson OC (2014) Sampling in interview-based qualitative research: a theoretical and practical guide. *Qual Res Psychol* 11:25–41. <https://doi.org/10.1080/14780887.2013.801543>
- Simsa R, Rameder P, Aghamanoukjan A, Totter M (2019) Spontaneous volunteering in social crises: self-organization and coordination. *Nonprofit Volunt Sect Q* 48:103–122. <https://doi.org/10.1177/0899764018785472>
- Steffen SL, Fothergill A (2009) 9/11 Volunteerism: A pathway to personal healing and community engagement. *Soc Sci J* 46:29–46. <https://doi.org/10.1016/j.soscij.2008.12.005>

- Strandh V (2019) Crisis volunteerism is the new black? exploring the diversity of voluntary engagement in crisis management. *Risk, Hazards Crisis in Public Policy* 10:311–331. <https://doi.org/10.1002/rhc3.12164>
- Strandh V, Eklund N (2018) Emergent groups in disaster research: Varieties of scientific observation over time and across studies of nine natural disasters. *J Conting Crisis Manag* 26:329–337. <https://doi.org/10.1111/1468-5973.12199>
- Taylor M, Wells G, Howell G, Raphael B (2012) The role of social media as psychological first aid as a support to community resilience building. *Aust J Emerg Manage* 27(1):20–26
- Twigg J, Mosel I (2017) Emergent groups and spontaneous volunteers in urban disaster response. *Environ Urban* 29:443–458. <https://doi.org/10.1177/0956247817721413>
- Vallance S (2015) Disaster recovery as participation: lessons from the Shaky Isles. *Nat Hazards* 75:1287–1301. <https://doi.org/10.1007/s11069-014-1361-7>
- Whittaker J, McLennan B, Handmer J (2015) A review of informal volunteerism in emergencies and disasters: Definition, opportunities and challenges. *Int J Disaster Risk Reduct* 13:358–368. <https://doi.org/10.1016/j.ijdrr.2015.07.010>
- Yumagulova L, Phibbs S, Kenney CM, Woman-Munro DYO, Christianson AC, McGee TK, Whitehair R (2019) The role of disaster volunteering in Indigenous communities. *Environ Hazards*. <https://doi.org/10.1080/17477891.2019.1657791>

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