

The Context in which We Examine Disasters in New Zealand: An Editorial

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This is a tale of two earthquakes (you could say many more on account of persistent aftershocks) that were, in a Dickensian way, the best of times and the worst of times. It is a tale of two cities as well. There are a lot of contrasts between the east and the west of the city, and between the two events, as well as lots of comparisons.

In September 2010 we had good luck. We had a night-time earthquake, and it happened in a rural area so the shaking intensity decreased the closer you were to town. We thought we had seen it all in September, but tragically, this was not the only major event. We had good luck in September. We had extremely bad luck in February, 2011. The central business district was built on soft soils. An unknown fault axis was directed straight at it. No other known geological configuration could have delivered Christchurch a worse event. Our luck ran out that lunchtime—the geological gun barrel pointing straight at the centre of the city was loaded by years of gradual pressure, primed by the events of and since September and delivered an earthquake like no other to the Christchurch central business district and southern and eastern suburbs. This was, indeed, bad luck.

The fault could have been orientated a different way, but it was orientated in the way it was. We might

have known about it, but we didn't. We might have had another jolt like September, but we got some of the greatest ground accelerations ever recorded anywhere on this planet – right in the heart of Christchurch. It was actually the greatest vertical acceleration ever instrumentally recorded at almost 2g. We can still see and feel the consequences of that release of energy.

Of all the many physical, social, environmental, and economic aspects of natural disasters, the psychological dimension is arguably the most important to humans. Whether in terms of preparing adequately for a disaster, functioning effectively in the midst of catastrophe, or coping with and surviving emotionally the aftermath, psychological understanding provides a critical domain of both theory and practice that determines the crucial outcome: the effects on people's lives and well-being. This flows into how we change our physical world, and our relationship with the land and our history.

The New Zealand Psychological Society Supports Learning

The New Zealand Psychological Society promotes the valuable role of the science and practice of psychology. In 2011, its President,

Frank O'Connor, organised an extensive three-day programme of research presentations, discussion, and information sharing at the annual conference of the Society in Queenstown. This was just a few months after the second and most devastating earthquake to disrupt the security and lives of thousands of people living and working in the Christchurch region. Aftershocks continue still, and were felt during the Conference.

The New Zealand Psychological Society is the major professional organisation representing all areas and branches of culturally responsive psychological practice and research in Aotearoa New Zealand: clinical practitioners, educational ones working with schools and children, social, community and developmental psychologists involved with families and societal groups, and organisational specialists, working with other personnel to manage, lead, plan and evaluate organisational achievement.

By bringing together such diverse interests, knowledge, and skills, Frank's goal was to facilitate communication and to enhance the potential role of psychologists in making a difference to current and future disaster responsiveness in New Zealand. So successful was this exchange that we decided to capture

as much of the presentations as possible and to publish them in a special issue of the Society's flagship journal. The current issue represents this effort, both in reproducing some of the more formal papers presented as well as capturing the informal presentations and discussion.

We are impressed by the variety of papers revealing the richness of psychology's potential contribution to psycho-social responses to a disaster such this, which has impacted the lives of so many people in Canterbury.

The Joint Centre for Disaster Research Integrates Knowledge

The conference symposium was co-sponsored by the Joint Centre for Disaster Research (JCDR). This Centre is a collaboration between the School of Psychology at Massey University and GNS Science, designed to bring a strong psychological and social science perspective to the outstanding contribution GNS Science makes in geophysical research. The Director of JCDR is Professor David Johnston. Until five years ago, he spent 15 years of his life with GNS Science, which is the Government Crown Research Institute which does geological investigation and monitoring. About five years ago, under David's leadership, the social science team within GNS Science joined with Massey University faculty to form this joint research centre.

The importance of such collaboration lies partly in a simple disconnect: the physical scientists of GNS Science understand the natural environment and the risk we face in New Zealand. But the difference between their understandings and how people perceive risk has never been fully recognised or explored. The JCDR had engaged somewhat with many Government departments in September. In February there was a more concerted effort to understand, across a range of organisations, what were the likely impacts of this event, and what overseas experience could help guide response and recovery efforts.

New Zealand sits on a plate boundary, so we face a number of

perils. This particular subduction zone is very similar to what lies off Japan, so one future warning is that the tsunamis we saw in Japan one day in 2011 may also be seen along the east coast of the North Island. These are things we know about. But often there is a disconnection between this kind of knowledge and how the public see and respond to the risk. New Zealand has had a long history of earthquakes, several of which were magnitude 7+, but had not had any of magnitude 7+ in populated areas for a long time. From information to hand prior to the Canterbury earthquake, physical scientists had produced a hazard model for New Zealand. It was up-to-date in terms of information available prior to the earthquake. It showed Canterbury in a moderate seismic risk zone—leadership in Christchurch, and engineers had talked about it for some years.

Just as JCDR has a new setting to investigate, the longstanding partnership between the Engineering School and psychology faculty at the University of Canterbury has a new arena for collaboration.

Psychological considerations include people's understanding of the risk. Members of the public often say things like, "Wellington has a high risk of earthquakes.", but there are other communities that have even higher probabilities than Wellington. Public perception and understanding does not often match statistical models. The probability of occurrence is not the same as the frequency of occurrence. If an area is more *likely* to have an earthquake, this does not mean that it will get the next one. We saw that with Kobe. The day before the Kobe earthquake in Japan the odds of Tokyo getting a major earthquake were three to four times greater than in Kobe. And higher or lower frequencies of having an event does not mean the next will, occur here. However a lot of people had been discounting the risk, because they were a lower probability or frequency than somewhere else.

Peer-Reviewed Articles

The articles in this special issue went through the peer review process

of ordinary submissions to the *New Zealand Journal of Psychology*, organised for this issue by Ian Evans. There were small variations, however. We asked the reviewers (two for each submission) to consider the practical merits of the contribution in addition to its scientific or scholarly potential. And, in most cases, it was not possible to conduct blind reviews: everyone knows everyone else in this field. Even so, the reviewers worked collaboratively with the very patient authors and we thank them for their speediness, their thoroughness, and their supportive ethos. We wanted a wide range of papers demonstrating some of the reach and range of psychology and the potential contribution of psychologists.

The first paper, by Professor John McClure, takes up one of the themes of this Editorial: public perception is critical. He presents fascinating data on New Zealanders' perceptions of earthquake risk in different parts of the country—a crucial element of future preparedness by communities and individuals. The second paper, based on practical experiences in a different setting (the Republic of Georgia) and a different type of disaster (a short, destructive, civil war), offers valuable lessons for any psychologist hoping to provide mental health support to a traumatised population. Barry Parsonson and Jane-Mary Castelfranc-Allen, two New Zealand clinical psychologists who have made a long-term, highly valued contribution to establishing appropriate mental health services for children in Georgia, describe their experiences and suggest the important lessons to be learned.

A critical lesson is the importance of local community engagement as opposed to the more distant and sometime misguided role of large service organisations, and it this theme of community engagement that is analysed in the third paper by Susan Collins and colleagues from JCDR. Their report, that people impacted by disaster felt isolated and forgotten, is not unlike the experience of Georgians, many kilometres and cultures distant. This reveals the significance of community participation as well as engagement.

From these interesting samples of the relevance of psychological understanding, we can see the importance of research and consultation linking the social and behavioural sciences with the geophysical sciences. The next paper in the series explains the nature and role of the consultation provided to Christchurch, with many of the themes identified in the two previous papers being emphasised again, such as training mental health providers and achieving community engagement. You can see from the range and varied backgrounds of the authors of this paper the importance of bringing together many different professional perspectives.

Then follow two papers representing unique scientific contributions. Emma Doyle is a volcanologist by training but she has taken to heart the disconnect we mentioned earlier regarding the geological perspective and the psychological perspective. Geophysicists report probabilities in a variety of ways. They know what they mean. But the public and the emergency managers who have to warn the public may not know what they mean. This body of work represents an extremely important contribution to emergency management preparedness and response capability. A second paper with a strong empirical basis is the sixth in this series, by University of Canterbury behavioural and clinical scientists Neville Blampied and Julia Rucklidge. The Christchurch earthquakes provide an intervention of stress, permitting a natural experimental approach. It seems we can take advantage of the potential for knowledge building about how individuals respond to stress. In their ingenious study, we see some of the first evidence of the benefits of micronutrients for anxiety and depression.

We end the peer-reviewed papers with two intriguing explorations of the fundamental importance of culture. Like the Georgia experience of Parsonson and Rawls, Richard Sawrey and his colleagues draw from their participation in offering psychological "first-aid" to the people of Samoa

after the devastating tsunami. By combining cultural knowledge with sound principles from narrative and family therapy this multi-cultural team was able to provide valuable training for support people in Canterbury. Their paper also offers important caveats regarding the nature of initial services for people who have experienced trauma. Drawing another cultural parallel, John Fawcett adds crucial insights derived from his distinguished career in the provision of international aid and relief following natural disasters. Surely many people, horrified at the tragedy in Haiti, will be aware of how easy it is to push the plight of the people of Haiti from everyday concern and consciousness. That is a phenomenon that we trust will never be true for Christchurch as the threat to normal and stable life in the region continues unabated.

Conference Presentations

At the three day conference, however, there were many other valuable presentations that either the authors wished to remain as a more informal narrative format, or that the presenters did not have time to re-work as a paper, or after peer review it was felt the material was more suited to a presentation format. We had the presentations tape-recorded and transcribed and then invited the speakers to edit them briefly for the special issue. In many cases, authors added material developed in the months and events prior to publication.

As a result, the presentation documents, edited by Frank O'Connor, have a large amount of supplementary material which will be of interest to many. We did not want the wisdom and experience of so many skilled individuals to be lost. Each presentation offers the views and experience of its authors, for others to consider in the event of similar situations arising in future. While some inferences are drawn about relevance of these experiences to other settings, these proceedings have not been peer reviewed, may not cite all relevant references, and should be regarded as part of a large body of learning in progress in the application

of psychology to assist in disaster situations. Correspondence with the authors is encouraged, especially to clarify reasons for choosing particular actions in the setting described. We note too that most of the authors of these proceedings receive no funding for the time involved in preparation. Their considerable hours are an uncosted public good, donated by psychologists for the benefit of their communities and professional colleagues.

Conference presentations included here open with an account of the provision of psychosocial support at various levels and in a context of evolving acceptance. The psychological services of the New Zealand Defence Force response to February 2011 Earthquake is described, with reflection on learnings and changes made.

In addition to the earthquake response, a number of other community disasters in New Zealand have needed professional support in school and pre-school settings. Five presentations cover work by educational psychologists. The presentations demonstrate quick adaptation to differing needs and to strengthen short and long term responses in the education setting.

O'Connor presents some organisational phenomenon peculiar to long-term uncertainty, relating the individual, group and intergroup experiences, with new tools to facilitate adaptation or improvement. Also looking at organisational needs, Black and McLean report aspects of organisations adjusting initial support provision as information on physical and social impacts became available.

Gawith uses a community psychology perspective to report aspects of how communities in Christchurch have been coping as the year of aftershocks closes with no subterranean peace in sight. A complementary presentation from Sword-Daniels looks at the long-term adjustment of the population to the second decade of continuous hazard of volcanic ashfall on Montserrat. Again, the response of the people living in

uncertainty is reported and their priorities explored.

Conclusion

This special issue speaks of the experiences, knowledge, cultural awareness, and interpersonal understandings of professionals affiliated with the discipline of psychology. Such professionals have made and are making important contributions to many aspects of supporting Canterbury, post September and February earthquakes and subsequent aftershocks. The Canterbury context poses a substantial

challenge for all professionals, given that the earthquakes were without modern precedent and that their persistence appears unique.

New Zealand is a small country in terms of population. Few people have not been directly affected by the lives and property lost, schools were disrupted and pupils scattered across the country, businesses and families were forced to move. Residents continue to face aftershocks and general disruption to everyday life. From the beginning in September 2010, to the end of January, over

10,000 aftershocks have been recorded.

We hope that New Zealand's research community can learn from these events to help build more a resilient country in the years to come, in ways that reflect the world-views and priorities of all the people of the place. Perhaps we will see a more substantial focus on disaster research from New Zealand psychologists, as part of this process.



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