**Resilience in Uncertain Times**

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As many of you know, I research resilience, that is, the capacity of individuals, organisations and communities to recover from substantial adversity. In this essay, I offer some of my own experiences and observations, and hope that they can contribute to tackling major global challenges such as the Covid-19 health emergency and climate change.

I have experienced almost 6 months of what feels like an apocalyptic future. In Australia we first witnessed the devastating impacts of the “Black summer” bushfire season. Exacerbated by heat and dry conditions that have been linked to climate change, the fires started as early as June 2019 in some areas and peaked in December 2019 and January 2020 with massive fires across substantial parts of the continent. The impacts were horrendous, devastating more than 11 million hectares of bushland and forests across [Australia](https://www.bbc.com/news/world-australia-50951043). 33 people died, countless homes were destroyed, and over 1 [billion animals perished](https://www.theguardian.com/australia-news/2020/jan/14/a-billion-animals-the-australian-species-most-at-risk-from-the-bushfire-crisis). It is estimated that nearly 80 percent of Australians were affected either directly or indirectly, and that another 400 people have died of the indirect effects such as smoke inhalation (Borchers Arriagada et al., 2020). I witnessed several months of poor air quality over Sydney, with poor visibility and a gloomy orange sky. Colleagues sent updates about their whereabouts and the fires hitting their property. The news was full of horrifying pictures of burned woodland, dead animals, destroyed houses and broken livelihoods. Our daily routine started with checking fire and air quality maps for updates.

Little did we know at the time that the next disaster was just around the corner when news about the first reported cases of Covid-19 started to emerge. We were still caught up in the bushfires and their impact; the situation seemed distant, and somewhat not too threatening at first. My colleagues and I had only just been to China for a work trip at the end of November 2019. However, we soon realised the severity of the situation when Wuhan was locked down and the WHO declared a “[public health emergency of international concern](https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-%282005%29-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-%282019-ncov%29).” The first tangible impact of the virus on Australia was the government ban on the entry of non-resident foreigners who left or transited mainland China within the previous 14 days. The announcement was made just prior to the start of Australia’s university year, resulting in likely losses of several billion dollars for the higher education sector. Instead of air quality maps, we were now checking Covid-19 outbreak maps.

As we fast forward just a few weeks, the situation has escalated rapidly and feels surreal. Many of us have faced a sudden loss of normalcy. Concerns about the economic toll are rising. The death toll is mounting. What can resilience research offer us as insights? I have extensively studied resilience to climate-change related extreme events, and results show repeatedly that “more-severe-than-expected” events are often well beyond the routine emergency management capacities of organizations, both in public and private sectors (Linnenluecke & Griffiths, 2013). We see similar concerns again both with the bushfire crisis and the Covid-19 outbreak. What is particularly difficult about the Covid-19 pandemic is that the current situation is rapidly evolving on a global scale, potentially longer-lived (also due to the risk of re-infection) and – in the absence of a vaccine or suitable treatment – highly uncertain in terms of the outcomes and solutions.

Nonetheless, I believe that what we know about resilience can help us to understand next steps and how to rebuild – and potentially in better ways. The study of resilience is often a study of hindsight – meaning that resilience studies often offer a retrospective diagnosis of what went right or wrong. Scientists have issued many warnings about possible pandemics – but it is now too late to be dwelling on missed opportunities to prevent the outbreak. What we need is foresight. We have data from previous pandemics and from the outbreak in Wuhan that shows how the government brought the situation under control after it initially denied the seriousness of the outbreak. The data show us the importance of taking early action, clear communication, but also international measures to avoid further spread in our highly connected world. Singapore’s previous experience with SARS prompted the country to substantially invest in outbreak preparation, healthcare infrastructure and a coordinated task force – [investments perhaps not considered as urgent in other countries](https://theconversation.com/why-singapores-coronavirus-response-worked-and-what-we-can-all-learn-134024). The implications for policy makers are twofold: (1) attention to scientific concerns about global crises is warranted also with a view towards tacking other challenges such as climate change, (2) investment in resilience do not always pay off in “normal times”, and (3) it is time to act now, and to implement immediate distancing and lockdown measures.

Second, societal resilience requires substantial capacity building. Those countries that are ahead with their response to Covid-19 are those with substantial investments into essential services, personnel, training, as well as healthcare and communication infrastructures. Importantly, the importance of collective mindful action and individual behaviour changes is evident. Covid-19 requires collective individual mindfulness around washing hands, coughing etiquette, touching surfaces, and so on, and we see substantial cultural and institutional differences in enacting these responses. The importance of collective behaviour change becomes equally evident for tackling other global challenges, such as climate change. This will ultimately require not just top-down policy measures, but a substantial shift of individual practices to more sustainable modes of transportation, energy consumption and living.

Third, the recovery of the economy will require resilient businesses. The Covid-19 crisis has exposed the vulnerability of international supply and transportation networks. While outsourcing to foreign countries has proven highly efficient economically, many countries now face challenges with access to drug or medical supplies as countries such as India curb drug exports. Many businesses are now rapidly adapting, diversifying and changing their business models to “contactless” services. Examples include a rapid shift to online teaching in the university sector, a rapid transformation to takeaway services, and a substantial shift to “work from home.” Distilleries and perfume producers have started to manufacture hand sanitisers, while other firms have shifted their production lines to manufacture ventilators, hospital scrubs or facemasks. However, the Covid-19 health emergency shows that some sectors will not be viable without government bailouts – such as the airline and cruise ship industries – but also many small- and medium-sized businesses. This is in line with the resilience literature that suggests that organizational resilience is often not determined by organizational resources and capabilities alone (Linnenluecke, 2017). However, options exist here to investigate which companies should be supported, and how support can be used to foster other desirable outcomes, such as innovation, clean technology or emission reduction targets (or perhaps, a reduction in travel overall).

A tricky part about Covid-19 is that individual, organizational and community resilience is fundamentally built upon social connections – people coming together to support each other and helping with rebuilding and recovery efforts. Social connections are currently substantially disrupted. The loss of social connections, jobs and everyday interactions is only too tangible as more and more countries are introducing substantial measures to encourage “social” distancing to curtail the rapid spread of the coronavirus outbreak. I believe that the social element is one of the most important ones in our attempt to tackle the outbreak – to ensure compliance with collective mindfulness, to support those trying to find job, those in despair, those working remotely and those who are marginalised or isolated. Research shows the substantial negative impacts that isolation will have on mental health. Distancing is important to support the health of others. However, of utmost concern to every individual, business and community should be to foster connection and support as best as possible – through online channels, community support groups, calls and support for those in need. That way we can all help to build our own resilience and the resilience of others during these tough times.

Borchers Arriagada, N., Palmer, A. J., Bowman, D. M., Morgan, G. G., Jalaludin, B. B., & Johnston, F. H. (2020). Unprecedented smoke‐related health burden associated with the 2019–20 bushfires in eastern Australia. *Medical Journal of Australia*.

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