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Exploring Older Cantabrian's Experiences of Multiple Crises
and the Impacts on
Resilience and Ability to Age in Place

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Abstract

Background: The incidence of natural hazards and pandemics is increasing. The impact of individual crises on older people's ability to cope, connect, maintain, and build resilience has been documented. However, there is a dearth of research that considers experiences and accounts across older adulthood and throughout multiple crises. This is crucial considering the impact crises can have on exacerbating age-related physical, mental, and social vulnerabilities as well as predictions of more localised and international events. Older people living in Christchurch New Zealand (Cantabrians) are unique in that, over the last decade, they have experienced both large earthquakes as well as New Zealand's rigorous pandemic-related lockdowns.

Method: Fourteen Cantabrians aged between 72 and 88 years and from diverse socio-economic areas took part in open-ended interviews concerning their experience of the 2020 COVID-19 pandemic and related lockdowns and how this differed from their experiences of the 7.1 and 6.3 magnitude earthquakes a decade prior. Narrative analysis was used to interpret their stories and provide insights into the meanings they attributed to their experiences ageing in place across time and crises.

Findings: Many manifestations of resilience were storied within the three main narratives of 'Reframe and reaffirm, 'The virtuous citizen', and 'You're only as old as you feel'. These looked at the ways in which participants: positively reframed their experiences; reaffirmed their key values and self-concept; presented themselves as virtuous, successfully ageing older adults; and didn't identify as elderly.

Conclusions: Representing the experiences of older people living through two very dramatic and different events is a novel approach to understanding capabilities of ageing well. This has implications for understanding the nuanced requirements of emergency

communication, preparedness, and management which will be responsive to older New Zealanders' needs.

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Glossary

Term	Definition
Ageing well in place	Meeting the desire and ability of people through the provision of appropriate services and assistance to remain living relatively independently in the community in his or her current home or an appropriate level of housing
Canterbury Earthquake Series (CES)	Refers to the 4 September 2010 earthquake and the aftershocks which followed in 2010 and 2011 including the Christchurch 22 February 2011 earthquake
Disaster	A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources
Literature review	A narrative summary and evaluation of the findings or theories within a literature base
Place	The psychological, social, and architectural attributes of settings that contribute to how place is experienced by individuals or groups
Psychological attributes of place	The emotional bonds that tie individuals to their homes neighbourhoods, and communities; often involving feelings of pride, safety, familiarity, belongingness and satisfaction with place

Narrative	Narrative is viewed as a rhetorical device through which people represent experiences to both themselves and others in a manner situated in time and positioned in terms of cultural and relational dynamics
Resilience	The characteristics, resources and abilities which dynamically interact and accumulate over a lifetime to enable contentment and positive, equanimous adaptation to and growth through perceived adversity (researcher's own definition)
Selection, Optimisation and Compensation Model (SOC)	A process-oriented model which theoretically explains individuals can do the best with what they have
Socio-Emotional Selectivity Theory (SST)	A theory of life-span development grounded in the uniquely human ability to monitor time. It maintains that the approach of endings - whether due to aging or other endings such as geographic relocations and severe illness - elicits motivational changes in which emotionally meaningful goals are prioritised over exploration
Successful Ageing Criteria	(a) The absence of disease, disability, and risk factors like high blood pressure, smoking, or obesity; (b) maintaining physical and mental functioning; and (c) active engagement with life

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Chapter 1: Introduction

Myself as a Researcher

For as long as I can remember, I have always been deeply interested and invested in the welfare of older adults. This likely commenced with early childhood experiences visiting older adults in the community and rest homes with my mother, a practice which I later continued with my own family.

The importance of place and home was brought into acute focus for me when my world abruptly shrank with the arrival of my children. Later, I developed a richer appreciation of its role in reifying self-concept and bolstering life satisfaction while observing the importance of home when caring for my grandmother-in-law who lived independently until her passing at 81.

I moved to Christchurch in 2008 and was present for the full gamut of crises and secondary stressors which the city endured commencing with the September 2010 earthquake. I was working in a building which partially collapsed in the February 2011 earthquake and contended with multiple relocations, insurance claims and rental property rebuilds in the years which followed. In 2017 my children were placed in lockdown at their school while the mosque terrorist was at large and in 2020 I home schooled them throughout various pandemic lockdowns as my husband was an essential worker. Although these were difficult times, I appreciate that I was insulated from experiencing the full negative effects of these crises by the positional privilege afforded to me as a middle-age, middle-class, educated Pākehā woman. I am especially respectful of the additional challenges which minority groups faced over the period, in particular older adults living independently in the community. The continued importance of their welfare and concern for the additional challenges they face living through increasing crisis events sits behind

this thesis. Narrative analysis was especially appealing as a vehicle to gaining a true understanding and representation of their experiences over time. It is sincerely hoped that this research will contribute to deepening understanding of nuanced requirements of emergency communication, preparedness and management which will be responsive to older New Zealanders' needs.

Thesis Overview

The challenges of living independently and well with age-related physical, mental, and social vulnerabilities has been well documented, as has older people's resilience and ability to age in place throughout discreet crisis events. What hasn't been fully explored, however, is how those people already contending with age-related challenges are impacted living independently in the current age of unprecedented increases in the frequency and severity of natural hazards and pandemics. This research is a contribution to filling this gap.

Older people living independently in Canterbury, New Zealand, were selected for this study for their unique position experiencing multiple crises. Although the research primarily focuses on their experiences of the Christchurch Earthquake Series (CES) which commenced in 2010 and the rigorous pandemic-related lockdowns in 2020, in between this time there was also the Kaikoura earthquake in 2016, the Port Hills fires in 2017 and the Mosque terrorist attack in 2019. Using interviews from 14 participants, this study aims to explore their experiences of ageing through multiple crises and how their resilience and ability to age in place was impacted. A structural overview follows. **Chapter One** introduces my position as a researcher and provides an overview of the thesis, its aims, and objectives. **Chapter Two** discusses relevant literature pertaining to the thesis topic including successful ageing, ageing in place, resilience, crises, and the Canterbury experiences. **Chapter Three** details the methodology for the study, specifically its

epistemological and ontological foundation, narrative psychology, and the types of narrative analysis used. **Chapter Four** describes the method in terms of the selection and recruitment of participants, the procedures followed, and the data analysed. **Chapter Five** introduces the participants and their experiences in more depth and explains the findings of the narrative analysis, specifically the key narratives of ‘Reframe and reaffirm, ‘The virtuous citizen’, and ‘You’re only as old as you feel’. **Chapter Six** considers the findings in relation to the literature and offers future directions for further research as well as identifying limitations of the current study. Lastly, **Chapter Seven** provides a summary of the research and its findings.

Chapter 2: Literature Review

There are many interlinking topics relevant to this research including ageing in place, successful ageing, resilience, and crises. Literature pertaining to each will be considered first in isolation then together as a group in relation to older adults.

Ageing in Place

Ageing well in place, or "meeting the desire and ability of people through the provision of appropriate services and assistance to remain living relatively independently in the community in his or her current home or an appropriate level of housing" is a common goal of older adults and Governments alike (Severinsen et al., 2016; WHO Centre for Health Development, 2004, p. 9). Domestically, most older adults still own their own homes despite homeownership rates continuing to shrink (Davey, 2006). As at the 2018 New Zealand Census, the highest rates still remained with those aged between 70 - 74 years at 77.8% with the next largest group those aged between 65 and 69 years at 77.2% (Statistics New Zealand Tatauranga Aotearoa, 2020b). Older adults' often prefer to remain in their own home even in the face of deteriorating health and unsuitable housing conditions (Severinsen et al., 2016). This is due to multiple factors including the enabling and extending of individual lifestyle choices and the maintenance and facilitation of independence, privacy, comfort, control and autonomy (Olsberg, 2005; Cooper Marcus, 1995; Rowles and Chaudhury, 2005, as cited in Rowles, 2017; Severinsen et al., 2016). Other drivers can be identified by considering what 'place' can mean for older adults.

Place Defined

Place is defined as, "the psychological, social and architectural attributes of settings that contribute to how place is experienced by individuals or groups" (Scheidt & Windley, 2006, p. 122, as cited in Granbom et al., 2014, p. 10). These attributes are key to

transforming a mere space into a place imbued with meaning and attachment and will be further explored in turn (Granbom et al., 2014).

The psychological attributes of place are experienced by individuals as the emotional bonds that tie them to their “homes, neighbourhoods, and communities; often involving feelings of pride, safety, familiarity, belongingness and satisfaction with place” (De Donder et al., 2012; Oswald and Wahl, 2004; Rubinstein, 1990; Wiles et al., 2012b, as cited in Wiles et al., 2017, p. 28). These bonds contribute to a sense of continuity for individuals which help them navigate the changes and challenges arising from the external world as well as their own ageing-related internal sphere (Wiles et al., 2017). Unsurprisingly, it has been found that feeling ‘in-place’ has beneficial effects on older adult’s well-being, self-concept and sense of control and security, and that attachment to place increases with the duration of residence and age (Lager et al., 2012, as cited in Severinsen et al., 2016; Golant, 1984, as cited in Wiles et al., 2009). This is supported by a study by Wiles et al. of 671 older participants which found that the psychological attributes of attachment to place positively corresponded with self-reported physical and mental wellbeing scores (2017).

The social attributes of settings refer to the relationships older adults have both with those they cohabitate with and those external to their home. These relationships are integral to older adults’ health, wellbeing and overall life satisfaction and provide connection, belonging, involvement and security (Stephens et al., 2015; Wiles et al., 2017; Yalcinoz Baysal et al., 2020). Stones and Gullifer observed that the “quality and number of meaningful relationships and social supports the individual has developed within the neighbouring community” was a key contributor to attachment to place in their study of 23 very old adults with a mean age of 90.7 years (2016, p. 453). Wiles et al. identified that cultivation of attachment to place necessarily involves feeling connected and involved socially just as much as having general positive feelings about one’s residence (2017).

Importantly, social attributes also refer to the awareness of and relationships with local services and supports which can be mobilised as needed (Cheung et al., 2017, as cited in Prayag et al., 2021).

The architectural attributes of settings refer to how well suited and adaptable homes are in enabling or preventing the desired lifestyle of their older incumbents. Davey identified how older adults' ability to remain ageing in place may hinge on their "ability to have their houses maintained, modified or adapted in order to … fulfil their needs" (2006, p. 128). Intimate knowledge of a home's architectural and spatial characteristics can furthermore enable older adults to optimise its use as their physical functionality deteriorates with time (Smith, 2009). Architectural attributes can also refer to the suitability of the neighbourhood and its environment. As Wiles et al. point out, a key attraction for older adults of ageing in place is the accessibility of key health services, transport, amenities and community groups it offers (2012a). This supports other findings that older adults develop greater sensitivity to their neighbourhood environment the longer they reside there and the more their functioning changes with age (Stones & Gullifer, 2016). Architectural attributes can also refer to possessions within a home. The acquisition, display and narration of specific possessions in one's home is a key enabler of the articulation and differentiation of identity, self-concept and status (Jacobs & Malpas, 2013).

Each of these attributes were evident in the findings of Severinsen, Breheny and Stephens' (2016) study, "Ageing in Unsuitable Places", involving 143 interviews with people aged between 65 and 93 years. They observed how participants constructed specific identities through their narratives of place and why they chose to age there. In particular, they elicited four distinct identities in relation to place, including: the 'practical planner', for whom social and architectural attributes were most important and who relocated as sensible and necessary to facilitate social connections and support services

as they aged; the ‘rugged pioneer’, whose identity as a battler in the face of adversity was bolstered by housing unsuitable for ageing; those whose identity was enmeshed in their relationship with others in their housing location who believed it was ‘where they belong’; and those who described themselves as ‘rooted in place’, who identified with the physical location of their home and the land it is on as well as its historical connections to ancestors and experiences.

Government Support of Ageing in Place

Governments are motivated to encourage citizens to age in place not just for their health and wellbeing benefits but also to combat inflating fiscal welfare burdens arising from ageing populations. In 1898 New Zealand was one of the first industrialised countries to introduce a modest, means-tested national pension scheme to look after its citizens in their later, non-income producing years. Life expectancy was significantly shorter and citizens’ total draw on social welfare was comparatively small (Cunningham, 2013). Improvements thereafter in nutrition and advances in science and medicine significantly extended the average life expectancy and spawned the concept of an active ‘Third Age’ lasting until one’s late 70s. The combination of extended lifespans, later marriages, falling birth rates from declining fertility, and increased divorce rates led to a swelling of people eligible for the pension from the second half of the 20th century (Lesthaeghe, 2010). This pattern has continued – as at 2019 life expectancy in New Zealand at birth was 80 years for males and 83.5 years for females (Kinsella, 1992; Statistics New Zealand Tatauranga Aotearoa, 2006, 2019), and as a proportion of the total population the number of individuals over 65 and 85 years of age is expected to double in 20 and 40 years respectively. Over the next approximately 40 years the pension cost to GDP ratio is anticipated to rise by 60% and healthcare spending including aged care outlays to increase by 46% (Chartered Accountants Australia and New Zealand, 2018), inspiring the

moniker of “the silver tsunami” which threatens to overwhelm limited social and economic resources (Lehning, 2018). A 2021 Treasury paper recently warned that New Zealand’s public debt will reach “unsustainably high levels” if policy changes aren’t made (van Rensburg et al., p. 55). It is important to acknowledge that Māori and Pasifika populations contribute more and draw less from the pension scheme; they have been identified as having lower average lifespans arising from cumulative disadvantage (their life expectancy at birth as at 2019 was 73.4 for Māori males and 77.1 for females, and 75.4 for Pacific males and 79 for females) (Statistics New Zealand Tatauranga Aotearoa, 2019) and they have higher and younger patterns of fertility (Cunningham, 2013).

The corollary to these attributes and their positive effects on older adults’ well-being is, of course, that changes to place (wrought most considerably by man-made and environmental disasters) can have negative affect (Smith, 2009, as cited in Severinsen et al., 2016). Socio-economic limitations can often see older adults ageing in place in more affordable yet disaster prone areas such as flood plains (Keim, 2008, as cited in Alpass et al., 2016; Shih et al., 2018). Following the February 2011 earthquake, a large proportion of units occupied by older adults on low-incomes were significantly damaged and there were reports of increased isolation and struggles with coping in the new environments which they were relocated to (Christchurch City Council, 2014). Abroad, older adults in the ongoing Ukraine/Russia war are reported as unable or unwilling to relocate despite the destruction of their health facilities and loss of familial supports. A survey of 1,513 older people involved found that 99% want to remain in their homes yet 91% are struggling to access food due to mobility and support issues and 34% are without critical medication for chronic illnesses (Wood, 2022). Domestic statistics mimic the international trends - the 1931 Napier earthquake involved significant spikes for those aged 65 years and older in the hospitalisation and death rates per 1000 population (Clement et al., 2019) and as

outlined above, older adults were disproportionately affected by the CES in 2010 and 2011 and 2020 COVID-19 pandemic.

Successful Ageing

In the 1980s as life expectancies continued to lengthen, gerontology research remained focused on the deficits of disease and disability that punctuate older adulthood and the ailments of those in very advanced age (+85 years). In response to this, a group of researchers from the MacArthur Foundation set out to study those factors which conversely supported living well in later life and in so doing identified in fact two ageing processes. The first ‘usual ageing’ process that entails risk of developing disease and disability they found to be partially preventable and mediated by lifestyle and environmental factors. The second ‘successful ageing’ process they identified explained how individuals could not prevent health problems but actually improve their health and wellbeing in later life (Rowe & Carr, 2018). In achieving this they identified three criteria - a low risk of disease, maintenance of high mental and physical functioning, and active and productive engagement with life (Rowe & Kahn, 2015). These findings lead to the establishment of societal imperatives for older adults to be self-disciplined, actively engaged with society, independent and productive. It created new expectations around health, retirement, and standards of behaviour (Breheny & Stephens, 2010; Rowe & Kahn, 2015; Stephens, 2017). For Western governments this presented a means of holding back the silver tsunami. In developed countries around the globe, older adults were encouraged through key government agendas and social policies to self-surveil their ageing experiences and assume responsibility for their own health and welfare to prevent reliance on state resources (Amundsen, 2022; Rowe & Carr, 2018; Stephens, 2017). The Organization for Economic Cooperation and Development released a strategy paper in 1998 entitled, “Maintaining Prosperity in an Ageing Society” which called for pension

reform, personal superannuation, and incentives to extend individual's working lives. In the United Kingdom then Prime Minister Tony Blair highlighted the "personal responsibility [which] rests on each [older adult] to plan and provide for a different life-course that is also better", and their Department for Work and Pensions Strategy set out the aim of older adults keeping "independence and control over [their] lives…even if …constrained by the health problems which can occur in old age" (2005, pp. v, 3). In New Zealand, the Positive Aging Strategy was launched in 2001 which set out ten key goals which included empowering older adults and "enabling [them] to take responsibility for their personal growth and development" (Formosa, 2013, p. 26).

Theories of Successful Ageing

For an individual to consistently achieve successful ageing, constant vigilance, and anticipation of age-related changes to their ability to maintain health and wellbeing standards is required. Baltes and Baltes' Selection, Optimisation, and Compensation (SOC) process-oriented model theoretically sets out how individuals can do the best with what they have; that is, how they can deploy appropriate coping strategies to maximise gains and attain their personal goals and minimise losses associated with age-related functional decline (Baltes & Carstensen, 1996; Strawbridge et al., 2002, as cited in Carpentieri et al., 2017; Rowe & Carr, 2018). Here, selection refers to the valued goal identified by individuals and optimisation how they maximise their development potential to achieve them. Compensation describes adjustments that are required to attain the goal despite age-related changes to physical and cognitive resources (Baltes & Carstensen, 1996; Baltes & Freund, 2003).

The SOC model was effective in encapsulating the heterogeneity of older adults and allowing for their subjective interpretations of successful ageing (Baltes & Carstensen, 1996). It wasn't without its critics, however, who argued that it failed to account for

differences in respective individual capabilities to select, optimise and compensate to achieve their goals, and for events outside individual control affecting life-course transitions, trajectories, and abilities to age well (Ferrer et al., 2017; Stephens, 2017). Elder's (1994) theoretical life-course perspective on ageing identified four primary factors limiting the influence of an individual's resources and opportunities on their longevity and quality of their health and wellbeing in later years: the time and location in history of birth that dictates exposure to historical events (such as being raised in a single parent household due to war fatalities); the timing of lives influencing key life transitions (like the prevailing socially accepted ages for marriage and childbearing); the linked lives of other key individuals and their interaction with the individual across the lifespan (for example adult children remaining in the family home); and human agency, which is the extent to which changing environments enable or restrict individual life-course choices (such as universal suffrage) (Rowe & Carr, 2018).

Criticism of Successful Ageing

Successful ageing was criticised not just for its relevant theories but also for its treatment of older adults as a homogenous group and marginalization of those who didn't meet its requirements who would theoretically 'fail' at ageing. There were concerns that successful ageing ignored the reality that its achievement was contingent not on individual achievement but rather a lifetime of accumulated circumstantial socio-economic and health privilege (Breheny & Stephens, 2010; Kok et al., 2015; Rowe & Carr, 2018). Subsequent research has confirmed the subjective and truly heterogeneous nature of successful ageing - a 2014 study showed that 71.3% of a subject group considered themselves as successfully ageing despite just 26% meeting researcher's assessment criteria (Cosco et al., 2014, as cited in Rowe & Carr, 2018). Moreover, longitudinal research of successful aging indicators across physical, cognitive, emotional, and social functioning in 2241 older

adults in the Netherlands demonstrated how vastly different elements can provide the same successful aging assessment outcomes (Kok et al., 2015).

Glorifying individual contributions in the achievement of successful ageing for some and ignoring inequalities that prevent it for others erroneously skews public narrative and can lead to the internalisation of damaging stereotypes for older adults. It can contribute to the foregoing of age-appropriate rest in lieu of disciplined, achievement-oriented and society-approved activities (Breheny & Stephens, 2010; Stephens, 2017; Mansvelt, 1997, as cited in Stephens et al., 2015). Additionally, it can contribute to self-perception as being burdensome and prevent the seeking or accepting of help as needs change with age. This was found to be the case in a 2002 study of a Western Australian aged care independent living community. Some of the approximately 1100 residents reported withholding necessary requests for assistance due to shame and fear of judgement. This contributed to mental and physical exhaustion for themselves and their carers, as well as greater subsequent treatment requirements (Horner & Boldy, 2008). This situation isn't likely to only apply just in Australia - there appears to be a strong Kiwi national identity that is self-reliant and independent embodied in the process of ageing in place which makes asking for help problematic (Davey, 2006; Severinsen et al., 2016).

Successful Ageing & the Theory of Residential Normalcy

The successful ageing imperative also has repercussions for adults ageing in place. It increases the onus on them to self-monitor and adapt to age-related changes in living requirements to maintain optimal health and wellbeing conditions (Golant, 2015). Golant (2015) termed this process achieving 'residential normalcy' – a state where living comforts and subjective mastery experiences are balanced. In his (2017) paper, Golant described comfort experiences as those things unique to each individual that make their home attractive, pleasurable and relatively hassle-free such as the absence or presence of a

garden requiring attention, or the display or minimisation of possessions. Mastery experiences are explained as those everyday factors which assure an individual of their competence and control within their home such as their ease of navigation or proximity of neighbourhood facilities. Like the criticism previously outlined concerning the SOC model, it should be noted that the availability or lack of an individual's resources can significantly affect their ability to make changes to achieve residential normalcy. Rather, it could well be an individual's inability to make changes that makes them appear to be ageing in place when they are instead "stuck in place" (as cited by Golant, 2008, in Wiles et al., 2017, p. 29).

Resilience

Definition

The definition and concept of resilience has long been a focus of debate by researchers about whether it is a personality trait, an adaptive process, or a capacity that enables an individual to respond positively, successfully, or "better than expected" to adversity (Clark et al., 2018; Fletcher & Sarkar, 2013; Manning, 2013; Van Breda, 2018). These will be explored in turn after a closer look at adversity.

Adversity can take many forms including hardship, stress, loss, or trauma (Manning, 2013). The extent to which it affects an individual is contingent on their subjective perception and the wider contextual significance of its occurrence (Clark et al., 2018; Fletcher & Sarkar, 2013). The experience of facing adversity itself is considered by some researchers to be integral to developing resilience (Wagnild & Collins, 2019, as cited in Wiles et al., 2012b). It is recognised that for older adults, later life is a period where experiences of adversity can occur in greater frequency and compound (Hildon et al., 2009). Types of adversity that older adults increasingly encounter include challenges

relating to deteriorating health conditions, relocation in retirement, as well as loss of spouse and people key to their social connectedness (Hildon et al., 2008). Hildon et al. highlighted how deteriorating physical health can exacerbate these challenges and limit quality of life (2010, as cited in Clark et al., 2018).

As a personality trait, resilience has been conceptualised as a combination of specific protective characteristics that enable individuals to adapt to problematic circumstances (Connor & Davidson, 2003, as cited in Fletcher & Sarkar, 2013). This stemmed from an early longitudinal study of children who developed normally in spite of being born to parents with serious mental health issues (Ryff et al., 1998). These characteristics included "high levels of energy, a sense of optimism, curiosity, and the ability to detach and conceptualise problems" (Fletcher & Sarkar, 2013, p. 9). Other characteristics found to co-occur with resilience in individuals include perseverance and adaptability combined with self-possession and a strong sense of life-purpose (Taylor & Carr, 2020). Considering resilience as a process or capacity suggests that resilience can be developed irrespective of whether an individual possesses the innate personality traits from which it is derived. It elevates resilience as something which can be achieved regardless of differing socio-economic circumstances, life experiences and health status (MacLeod et al., 2016).

The process involved in adapting to adversity as a component of resilience became a greater focus of research from the 1990s (Fletcher & Sarkar, 2013). Clark et al. (2018) explained how the skills and resources inherent in individual's adaptation processes accumulate over time to form unique 'resilience repertoires' which in turn improve their ongoing ability to respond. The specific resources they identified as having a strong correlation to resilience include individual mental and physical health conditions, attitudes, and behaviours, as well as social capital and financial health. Social capital is described by Netuvali et al. as, "the resources involving social support and networks that can be

employed to buffer older adults from adversity" (2008, as cited in Clark et al., 2018, p. 74). Importantly, it is not just access to social capital networks which is imperative to resilience but the knowledge of how to draw on them as needed (Hildon et al., 2008).

Resilience has also been conceptualised as a capacity for flexible adaptation and potential for change (Aldwin & Igarashi, 2015; Staudinger, Marsiske & Baltes, 1995, as cited in Ryff et al., 1998). It explains how individuals can in fact benefit from adversity through personal learning, growth, and transformation as opposed to emerging unchanged (Pargament & Cummings, 2010; Zautra, Hall, & Murray, 2010, as cited in Manning, 2013). Viewed this way, individual resilience follows an upward trajectory with time and age (Ong et al., 2009, as cited in Clark et al., 2018) and also explains how older adults are often found to be more resilient than their younger counterparts even when comparing the old-old demographic to the young-old (Clark et al., 2018).

All these various concepts of resilience are incorporated within Heslin et al.'s rationalisation of how growth mindsets enable successful ageing (2021). These researchers posited that growth mindsets allow older adults to develop resilience by reframing their adverse experiences as opportunities to better themselves and their quality of lives. This reframing engages the aforementioned personality traits of resilience – optimism to believe that circumstances can be altered, and curiosity, perseverance, and objective conceptualisation to transform perceptions of adversity into opportunities. A growth mindset perceives that if needed, additional skills and resources can always be developed for use in the process of growing from adversity (Wong et al., 2022). It incorporates the definition of resilience as a capacity for problem solving, adaptation and change as the mechanism whereby adversity is transformed into opportunity. As an example, a common experience of adversity that older adults will likely encounter at some point is the prohibition of driving. In response, the challenge could be reframed as an

opportunity to learn how to operate a mobility scooter which can provide additional opportunity for socialisation through encountering others on the sidewalk (Wiles et al., 2012b).

In recognition of the changing types and increasing frequency of adversity encountered by older adults Reichstadt et al. proposed an additional concept of resilience as balance (2010, as cited in Wiles et al., 2012b). According to these researchers, resilience as it pertains to older adults could be described as the "ability to maintain a tension between … contentment with what one has, against continual self-growth and active engagement in life" (Wiles et al., 2012b, p. 417). For the purpose of this research and in consideration of all the various concepts outlined above, resilience in later life will be defined as the characteristics, resources and abilities which dynamically interact and accumulate over a lifetime to enable contentment and positive, equanimous adaptation to and growth through perceived adversity.

Theories Relating to Resilience

There are numerous theories which relate to resilience in older adults including inoculation theory, maturation theory, socio-emotional selectivity theory (SST), theory of social comparison and social capital theory. Inoculation theory suggests that individuals build resilience through exposure to adversity and stressful life events. Accordingly, older adults have a high probability of experiencing a greater number of these over their longer lifespan and are therefore more likely to have developed greater resilience than their younger counterparts as a result. This appeared to be supported by Rafiey et al.'s (2016) comparative study of older and younger community dwelling adults (mean ages 68.36 and 25.32 years respectively) who lived through the 2012 East Azerbaijan earthquakes which had 303 fatalities. Despite the disproportionate vulnerabilities and effects of crises on older adults, they scored significantly more positively for mental health than the younger

participants. Maturation theory can also relate to these findings – it explains how older adults develop resilient coping styles over time which are more stable, less reactive and emotive (Rafiey et al., 2016). SST theory posits that as people perceive limitations in time left in life their motivation and priorities shift from future-oriented goals such as learning new skills and expanding their horizons to present-focused goals that are more meaningful and positive, and which contribute to greater resilience and wellbeing (Carstensen et al., 1999; Carstensen & Hershfield, 2021). Lahar et al. found in their research into the socio-emotional resilience of older adults that many participants prioritised positive activities during the COVID-19 pandemic and described their quality of life as being unchanged or even superior to what it was prior to the pandemic (2023). Social comparison with others can be viewed as a strategic cognitive mechanism of resilience. The theory of social comparison was originally proposed by Festinger (1954), who posited that people compare themselves to others to enable stable and accurate self-appraisal in the absence of objective evidence. Taylor and Lobel expanded this to explain how individuals can engage in downward comparisons with others less fortunate with themselves when under threat to restore self-esteem, and evaluate themselves upward with those perceived as superior for inspiration and motivation (1989). Heidrich and Ryff found in their study of 243 self-reported measures of women over the age of 65 that social comparison is an important part of maintaining psychological well-being for older adults. Of note was that psychological health can be mediated by comparing one's physical health with others; women with the poorest health who compared themselves downwardly with others worse off had similar psychological profiles as those women with in good physical health (1993). 'Social downgrading' was an additional concept put forward by Heckhausen and Brim. This is when an individual bolsters themselves using easier downwards comparisons with a generalised, stereotyped group with exaggerated negative qualities as opposed to

someone specific (1997). Finally, social capital theory suggests that social connections and connectedness can also be perceived as being resources which an individual can draw upon to protect them when faced with adversity (Farkas, 2018). This was evident in the findings of Kawachi's (2020) longitudinal study involving 3,594 older adults who survived the 2011 Iwanuma earthquake. Specifically, his research found that pre-disaster social capital stocks of survivors provided a resilient buffer against developing severe PTSD symptoms and the negative effects of residential relocation. Moreover, socially cohesive groups were able to join together to amplify their voices and needs. This aligns with the research of Wagnild and Young, 1993, who noted that, "individuals do not become or remain resilient on their own, and strong social bonds are known to facilitate adaptation in the face of adversity" (as cited in Taylor & Carr, 2020, p. 1248).

Whether resilience accrues through consistent exposure to adversity, emotional maturity, prioritisation of things which are meaningful and inspire positivity, comparison with others or social networks, older adults can clearly be an exceptional resource to draw upon in times of crisis (World Health Organisation, 2008).

Natural Hazards and Disasters

Definition and Types

"While hazards are natural, disasters are not". Natural hazards become disasters when they intersect with vulnerable, marginalised populations whose socio-economic inequalities impede their ability to prepare, endure and recover from their effects (Chmutina & von Meding, 2019, p. 284). This is recognised in the United Nations International Strategy for Disaster Reduction official definition of disaster as "a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the

affected community or society to cope using its own resources" (2009, p. 9). They highlight how using 'natural hazard' as a term can be inaccurate. It can minimise accountability for the disastrous consequences that can ensue, not from the hazard itself, but from human action or inaction in response to it and prevailing socio-economic inequalities which make sections of the population unduly vulnerable to its effects. For this reason, in current literature natural hazards are described as environmental disasters to capture the mechanism of the human element in converting a natural hazard into a disaster. For the purpose of this research, environmental disasters, and human-made 'unnatural' disasters such as terrorist attacks, chemical spills and radioactive fallouts will be collectively referred to as crises.

Environmental and other man-made disasters are place-markers in historical and personal stories. Their awful effects stake them in memories to the extent that they inspire narratives of their own around where people were and what they were doing at the time when they occurred. Previously, such disasters were stand-alone, discrete events (Leppold et al., 2022). Not so anymore. The effects of climate change, deforestation and the development of synthetic chemicals and materials have contributed to increasing the frequency and spread of multiple connected, overlapping disasters with farther reaching humanitarian and economic consequences than ever before (Lorenz et al., 2021; Quarantelli et al., 2018; Sengul et al., 2012). Increasing globalisation means that environmental disasters can easily disrupt global supply chains such as the 2011 Kojirahama earthquake and tsunami which prompted a nuclear power plant meltdown affecting stocks of major IT componentry world-wide (Cutter, 2018). Multiple disasters can take many forms including: consecutive disasters where one or more disasters occur after the first disaster before the initial effects are complete; compound disasters where the initial disaster causes or contributes to subsequent disasters (Cutter, 2018); cascading

disasters where an initial disaster triggers successive disasters with unexpected strong secondary impacts through complex, non-linear pathways of vulnerability (Pescaroli & Alexander, 2015); and recurring disasters where identical types of environmental disasters occur in the same region within a one-year period (Ferris et al., 2013).

Thus far there has been a dearth of empirical research into the effects of multiple, overlapping disasters on communities and populations. Leppold et al. (2022) conducted a meta-analysis of 1425 articles on the effects of multiple disasters published between 1994 and 2021 and found 150 which met their inclusion criteria of which just 28% were qualitative. Key outcomes of the meta-analysis were that mental health risks accumulated with exposure to multiple disasters and that post-traumatic stress disorder could be reactivated by another disaster irrespective of type. Hope, optimism, and psychological resilience were identified as protective factors for mental health which also facilitated coping after multiple disasters. Differences in timescales between exposure to disasters and their respective types did not appear to influence effects.

Older Adults and Disasters

It is well established that older adults experience disproportionately greater risks from disasters, particularly those with rapid onset which require quick response at odds with their typically slower rate of movement (Barusch, 2011). Older adults are often located at the intersection of age-related mental and physical health impairments and inferior socioeconomic means which sees them ageing in place in more affordable yet disaster prone areas such as flood plains (Keim, 2008, as cited in Alpass et al., 2016; Rafiey et al., 2016; Shih et al., 2018). Their pre-disaster circumstances can render them especially vulnerable as their available resources and capacity to effectively prepare for, respond to and recover from disasters may be insufficient for them to effectively cope (Ngo, 2001, as cited in Kawachi et al., 2020; Tuohy et al., 2014b). Oriol and Nordboe set out special

considerations for older adults in disasters including: potential sensory deprivation which can inhibit hearing, detection of spoiled food and smoke; delayed responses to emergencies and disaster relief offers from physical and cognitive issues; chronic illnesses which can deter them from seeking medicine and healthcare if they have become harder to obtain; requiring emergency food rations that aligns with different dietary needs such as those low in sodium which are easy to chew and open; potential internalisation of old stigmas relating to stoicism, the acceptance of help, and mental health issues; the exacerbating effects of extremes of cold or heat; transfer trauma relating to disorientation and distress of relocation; and issues with cultural and language differences with assistance workers. They explained how the compounding effects of losing significant people and possessions during a disaster can make recovery additionally challenging for older adults (1999). Gibson's guideline for addressing older adults' psychosocial issues in emergencies highlighted how even those who were functioning well prior to a disaster occurring may be tipped over into overwhelm by the additional stressors they encounter in a disaster (2008).

There is an overabundance of statistics reflecting the dire outcomes of disasters for older adults. Approximately 70% of the casualties from Hurricane Katrina in Louisiana were over 60 years old despite comprising just 15% of the population affected (Jenkins et al. 2007 and Adams et al. 2011 as cited in Kawachi et al., 2020) with most older victims dying in their homes and communities (Gibson & Hayunga, 2006). Over 50% of the victims of the 2004 Aceh, Indonesia Boxing Day tsunami were over 60 and over 50% of losses in the 1995 Kobe, Japan earthquake and 90% of the deaths thereafter were older people (World Health Organisation, 2008). These trends have continued unabated – older adults were over-represented in the 30,704 total deaths in 2022 from 387 natural hazards and disasters worldwide related to heatwaves (Center for Research on the Epidemiology of

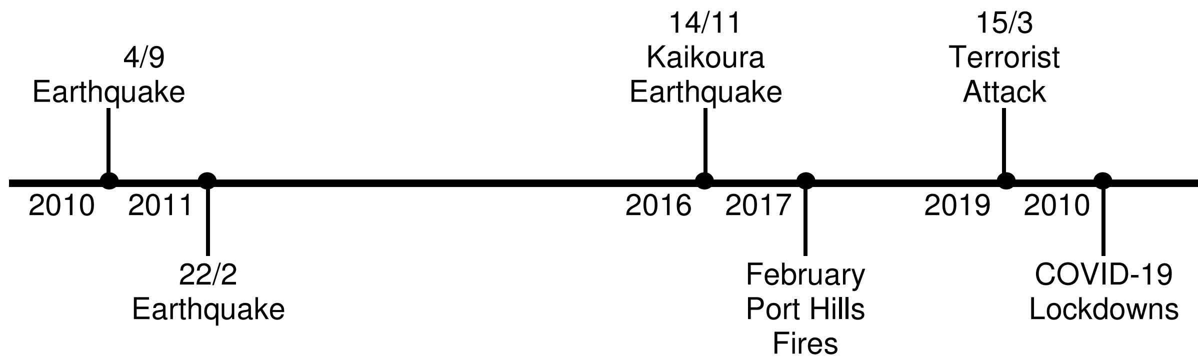
Disasters CRED, 2022). Older adults are reported as unable or unwilling to relocate despite the increased risks following a disaster including destruction of health facilities and loss of familial support. A survey of 1,513 older people involved in the ongoing Ukraine/Russia war found that 99% want to remain in their homes yet 91% are struggling to access food due to mobility and support issues and 34% are without critical medication for chronic illnesses (Wood, 2022). Domestically, statistics conveying the disproportionate effect of disasters on older adults have historically mimicked the international trends - the 1931 Napier earthquake involved significant spikes for those aged 65 years and older in the hospitalisation and death rates per 1000 population (Clement et al., 2019). Older adults were unduly affected by the 2010 and 2011 CES and 2020 COVID-19 pandemic, yet research considering the impact of these differing types of disasters on their ability to remain 'in place' continues to be underrepresented.

The Canterbury Experience

Over the research period between 2010 and 2020 Canterbury endured many environmental and man-made isolated, consecutive, compound, and cascading disasters as described below and illustrated in Figure 1.

Figure 1

Timeline of Canterbury Disasters



The Canterbury Earthquake Series (CES). The CES collectively refers to the earthquakes which numbered over 10,000 and ranged from magnitude 3 to 7 that swarmed the Canterbury region for over two years from 2010 (Tuohy et al., 2014a). These can be classified as consecutive, compound, recurring and cascading disasters insofar as the initial earthquake of 4 September 2010 triggered all which followed in the next two-year period and there were significant secondary impacts.

Despite New Zealand's moniker as the 'Shaky Isles', the CES was a tremendous shock and local and national authorities were totally unprepared for its consequences (Bakema et al., 2017; Forster, 2005). There had not been an earthquake that causing damage to the wider Christchurch area since the Motunau magnitude 6.4 event in 1922 (Bastin et al., 2015). The 4 September 2010 earthquake revealed what is now known as the 'Greendale Fault' – a faultline thought to have been last activated between 20,000 to 30,000 years ago which had laid undiscovered, hidden under river gravels (Hornblow et al., 2014). The magnitude 6.2 aftershock which struck Christchurch on 22 February 2011 in the middle of the day was very shallow and killed 185 people, causing damage of over $40 billion (Parker & Steenkamp, 2012). Unlike a one-off natural hazard like a hurricane or flood, the series of aftershocks effectively kept residents in a state of fight, flight or freeze for their two-year duration (Gluckman, 2011). There were significant secondary stressors, defined as "circumstances, events or policies that are indirectly related… to the index extreme event" (Lock et al., 2012, p. 3). Many of these were related to the lack of essential services such as sewerage and water supplies, living in damaged or substandard alternate accommodation, and difficulties in attaining insurance payments for housing repairs and rebuilds (Lock et al., 2012). Residents were worn down through being locked into 'damage-insurance processing-rebuild' cycles necessitated by ongoing damage sustained in the aftershocks (McColl & Burkle, 2012). Those residents with lower socio-economic

resources with property in the cheaper eastern city suburbs fared substantially worse - their homes and communities were built on low lying soft coastal soil already vulnerable to flooding and experienced greater liquefaction and incurred greater damage (Annear et al., 2014). Other downstream stressors included: the rapid demolition of iconic heritage buildings which occurred often without consultation or a systemic heritage conservation plan (Swaffield, 2013); the withholding of key sports and music events due to the loss of the city's large stadium; and the disbursement of 40,000 inner city workers across other areas of Christchurch. In addition, many residents had to contend with increased vulnerability to flooding. The CES caused 86% of central and eastern Christchurch to subside and permanently altered its rivers and channels with massive silt deposits through liquefaction. The city's subsurface drainage and infrastructure such as storm and wastewater pipes were overwhelmed and irreparably damaged (Taylor et al., 2018). River suburbs consequently experienced widespread flooding, most notably in the heavy rain events of 2014 and 2017 which broke pre-existing historical flooding depth records (Quigley & Duffy, 2020).

Older adults in Christchurch were significantly affected by the CES. At the time of the 2010 earthquake approximately 14.3% of the city's population was 65 years of age or older and residing with the greatest concentration in the west and the next largest in the east (Statistics New Zealand, 2017, as cited in Joanne Allen et al., 2018; Annear et al., 2014), The February 2011 aftershock caused significant damage to units predominantly occupied by older adults on low incomes who were relocated and subsequently struggled with increased isolation and coping in the new environments (Christchurch City Council, 2014). Moreover, a higher than normal figure of 104 of 520 nursing home residents died out of those who required evacuation to other care facilities throughout New Zealand (Gutschlag, 2011, as cited in McColl & Burkle, 2012).

Other Disasters. The CES prompted additional consternation about the overdue rupture of the Alpine Fault that runs 450km down the West Coast. This fault is anticipated to generate a great earthquake of over magnitude 8 which would likely cause even more casualties than the CES and significant widespread damage nationwide (Orchiston et al., 2018). In addition to the main aftershocks which Christchurch experienced, on 14 November 2016 there was a further 7.8 magnitude earthquake that struck Kaikoura, North Canterbury, which was felt throughout all New Zealand. It triggered 100,000 landslides, killed 2 people and injured hundreds while incurring direct costs of between NZ$2 – 3 billion (The Treasury, 2010, as cited in Hatton et al., 2017; Morton, 2016). In February of 2017 the Port Hills fires burned 1660 hectares of land, destroying 9 homes and necessitating the evacuation of 1400 residents (Pearce, 2018). On 15 March 2019 a white supremacist shot and killed 51 people at 2 mosques in Christchurch, locking down the hospital and schools across the city for 4 hours (Besley & Peters, 2020). COVID-19 then came to Canterbury in 2020.

COVID-19. COVID-19 is a biological natural hazard which can be considered a 'cascade' - a disaster that initiates subsequent crises such as higher infection and mortality rates in minority groups through pre-existing socio-economic inequalities in health, living conditions and health-care (Chaudhary & Piracha, 2021; Thomas et al., 2020). Like the Christchurch earthquake series, the coronavirus disease 2019 (COVID-19) was unexpected and shocking. Since its emergence from Wuhan, China, in 2019, it has continued to exact a heavy physical and mental toll. As at 20 June 2023 globally there has been 767,984,989 confirmed cases and 6,943,390 deaths, and domestically 2,397,065 confirmed cases and 3,038 deaths (World Health Organisation, 2023). Those surviving are still at risk; the virus has been shown to exacerbate the mental health of individuals with pre-existing mental health disorders and contribute to the onset of stress-related disorders

for those without (Horesh & Brown, 2020). So multi-layered and complex are the effects of the virus on mental health that it has been proposed to add a new subtype of continuous cumulative stress to the established trauma model to better enable diagnosis and treatment (Kira et al., 2021). COVID-19 has many characteristics which make it a unique type of trauma including its "uncontrolled invisibility" (Kira et al., 2021, p. 2), and the ease with which it can be rapidly contracted through air (Fazio et al., 2021). Although it infects indiscriminately, the people most negatively affected are consistently those who can least afford it - people living in deprived areas have double its mortality risk due to household crowding and underlying comorbid health conditions related to historical inequitable socioeconomic factors (Manatū Hauora Ministry of Health, 2022; Statistics New Zealand Tatauranga Aotearoa, 2020a; Wiki et al., 2021).

New Zealand attracted global attention for its stringent COVID-19 policy of "go hard, and go early" (Ardern, 2020, para. 11). All international arrivals were required to self-isolate for 14 days despite recording only 6 COVID-19 cases from March 14, 2020. Country borders were closed for everyone except NZ citizens and permanent residents on March 19 with just 28 domestic COVID cases established. Once community transmission was confirmed and with no deaths yet recorded, citizens were provided just 48 hours' notice to prepare for a nation-wide lockdown which lasted from 26 March to 27 April 2020 (Jamieson, 2020). During this time everyone except workers in essential services were mandated to isolate within their homes (Jamieson, 2020). The Government garnered support for their policy by uniting citizens behind slogans which emphasised them working as one "team of 5 million" (Beattie & Priestley, 2021, p. 4). Despite the impositions on their personal freedoms, citizen polling over the period consistently showed a solid majority trusted in the Government response to the virus (Cooke, 2020).

Adults over 70 years old were singled out early and asked to stay home in accordance with alert level 2 of the 4 tier system from 21 March 2020 (Beattie & Priestley, 2021). This was in accordance with global evidence that older adults were another primary risk group for higher COVID-related mortality and complications, estimated to be 5 times more likely to die from the virus than those between the ages of 30-59 (Neumann-Podczaska et al., 2020; Wu et al., 2020). The toll on New Zealand's older population has indeed been extreme - as at 29 March 2023 the Ministry of Health Manatū Hauora reported that nearly 95% of COVID-related fatalities were those over 60 years of age (Ministry of Health Manatū Hauora, 2023).

Existing Research

Ageing in Place through Disasters

There is limited existing research on older adults ageing in place throughout disasters over time. Although Bell et al.'s (2021) study on the ageing in place experiences of older adults throughout Hurricane Irma and Harvey in 2017 was conducted through the lens of home-based care providers located in America it still offers some useful insights. They noted the key role of home and belongings to the identity and ongoing wellbeing of older adults ageing in place and recommended their prioritization throughout disasters as best able. Their participants observed how overly complex applications, lower education levels and issues with transport and technology became barriers to the access of disaster relief and insurance. They found evidence that older adults rely more on trusted community networks, neighbours, and friends over formal government agencies when it came to preparing for disasters and evacuating when needed. A qualitative study by Tuohy and Stephens' looked at the 2007 flood evacuation experiences of 4 older adults from a rest home and 5 older adults living independently in Kaitaia, far north of New Zealand (2010). They found that compared to the rest home group, the adults living independently had far

worse outcomes due to social vulnerability that contributed to their residence in a flood-prone area and socially disconnection with the wider community which meant that they were overlooked for assistance. The researchers suggested that socio-cultural norms of independence underscored the self-blaming of those living independently and lack of consideration that others also shouldered responsibility for their care. In contrast, the rest-home residents felt protected by the nursing staff and emergency personnel who helped them to safety. A 2009 meta-analysis by Powell et al. of 16 international case studies on the impact of various world-wide disasters on older adults identified how the environments of older adults including their geographical location, residences, surrounding infrastructure and social connections all determined their level of vulnerability in and after a disaster (2009). Pending the strength of these, the meta-analysis found that in many of the cases, the social relationships of older adults were disrupted or lost due to social isolation, marginalisation, or abandonment. It found further evidence that the success or failure of outcomes for older adults were largely contingent on their contributions to emergency planning and policies prior to the disaster occurring. Those who weren't included in some cases were described as invisible to first responders who made inaccurate assumptions about their care. Things which negatively affected older adults in the recovery phase were identified as insufficient or premature withdrawing of financial and support services and overly arduous processes to obtain them as well as unsuitable housing rebuilds and exclusion of older adults from community engagement processes. Although these studies made valuable contributions to furthering the research field of older adults living independently through disaster, they all focused on isolated events as opposed to considering the impact on ageing in place across time and multiple disasters.

Resilience in Disasters

One such study which has considered the impact of exposure to multiple crises over time on older adults was Shrira et al.'s research into maturation and inoculation theory among older adults (Shrira et al., 2014). This study used the online questionnaires of 1,000 participants including 176 older adults over the age of 60 completed a month after Hurricane Sandy in 2012 which reported their post-traumatic stress disorder (PTSD) symptoms following the Hurricane and degree of exposure to the World Trade Center terrorist attack in 2001. In support of inoculation theory, it found that previous exposure to the previous terrorist attack appeared to moderate the experiencing of PTSD symptoms following the Hurricane 11 years later. Importantly, it also suggested that the benefits of inoculation can accrue irrespective of the type of disaster encountered. Other findings were incongruent with maturation theory; those older adults with little previous exposure to the World Trade Center attack appeared less resilient through the reporting of greater PTSD symptoms in response to Hurricane Sandy than younger adults. Although Shrira et al.'s study looked at changes in people's resilience in response to disasters over a similar period of time as this research, it did not also consider how their ability to age in place was also impacted. Closer to home in Australia, Brockie and Miller (2017) explored how resilience was facilitated by social capital or life and previous disaster experience for 10 older adults evacuated in the 2011 and 2013 Brisbane floods. They found that resilience was highly contingent on social capital and networks; participants who coped better had social resources to draw upon to help with flood preparations which they found had become harder with age between the events such as moving furniture and sandbagging. Their findings also supported inoculation theory insofar as those participants who framed their previous flood experiences positively appeared to cope better in the 2013 floods. Consistent with the experiences of older adults in the aforementioned Kaitaia, New

Zealand, floods, those without social support appeared reluctant to seek and accept help due to socio-cultural norms of independence and reported greater negative outcomes. They subsequently recommended the development of broader social networks for older adults to enable greater chance of support in disasters as opposed to relying on family who may no longer be available for help at the time. This research was highly relevant in considering the impact on resilience for older adults ageing independently over flooding events two years apart, however this current research aims to explore older adults' experiences over a much longer timeframe and across multiple different disaster events.

Canterbury Earthquake Series

A 2018 study into the health status of 428 older Cantabrians following the 2010-2011 earthquake series is particularly pertinent to this research (Joanne Allen et al.). This research detected differences between the pre-quake profiles of older Cantabrians and their subsequent perceptions of negative earthquake-related impacts. Those who reported greater impacts and levels of distress weren't in paid employment and had poorer living standards and pre-disaster mental and physical health profiles. They were more likely to have been exposed to the effects of the earthquakes by virtue of their residence in more affordable suburbs prone to liquefaction as outlined above. This research also aligns with the outcomes of Kuijer et al.'s Christchurch study of 185 people's assessment of post-earthquake PTSD symptoms and sense of normality in comparison to pre-quake variables of neuroticism, optimism, self-control, and depression. It found that neuroticism was a robust predictor of post-earthquake adjustment; individuals with higher scores of neuroticism tended to appraise stressful situations as more negative and threatening, and subsequently experienced greater difficulty coping (2014). Tuohy et al. explored 10 older adults' preparedness for the earthquakes in a 2014 qualitative study (2014a) which identified the three themes of 'personal protection', 'practical preparedness', and 'social

preparedness'. 'Personal protection' highlighted the inappropriateness of universal earthquake preparedness guidelines which failed to consider limitations in older adults' functioning and increased fear of falling. 'Practical preparedness' for the earthquakes was found to be limited by lack of information, physical impairments, and demotivation following previous earthquakes. 'Social preparedness' involved the importance of social support and connection on older adult's preparedness and wellbeing throughout the CES. In addition, this study highlighted the risk of deterioration in the resilience of older adults previously ageing well in place when added disaster preparation demands and greater emotional and physical support requirements exceeded current capacities. These studies added a greater depth of understanding to the nuances of resilience of people affected by the CES, however not all had older adults as their primary subjects, and none considered their experiences across time and through other crises.

COVID-19

Other literature also pertaining to an isolated, specific type of crisis, COVID-19, was useful in providing valuable insights into the social vulnerabilities of older adults. A meta-analysis of 30 studies conducted over the pandemic of 28,050 participants aged over 65 revealed a pooled period prevalence of loneliness of 28.6% and social isolation of 31.2% with higher estimates occurring after the first three months (Su et al., 2022). Another meta-analysis of 10 comparative studies with an average cohort of 8,239 participants over 50 years of age with no diagnosis of dementia at time of enrolment found that older people who experienced prolonged social isolation and loneliness had a greater risk of developing dementia of between 49 to 60% than those who did not (Lazzari & Rabottini, 2022). In New Zealand, an analysis of online media from major domestic media groups 18 months before and after the pandemic found that nearly three-quarters of the data set (comprising 6690 phrases from articles containing the term "elderly") framed older adults negatively,

with 34% described as ‘vulnerable’, 21% as ‘declining’ and 19% as ‘burdensome’ (Amundsen, 2022). This was reflected in Stephens and Breheny’s thematic analysis of 730 national questionnaires of community-dwelling older New Zealanders which revealed how many people aged over 70 resented messaging that “singled [them] out as vulnerable and told [them] to stay home” and which prompted the internalisation of damaging ageist stereotypes (2022, p. e25). Despite these negative effects, the study found that anxiety during lockdown for those already retired, working at home, or receiving wage subsidies was largely ameliorated by perceived support from family members, other citizens, and the government. This was not the case for informal carers and people who were essential workers or had lost their jobs.

There is a clear lack of literature which explores how older adults’ resilience and ability to age well independently in place is impacted by experiencing multiple crises over a significant length of time. This research aims to address this gap, focusing specifically on the experiences of older adults throughout the period bookended by the CES commencing in 2010 and the 2020 COVID-19 pandemic in Canterbury, New Zealand.

Chapter 3: Methodology

The narrative approach was chosen as the ideal analytical vehicle for this person-centred study. It enabled both the participants and the researcher to make cohesive, contextual sense of their experiences ageing in place across time and throughout crises which may have been understandably turbulent. This section will outline the methodology for this study, specifically its epistemological and ontological foundation, narrative psychology, and the types of narrative analysis used.

Epistemology and Social Constructionism

Epistemology concerns the nature of knowledge; it explains and justifies how knowledge is known. In provides founding, fundamental guidelines for information gathering and processing with research methods and methodology (Crotty, 1998). There are different epistemological positions which have been developed over time concerning the nature of knowledge. According to positivism, knowledge is confirmed through an empirical, objective process involving the scientific observation, measurement, and assessment of phenomena. Accordingly, knowledge which can't be measured is not considered factual. At the polar other extreme is social constructionism, which assumes that human knowledge is subjective and filtered through multiple levels of influence including gender, social class, race, ethnicity and language. (Denzin & Lincoln, 2005). It also acknowledges and makes space for the effect of prevailing historical, political, cultural, and moral forces (Burr, 2015). This research takes a social constructionist position – it posits the participants as the sole source of knowledge and information about their subjective experiences in the world, across their lifespan and the research period. In so doing, it accords with the following assumptions about social constructionist inquiry as outlined by Gergen (1985): individuals can't conclusively determine that their experiences of the world and assumptions about knowledge are universally true; understanding of

knowledge is produced through interchange between people which is mediated by social and historical influences; social processes of exchange such as communication, negotiation and conflict determine how the understanding of knowledge is sustained, changed or abandoned over time; the way in which these social processes are conducted invites and excludes certain social patterns, and therefore vitally contributes to how knowledge is perceived.

Social constructionism marries well with the narrative analysis methodology which isolates and articulates its prevailing contextual framework to give insights into the world, position and experiences of the participant, the knower.

Narrative Psychology

Narrative psychology describes a "social constructionist approach towards the study of self and identity" (Crossley, 2000, p. 528). Through the selection, ordering and telling of events specifically and often subconsciously chosen to convey a particular message, narratives help people make sense of themselves, their experiences, and others around them (Crossley, 2000). Respecting the location of participants at the intersection of ageing, crises, and independent living, this approach was selected as the best vehicle for discerning the multiple social, cultural, and political influences within their stories. It provided a window into participant's unique understandings of their experiences living through multiple crises across time and revealed those elements which were most salient and impactful to them.

Narrative Analysis

Narrative analysis is an approach used to interpret an individual's stories and provide insight into their social, cultural and political location, how they make sense of their world and how they wish to be perceived (Phoenix et al., 2010; Wong & Breheny, 2018).

Master narratives are widely accepted, dominant discourses imbued with socio-cultural values and expectations of how people should present their story (Delker et al., 2020). An example of a master narrative about trauma would be a story that follows a recognizable trajectory – first the adversity which the protagonist encounters is established, then how they overcome it is described, and in conclusion the personal growth they developed as a result is summarised (McAdams, 2006, as cited in Delker et al., 2020). Audiences are habituated to this format and wait in anticipation for the positive ending. People whose stories don't follow this expected trajectory are subsequently rejected, stigmatised, and silenced (Delker et al., 2020). Drawing out the real stories of those constrained by the moral imperatives of master narratives and bearing witness to their struggle is therefore a key feature of narrative analysis. These counter-narratives which challenge the accepted prevailing dominant master narratives are equally powerful if not more so, as they make space for the acceptance of alternate ways of being and doing (Phoenix et al., 2010).

There are numerous types of narrative analysis which focus on either the content of stories or the way in which they are told to reveal meaning and reflect on the culture of the moment (Stephens, 2011). The choice of analysis does not have to be fixed; rather, oscillating between them can enable the researcher to explore data from different angles to provide multiple perspectives and insights into the narrator's social world (Phoenix et al., 2010).

Murray (2000) proposed four levels of content analysis for health and illness narratives which are particularly pertinent to the experiences of older adults who are the subjects of this research. The first level of analysis is the personal level where challenging events that have caused disruption are expressed and resolved. Within this level, ontological meaning can be grappled and ultimately resolved, and identity and self-concept

are defined, reaffirmed or reconstructed (Stephens, 2011). The second is the interpersonal level which considers that the narrative listener effectively co-authors the narrative through their implicit and explicit interaction with and responses to the narrator. Even in open-ended interviews such as was used in this research, the interviewer has influence over the narrative through the nuanced ways in which they respond to the narrative as it unfolds; body language or active listening skills knowingly or not impart the subjective judgement of the interviewer in real time, causing the narrator to adjust their story if they perceive that they are not being understood as they wish to be (Murray, 2000; Randall, 2001). The provision of the topic of interest that will be explored in an interview may furthermore prime and influence the participant to tell a particular type of story that they perceive is desired. This may affect which events are included or left out of their stories to be relayed in response which may not necessarily reflect the truth of their experiences (Murray, 2000). The third level is positional and considers the differences in the social characteristics of the interviewer and participant such as socioeconomic status, social class, race or gender prior to their meeting (Stephens, 2011). For example, in the case of this research, a researcher who is younger and fitter than participants may prompt participants to tell stories that attest to their own health choices and active lifestyles. The final level is ideological and involves the analysis of social and cultural influences and beliefs embedded within the narrative. At this level, researchers may consider historical influences to which the narrators themselves may be oblivious such as the far reaching effects of intergenerational trauma (Stephens, 2011).

Feldman et al. (2004) explained how analysing the way in which narratives are told, what things are chosen to provide explanation and what is left out can also reveal meaning. Their process involves three levels of analysis. First, the basic point or points which the researcher believes the narrator is trying to make is summarised. Second, the

narrative is scanned for oppositions which are explicit or implied. Oppositions can be concealed in contrasting statements such as when a narrator explains what is wrong with them which by inference guides their audience to understand their position on what is right. Third, enthymemes, or arguments where a premise is explicitly omitted or implied, are identified (Feldman et al., 2004). Enthymemes are a persuasive device used by narrators to indicate taken for granted knowledge or to gloss over a controversial topic which may invite questions that reduce their credibility (Bennett & Feldman, 1981, as cited in Feldman et al., 2004). They make the audience's agreement to a narrator's statement complicit through an implicit obligation to either confront the statement or, through their silence, agree. In analysing narratives for enthymemes the researcher can help discern the wider context of the narrator's argument (Feldman et al., 2004).

Wong and Breheny described how the purpose of a narrative can be revealed through its structural form (its abstract, orientation, complicating action, evaluation, resolution and coda) (Labov, 1997, as cited in Wong & Breheny, 2018), or through distinguishing the broad genre such as comedy or tragedy to which its plotline generally adheres. They identified how digressions can furnish narratives with further information required for audience understanding and how the stopping, starting, and re-introduction of stories can provide gems of meaning. Narrator hesitancy or discomfort, use of humour, and repetitive refrains can indicate tension and reinforce the narrator's message (Wong & Breheny, 2018). They also recommended examining the stage and setting chosen by the narrator to shape their narrative as well as those which were likely but rejected. The importance of considering what their choice means for the assignment of rights and responsibilities of participants within it was furthermore underscored. Cultivating awareness of when characters are cast according to commonly known master narratives such as hero, victim or villain was also important. These are cognitive framing

mechanisms which narrators can draw upon to subtly guide audience perception without making outright statements of judgement, thereby avoiding blame while still casting doubt on people's motivations (Wong & Breheny, 2018). Irrespective of the type of analysis used, the final step always considers how the analysed section fits with the broader overall narrative and what it contributes (Wong & Breheny, 2018).

Narrative analysis is especially suitable for revealing meaning in the stories of older adults, who "construct their identity partly through recalling their past lives" (Norrick, 2009, p. 904). Their extended lifespan means that they have a greater number and variety of stories to reference in explaining their stories, and for this reason may oscillate between the past and present more frequently than younger narrators (Boden & Bielby, 1986, as cited in Norrick, 2009). Narrative analysis can also reveal changes in identity and self-concept which occur over time and with age, and reveal the influence of the social worlds they inhabited along the way (Norrick, 2009; Wong & Breheny, 2018). The historical social and cultural norms of the moment in time in which the narrator has lived can constrain or enable the wider, social master narratives available to them (Wong & Breheny, 2018). For example the master narrative about older adults has evolved over time and changed from viewing it as a period of infirmary and decline to one of fitness, ongoing contribution and active social engagement (Breheny & Stephens, 2019, as cited in Wong & Breheny, 2018).

Trauma/Disaster Narrative Analysis

Narrative analysis is also useful for stories involving trauma and disaster which are unpredictable and unexpected. Like a serious and unanticipated illness, they can cause biographical disruption and shatter the ontological security afforded by assumptions of how lives are to unfold (Crossley, 2000). For older adults especially, crises can bring into sharp focus age-related vulnerabilities and cause additional distress and suffering through the meaning they attach to them (Brody, 1987, as cited in Crossley, 2000; Delker et al., 2020).

Narrative has the power to reinstate agency and control through the sense making which occurs in the process of telling (Crossley, 2000). As the unfolding of events are relayed, the retrospective pathway which led to the current situation is illuminated and explained, and order is restored (Crossley, 2000; Wong & Breheny, 2018). Through the recognition of values inherent in the stories relayed, self-concept and identity which were temporarily suspended in crises can be reified or transformed (Stephens, 2011). Narratives are furthermore a powerful method of communicating, motivating behaviour and decision making, and bolstering resilience in times of emergency and crises. Seeger and Sellnow (2016, as cited in Liu et al., 2020) identified five crises master narrative types: the blame narrative which attributes responsibility for crises and requests penalisation; renewal narratives which focus on learnings from mistakes, restoration and healing; victim narratives which personifies the underserving harm wrought on the narrator; hero narratives which elevate protagonists who triumph during crises; and memorial narratives which "celebrate human resilience, contribute to healing, and create larger meanings about crises" (Seeger & Sellnow, 2016, as cited in Liu et al., 2020, p. 330). Bearing witness to the selfless acts of others in crises and attributing credit through their telling can furthermore assuage a narrator's ethical sense of injustice (Carlin & Park-Fuller, 2012).

Chapter 4: Methods

Participants

For this study 14 participants (nine female and five male ranging from ages 72 – 88, mean of 78) were recruited from with Christchurch and surrounding areas. Pakeha participants were required to be over 77 years old and have resided independently of retirement villages or rest homes in Christchurch since 2010. In consideration of the well-established seven-year mortality difference between Māori and non-Māori, Māori participants were included from ages 68 and up and the final sample included one Māori female and male, aged 72 and 75 respectively. The remainder of the sample comprised of Pākehā and one British female. Five participants were married (including one participant who had recently moved to a new house on his own when his wife moved into a dementia care facility), five participants were divorced, and four were widowed.

The recruitment strategy endeavored to attract participants from varying socio-economic areas. This was in recognition that people living in lower socio-economic areas to represent a broader range of experiences. The New Zealand Index of Deprivation (NZDep), which uses decile scores that range from 1 (least deprived) to 10 (most deprived) was used to indicate the degree of socio-economic depravity of the participant's location of residence. At the time of the 2010/2011 earthquakes, half of participants resided in locations with a NZDep of 5 and under and half with a NZDep of 6 and upwards. Eight participants remained in their original home since the earthquakes and one participant had rebuilt on existing land. Five participants had moved, two because their previous home became uninhabitable in the earthquakes.

Participants were recruited via advertisements placed on Facebook community pages and through existing acquaintanceship networks. Advertisements were placed on

the St Albans, Edgeware, Mairehau & Merivale Community page, the Aranui & Wainoni Community page, the Bromley Residents Group, and the Riccarton Neighbourhood Updates Group (Appendix A). Of these, one person responded and was subsequently recruited from the Riccarton Neighbourhood Updates group. The other participants were sourced via a snowballing process whereby people known to be a particularly good fit for the criteria with relevant knowledge and experience were approached by key contacts known to the researcher. The process of being vouched for by people known and trusted by the participants enabled rapport to be quickly established and a rich depth of sharing of experiences and thoughts.

Procedures

Ethical approval was gained from the Massey University Human Ethics Committee prior to undertaking this research (Southern B, Application SOB 22/18; Appendix B). Participants were emailed or posted hard copies of the information sheet to apprise them of the research purpose and provide background information about the researcher and reassurance of steps that would be taken to provide security around COVID-19 (Appendix C). The potentially distressing topics to be discussed pertaining to participant's experiences of crises were also signalled here in advance and participants were advised that they could avoid answering questions if they so wished. Consent forms (Appendix D) were also included to establish that participants had been informed about the study, had all questions answered, been allowed time to consider their voluntary participation and understood that they could bring along someone as a support person or co-participant, and could withdraw at any time. The signed consent forms were all sighted prior to interviews commencing, and when phoning to confirm an interview time the researcher again verbally summarised again the purpose of the study before proceeding.

Interviews were conducted between 3 and 22 August 2022 with two participants already known to the researcher requesting their interview at the Researcher's residence. Other interviews took place in a café and a church meeting room. The remaining ten participants elected to be interviewed in their own home. Although this was a low-risk study, processes were put in place to mitigate risk as per the risk assessment guidelines set out in Appendix E which included: notification to the researcher's supervisor and husband regarding location of interview and time of arrival and departure and steps to take if notification wasn't received; confirming the absence / restraint of aggressive pets; and COVID-19 protections such as the researcher's confirmation of a same-day negative rapid antigen test, physical distancing and mask requirements. Interviews were conducted at a time preferred by participants which was typically mid-morning. Morning tea was provided by the researcher for the participants and sufficient time was allowed for them to be well settled and comfortable before starting. The signed consent form was reviewed and verbally explained, and any remaining questions were answered. The purpose of the interview was reiterated, and an overview of the interview structure as per the interview schedule set out in Appendix F was verbalised. The schedule reiterated the aims of the interview which were to: document their experiences of the CES and pandemic lockdowns; represent the crisis-related stories of older Cantabrians; and better understanding the role of resilience and how it changes with time. It additionally provided a list of broad questions aimed at capturing these areas around what things helped them cope throughout the respective crisis events, how prepared were they for each and how they accessed information needed at the time. A matrix that set out questions concerning dimensions relating to resilience, ageing well in place, social connection, resources, technology, and the media was attached for prompting and to ensure that all key areas were uniformly covered. The interview commenced by the researcher asking the participant to provide

some biographical information such as age, marital status, location of siblings and children or grandchildren to orient themselves and provide a familiar starting point. It generally unfolded that items from the interview schedule were organically covered off in conversation without many specific questions having to be asked which indicates the comfortability of participants throughout. The researcher ensured that ample time was provided to enable participants to discuss topics which came to them with ease, to build trust and encourage a natural flow of conversation. This was evident from the varying lengths of interviews which ranged from 59 to 183 minutes in duration. The average interview length of time was 109 minutes.

Most participants could talk about their experiences during the earthquakes and pandemic without upset with two exceptions. One participant became distressed discussing the loss of their home and support services were discussed and contact details emailed after the interview concluded.

Māori Cultural Considerations

In accordance with Māori tikanga the researcher first met with the Māori female participant along with the contact who introduced her at a café the week before the interview took place. This provided an opportunity for whakawhanaungatanga and for whakapapa links between the researcher's family and her own to be established (Crengle & McCreanor, 2006). In one interview the Māori participant opened with a karakia. Both interviews with Māori participants were prefaced by the researcher with an acknowledgement that the structure of the interview and research questions were not reflective of a Māori worldview. As per the recommendation of Massey University Kaiwhakahaere an overview of the expected interview structure and topics were provided.

Data Analysis

The audio interview files were converted to text transcripts using Otter AI software which were then cross-checked against the original audio files for accuracy. Different participant speech patterns meant that transcription accuracy varied considerably as some participants annunciated more clearly, and others ran their words together which resulted in different results. This validation process facilitated deep immersion and familiarization with the data, as did the multiple re-readings of the final transcripts. Five participants indicated on their consent form that they would like to review the interview transcripts and confirmed via email that they were satisfied that their content was accurate. From here each transcript was coded using NVivo software. Using the software the transcripts were then initially searched for references of key topics relating to the research question which had been covered off as per the interview schedule as well as their synonyms and derivatives such as 'compare', 'resilience', 'earthquake', 'damage', 'home', 'property', 'insurance', 'COVID-19', 'pandemic', 'health', 'lockdown', 'prepare', 'connection', 'neighbourhood', 'media', 'technology', 'communicate', 'support' and 'help'. Examination of these excerpts began to establish what common narratives which then informed further such searches for terms around 'luck', 'optimism', 'hard', 'difficult', 'move', 'elderly', 'vulnerable', and 'future'.

Once the key narratives had been established they were evaluated against the various types of narrative analysis described in the methodology section. Murray's four levels of content analysis for health and illness narratives (2000) guided the exploration of: participant's personal expression of their experiences and challenges and how they resolved them and what this meant for their ontological self-conceptualisation; ways in which they adjusted their responses in accordance with the interviewer's ongoing reactions; how differences in socio-economic status, social class, race, gender and

education levels may have affected their narratives; and what social and cultural influence and reflections of dominant master narratives were embedded within them. They were furthermore evaluated against Feldman et al.'s (2004) narrative guidelines to identify the key points they were trying to make, and the presence of implicit or explicit oppositions and enthymemes. These were once more examined to explore the motivations underscoring participant choices in telling their stories in the way they did as per Murray's guidelines described above. The narratives were lastly reviewed against Wong and Breheny's (2018) recommendations on the analysis of structural form. This enabled the identification of potential motivations behind participant's linguistic patterns and irregularities such as repetition, stuttering, hesitancy, digression and use of humour. As a final step the resulting analyses were re-examined for interpretive accuracy and their contribution to the wider context of the research topic assessed and evaluated.

There were many resulting extracts and analysis which were relevant and could easily have been included. After careful deliberation only those which were deemed as having the most applicability and significance to the narratives were selected for discussion. The strength of this approach is that it is underscored by social constructionism; narratives are organically derived from the participants who are considered the source of knowledge for this research.

Chapter 5: Findings

The stories participants told about their experiences living independently in Canterbury throughout multiple crises since 2010 were expectedly diverse. Some participant's lives were significantly changed by the earthquakes and others hardly at all; some still lived in fear of COVID and others as though it was already an afterthought.

Participant Introduction

Before presenting the narratives, it is pertinent to introduce the participants. Table 1 displays relevant demographic information as well as identifies who was residing with the participant ("living companions") as at the time of interview. The earthquake damage listed is not sourced from official records but rather reflects the participant's own description of the level of damage incurred to their residence.

Table 1

Participant Overview

Pseudonym	Age	Gender	Living Companion	Housing Type, Tenure & Deprivation Index (DI; 1 lowest -10 highest)	Earthquake Damage to Home	COVID-19 Infection	Significant Events between CES & Lockdown
Caitlin	82	F	None (widowed from long-term partner)	Own home, 33 years, DI 6	Minor	No	Death of partner Mastectomy
Delia	79	F	Daughter and SIL (widowed)	Daughter's home (temporarily), 5 months, DI 1	Minor	No	Death of husband
Elizabeth	77	F	Husband (Richard)	Own home, 26 years, DI 8	Minor	No	Death of daughter
Ellen	88	F	None (widowed)	Own home, 12 years, DI 1	Minor	No	Death of husband
Emma	81	F	None (divorced)	Own home, 11 years, DI 1	Major (rebuild)	Yes	Death of brother
Florence	78	F	None (divorced)	Own home, 30 years, DI 3	Major (rebuild)	No	Daughter's wedding
Hilary	84	F	None (divorced)	Own home, 8 years, DI 2	Minor	No	
John	80	M	None (wife in dementia unit)	Own home, 2 months, DI 5	Minor	No	Primary carer for wife with dementia until her relocation to a care facility
Kent	76	M	None (divorced)	Own home, 14 years, DI 7	Minor	No	Death of mother Heart attack
Marama	72	F	Daughter (widowed from long-term partner)	Daughter's home, 5 years, DI 1	Minor	No	Primary carer for partner after stroke Mini-strokes
Mary	78	F	None (divorced)	Rental, 30 years, DI 7	Major (structural)	Yes	Death of son
Matiu	75	M	Wife and 5-year-old grandson	Own home, 30 years, DI 9	Minor	Yes	Primary carer for wife with Multiple Sclerosis
Raven	76	M	Wife and adult son	Own home, 36 years, DI 5	Minor	No	Marital separation and reunion
Richard	79	M	Wife (Elizabeth)	Own home, 26 years, DI 8	Minor	No	Death of daughter

Which Crisis Experience was Harder

When asked which crisis they considered had been hardest on them, six participants said the earthquakes, seven said the pandemic, one said they were evenly hard, and another offered an alternative view. Those who reported their experiences of living throughout the CES were harder than the pandemic included sisters Florence and Emma whose homes were both destroyed. Florence presented herself as a homebody and explained that she was hugely affected by the loss of her beloved home which was eventually rebuilt on the same land. Emma described how people were more important to her than possessions. She had subsequently sold her rebuilt hilltop home and downsized to a nearby townhouse on flat ground. Emma didn't know anyone who had died from COVID-19 but had friends who perished in the CES which was, "devastating to [her]". Raven lamented the modern buildings which replaced the lovely old architecture and disliked the sense of dislocation he experienced due to the lack of familiar landmarks. Richard explained that the earthquakes were harder on him due to the fear of the unknown and Elizabeth admitted to being seismophobic. Such was her fear of earthquakes that she permanently lost hearing in one ear after, "scream[ing] [her]self deaf" when the Kaikoura 7.8 magnitude earthquake struck and nearly upended their caravan in 2016.

Conversely, Kent and Delia both perceived the pandemic as being hardest on them due to the loss of connection with others. They both noted how the comparison between to the two events was stark. Kent explained how throughout "the earthquakes, we became closer ... everybody was on the same page and we were all doing our thing. The pandemics, the pandemics we had to separate". Delia's experience was additionally compounded by the loss of her husband in 2019. She "sum[med] it up … that the earthquake, there was no loneliness. There was a togetherness. The pandemic, there was loneliness". John explained how the pandemic made him lose connection with his wife who

he was prohibited from visiting at her dementia care facility over lockdown. Caitlin, Hilary, and Ellen all expressed how the pandemic was harder on them because of the confining effects of lockdown. Caitlin explained how the "earthquakes weren't confining. I didn't find them confining anyway. Just shake, shake, shake, shake, ongoing". Hilary told how the pandemic "quietened [her] life down a lot", partly because when it arrived many of her friends had passed away and those who remained became more secluded. Ellen noted how the pandemic "does restrict you a little bit, or it did me. I sort of thought twice before went places and that sort of thing". Despite being in the centre of town near the collapsed CTV building immediately after the February 2011 earthquake Marama also named the pandemic. She explained how COVID restrictions forced Māori to compromise their tikanga (custom) and conduct tangihanga (funerals) over zoom which was a great source of concern for her and many others.

Matiu is kaumātua (a respected Māori elder), and reflected that although both events were hard, neither the CES or the pandemic compared to the deleterious effects of colonisation on Māori. He explained, "the more traumatizing experience has been, you know, the getting back the land and the sense of belonging to that place rather than these things that have come along…". He noted how the pandemic had refocused his attention on the importance of claiming land back for his tribe.

How the Crises Affected Lives

Participants storied ways in which the earthquakes and pandemic had changed their lives, with the latter featuring more frequently potentially due to its recency compared to the CES. Although they occurred over a decade ago, the earthquakes still affected the everyday lives of some participants. In 2010 Marama resided in a portside suburb from which she commuted to work via a long tunnel. Her fear that it would collapse in another earthquake changed her driving behaviours; she would try to get through the tunnel

between two lorries for added protection. It also expedited the relocation into town of Marama and her long-term partner to live with her daughter. Many shopping centres and elevated car parks across the city were seriously damaged in the 22 February 2011 earthquake, and Elizabeth described how she was still very cautious about visiting them:

> I'd say never been to a mall, but, I wouldn't, I've never been to Riccarton, we've been to Papanui once to see about something - your glasses, or my glasses? Oh phone? Phone? Yeah. But yeah, I sort of get all butterflies in my tummy if I go into any…If I go to Linwood, East gate sometimes, and um, the Palms are the only ones I go, will go to... I go upstairs at Palms, I won't go in the underneath bit…in the car park, but I'll park upstairs in the open and go down? (Elizabeth)

Elizabeth's stop-start speech patterns mimic and convey the hesitancy she feels. Her child-like description of how she, "sort of get all butterflies in [her] tummy" if she goes to certain malls conveys how the earthquakes make her feel powerless. Furthermore, Elizabeth's recital of the places she will and won't go to suggests her adherence to an invisible set of rules that she believes will keep her safe. Florence had similarly avoided the cinema since hearing about the difficult evacuation experience of a friend with rheumatoid arthritis following the 22 February 2011 earthquake. Mary was trapped at her workplace in the same event which lead her to resign. She described how:

> …one of the boys from the office must have thought about me and he found his way back up through all the wrecks of the office. He pulled the big file up, he said "quick Mary, get out". There was a gap of about that much. And all of a sudden, a pain went right around me. And I said, "I can't move". I froze and within, within a minute I came right but I went and had all heart tests, I did an angiogram and everything and the doctor said it was a broken heart

through the fear of being trapped in that earthquake, not ever being in anything like that before. (Mary)

Here, Mary refers to the Doctor's prognosis of a broken heart to legitimise her fear. The extent to which her experience affected her is evident through the vivid play-by-play she can still narrate 11 years later which suggests that it remains very much at the forefront of her memory.

Many participants, including Mary, also told stories about how their lives were still affected from living through the pandemic. This was likely because their experiences were still fresh - interviews occurred approximately three months after the main pandemic restrictions were lifted nationwide. Once more Mary's employment appeared to be affected by crises and safety concerns; she explained how the pandemic was making her think about retiring from the job she loved at an information centre. This was due to concern about COVID and the effectiveness of masks to prevent its spread from an imminent influx of visitors from cruise ships recommencing after earthquake remediation of the local port.

The curtailing of activities due to the pandemic affected other participants to a smaller yet still consequential degree. Elizabeth explained how she was yet to restart aqua jogging classes at a community pool which had been closed over lockdown and lamented getting out of the habit of going. She was frustrated at the secondary effects of COVID which meant that plans for family to visit for dinner that evening had been cancelled because her sister-in-law had a cold, "whereas a couple of years ago, before the pandemic, you wouldn't [have thought] twice". Her husband Richard bemoaned the way in which the pandemic had stripped their weeks of structure through the suspension of their regular activities such as swimming and arts and crafts classes. He expressed a sense of futility being stripped of agency through parroting rhetorical questions, "so what are you going to do on the weekend? When's the weekend? Every day's a weekend". For John,

pandemic restrictions affected his choice to purchase another house instead of moving into a retirement village. He relayed a story about a friend living in a village where you could "theoretically come and go…but she couldn't theoretically come and go. She had to stay there. She was locked in. The kids were throwing things over the back fence. For God's sake. They wouldn't let them into the village at all. Yeah. It was just nuts. It was overkill". John exhorts the listener to comprehend the offensiveness of both the situation with his friend and the idea that he would move to a similar retirement village through his short, sharp sentences and use of blasphemy ("for God's sake") and colloquialism ("it was just nuts") for emphasis. He conveys the imbalance of power between the institution and his friend through his use of "theoretical" to describe her access permissions and his allegorical reference to her "kids [who] were throwing things over the back fence", which conceptualises both the village as a prison and his friend as a lowly dog.

Key Narratives

Although participant experiences both during the crisis events and throughout the period in between were clearly diverse, analysis of their narratives as a set establishes three key narratives: 'Reframe and reaffirm, 'The virtuous citizen', and 'You're only as old as you feel'. Storied within all three narratives are many manifestations of resilience. The first narrative, 'Reframe and reaffirm', was exceptionally dominant throughout and explores the ways in which participants transformed traumatic or distressing crisis experiences through positive storytelling. The second narrative, "The virtuous citizen", builds on participant self-concept and how it relates to their acceptance of help throughout crises and the effect of this on their ability to age in place. It explores how modern-day societal norms of successful ageing influence expectations of themselves and others in ways which both helped and hindered their lives throughout crises. Connected to this is the third narrative, "You're only as old as you feel", which relates to the finding that most participants didn't

identify as older adults. It explores the implications of this on government health and safety crisis messages and their responses to them.

"Reframe and Reaffirm"

Participants frequently relayed their crisis stories in ways which positively reframed their experiences and reaffirmed pre-existing assumptions about themselves and their interpretation of events. They engaged in intentional, positive, and optimistic reframing by focusing on their luck and gratefulness and comparing themselves with others who fared worse or life experiences which had been harder. The dominance of this narrative and myriad of ways in which participants expressed it means that the discussion which follows is much longer than the other two narratives, 'The virtuous citizen', and 'You're only as old as you feel'.

Emma's narration of factors which helped her cope throughout the earthquakes that destroyed her home comprises multiple acknowledgements of luck and gratitude:

Emma	I'm not spiritual, so I didn't have any religious sort of back background or had lost it. No, I just think I think of myself as a reasonably positive person. I think I am. Even though I said I'm anxious. I'm a positive person. I realize I've been lucky in life in lots of ways. So lucky in life, yeah, I think I've been lucky in life in lots of ways
Int.	Specifically around...?
Emma	My family. Yeah. The genes they gave me. Intellect - well, that's what I mean. But yeah, yeah. genes for being able to, you know, do well at university, etc. But I think I have been, I think

my parents are the main thing I could be grateful for. Two of my children in particular, have been absolutely amazingly helpful…

Int.	Yeah, yes, yeah. But you obviously have a real sense and a real capacity for gratitude.
Emma	I think I am grateful for lots of things. Yes. And I've got a really positive outlook. And I realised the other day, I was walking with a friend who's got early dementia, and she said she doesn't want to live much longer. She's not eating. And I thought I'd just read a book about tango dancing, and I'm thinking, I rang Julia and I said, Do you think I'm too old to go to tango? Because the book she talks about, you know, old people at 60 and at 81, I probably am a bit older, but you know, I'm really enjoying life. Yeah, I don't know. So I think I am a positive person. Yes.

(Emma)

Here Emma humbly refuses to accept the interviewer's invitation to accept credit for her coping. She redirects attention to external factors such as the intellectual genes she inherited which helped her "do well at university", her parents, and the help from her children. In response to the interviewer drawing her to accept some personal recognition for her capacity for gratitude and how this has helped her resiliency throughout the CES, she relays a story which demonstrates how she realises her "positive outlook". Emma positively reframes the dominant social discourse that positions older adults as frail, passive, chaste, and unwilling to learn new things by her admission that she is contemplating tango which is vibrant, energetic, and evocative. This counternarrative is strengthened by the acute contrast provided of her friend who doesn't want to live much

longer and the age differential of Emma's 81 years and the age of 60 which is used in her tango book to refer to "old people". Further evidence of Emma's strategy of reframing negative experiences to realise the positive is provided when she later explains that experiencing the CES and having COVID reaffirmed for her that she feels, "strong, and healthy. And lucky. Lucky again. Lucky to have got it. Look I got it, but it wasn't the end of the world".

Florence and Hilary expressed gratefulness for their strong financial position. Florence recognised that it afforded her options for her future. She described how she is "so fortunate to have, to be financially able to do whatever [she] want[s] to do. I mean, I could go traveling, I could do, I could go and live in Australia with my other one daughter or move up north to live with [my other daughter]". Hilary was grateful that she had money from the sale of a family batch she had inherited for her retirement. Gratefulness for others also emerged from the narratives of the two Māori participants. Marama was effusive about "the resilience of all people, all races that I visited and dropped food off for them, talk to, their resilience was, was just amazing on the whole". Matiu told a story about two African people who first saved a baby and returned to rescue its mother who had been mistakenly tagged as dead, describing them as "true heroes".

Delia's description of her experience living in a caravan over winter following the earthquakes provides another example of how participants engaged in optimistic, positive reframing:

Delia	Oh, well, after we'd sold the house, we went and lived in a caravan for, um, six months. And in (the caravan park), and my idea of camping was the Hilton? So, Michael brought in a beautiful caravan from England. And that was, and we got a permanent lot in (the caravan park), and, because we were

moving over to that side of town, we were actually moving to the east where a lot of the problems were, and so that we could be on hand during the building process, and I actually got to thoroughly enjoy living in that caravan, until the hard winter came.

Int. Right.

Delia And that was tough.

Int. Right. So that was sort of…

Delia June, July. But the house was virtually complete. So at that stage, we gave up the shoveling snow off the awnings in the middle of the night, and came up to Dawn's, yes, came up to Dawn's for about three weeks? And then we were able then to move into our (new) house...

Int. Right. So that was being built.

Delia That was being built at the time, yes.

Int. And so the the caravan, how did that come about?

Delia So it was probably, it was an outlay financially for us. But it was a way of living cheaply, once we once we were there. And also a way of also making money when we sold it because it was a beautiful caravan, and we subsequently did sell it and made money on it.

Int. Yeah. And so was it Michael's idea initially?

Delia Oh, everything like that was Michael's idea. Because he knew my idea about camping. But yes, it was his idea. He, he was sort of semi-retired at that stage and I was the one working full time so I kind of, you know, had that solidarity from him to do all these things. He was wonderful.

Int. So, you sort of came to cope quite well by the sounds of it with that new style of living, but initially I imagine, was it a bit…

Delia It took some getting used to, living in a confined space, and it was cozy, it was air conditioned, it was… and it had its own little bathroom, you had to slide down if you dropped the soap or open the door. And you know, it, it was fun. We had lots of people come over and join us for meals and roasts. Yeah, no, I did enjoy it in the end. Yeah.

Int. And were there other people in a similar situation to yourself there?

Delia Well, there are permanents at (the caravan park) but it, they're transient people who come in and go. And a lot of them just kept themselves to themselves. Probably a meeting place would have been in the shower blocks where people who had a caravan didn't have shower facilities. The laundry was in there, your washing got grayer and grayer and grayer, I can tell you, because it was all cold. Um, yeah, but yes, it was interesting. Yeah. Interesting.

Int.	So, I guess by virtue of having your own shower, you kind of missed out on that opportunity to meet other people?
Delia	I missed out. Yes, yeah. Walking, especially in winter, walking across, you know, quite a way actually, probably, you know, from here across the road, down to the facilities, first thing in the morning in a hard frost and snow...it, I was very grateful to have our own shower and toilet.
Int.	Yeah, I remember that snow, that was um, it snowed down here at the beach as well. No, quite incredible.
Delia	Yes, in all, it was a tremendous experience brought about through a sad situation, which had hit Christchurch.
	(Delia)

There were clearly times when the experience of living in a caravan in winter was hard, however every mention of a negative is immediately followed by a positive: although her “idea of camping was the Hilton”, the caravan was “beautiful”; despite, “actually moving to the east where a lot of the problems were”, she “actually got to thoroughly enjoy living [there]”; the caravan was expensive, however it was profitable in the end; it was “confined” yet “cozy”. Delia resists the interviewer’s invitation to expand on her difficulties, choosing only to concede that it “took some getting used to” before positively concluding that she “did enjoy it in the end”. The coda Delia uses to summarise her thoughts, “yes, in all, it was a tremendous experience brought about through a sad situation, which had hit Christchurch”, reinforces her resolution to seek positive outcomes out of negative experiences. Marama was explicit in naming positivity as something which helped her cope over the pandemic lockdowns when her long-term partner suffered a stroke. She described

how it was “hard… [but she] tried not to think in the negative, really, about anything, because that's what [she] always tried to do, always try to be positive because there's always someone worse off”. Her repetition of “always” is suggestive of a lifelong appreciation of positivity and gratitude.

Other participants used comparison with others who fared worse than them, or harder life experiences to positively reframe their crisis experiences. Emma recounted in relation to losing her house in the 2011 earthquake, “it doesn't matter. And then hearing babies, you know, all the people that have been killed. It was - I really thought, what does it matter about this mess of a house?”. Ellen compared the wonderful neighbourhood support she and her husband received following the initial 2010 earthquake with generalised others who presumably did not:

> The neighbors were brilliant. They came around first thing in the morning and to see because no power, of course. “Did we want anything heated up?” Because they had gas. And um no, that was a great time for neighborhoods to come together wasn't it, really. So, we were very fortunate compared with a lot of people. (Ellen)

Her gratitude for the care she received in comparison to others is also evident from her superlative description of her neighbours as “brilliant” and commendation of their diligence in “[coming] around first thing in the morning”. Similarly, her quotation of her neighbours who asked, “did [they] want anything heated up?”, locates the listener intimately within her story and persuasively communicates her appreciation of their thoughtfulness. Matiu compared the crises to the atrocious effects of colonisation on Māori to contextualise their relatively smaller significance and provide a broader perspective:

Matiu If I'd say the traumatic events, it's not the earthquake, it's not the pandemic. It's about living and understanding and knowing what's happened to us in the last 100 years. And it's all linked to, and the same reasons and things would be for those other traumatic events which are the earthquakes certainly, and the pandemic. But we've been through a lot of pandemics. In the early turn of the century Akaroa was, had the influenza pandemic like the rest of the country. And it was separated in two. And they had people there that weren't allowed to go to there. Did you know that?

Int. No I didn't.

Matiu Akaroa was sectioned off. If you look it up on the search engines these days, and it was incredible. They went through exactly the same thing as we're going through with this pandemic. Except they didn't have the medication or expertise that we have available to us now. They had bugger all, in fact, turn of the century.

Int. Yes, and suffered for it.

Matiu And they had world war one coming on top after that. And then they had all sorts of other things happen to them that we don't have happening to us. So sometimes, we sort of need to look at ourselves and say, well, you know, this country has been through it before. Christchurch has been through it before…

(marae) have been through it before. They need to learn what they went through, to get to come out the other end.

(Matiu)

Matiu's use of the personal pronouns "we" and "us" instead of "I" and "me" concentrates his narrative on what the crises mean for Māori as a collective. This is typical of the Māori worldview which prizes collectivism over individualism (Mead, 2003). His group identification is evident when he explains how the trauma of "what's happened to us in the last 100 years" eclipses his own lived experiences of the CES and pandemic. Matiu's closing coda reinforces his positive reframing of the crises as something which New Zealand can cope with and get through on the back of previous experience and learning.

Emma similarly reframed and contextualised the crises by comparing them to her divorce which was subjectively harder:

Emma	Both my divorces were devastating.
Int.	Right.
Emma	And I was badly affected by those, at the time. But I bounced back. Yes, so…
Int.	So, how did that, how did that help you cope through the disasters do you think?
Emma	I think, I remember saying after my first Husband left, that you build up scar tissue, and I think, you know, that was sort of was protective, you know. You think, "well I coped with that I'll cope with this".

(Emma)

Living through subjectively harder life experiences appeared to provide them with a protective buffer which was evident in their narratives concerning the impending Alpine Fault rupture. Despite the likely seriousness of this event which is likely to far eclipse the intensity of the CES and may yet occur in their lifetime, the majority of participants were not overtly fearful. Caitlin and Raven explained how they thought they could manage it, Matiu, John, Kent and Mary felt it wasn't worth bothering or becoming anxious about and Delia, Ellen, Richard, Elizabeth, and Florence pragmatically accepted its inevitability. The latter two caveated their response that they would be ok provided they were with their spouse or in their own bed at the time respectively.

Many participants referenced and reaffirmed important personal identity characteristics throughout their narratives to retrospectively map out and make sense of their journeys through crises. Delia presented herself as an active, stoic carer and consummate hostess who thrived on connection. During the earthquakes she had many opportunities for expression of this identity; her home prior to sale was spared significant damage and was a revolving door for various friends and family needing help. Conversely, the pandemic effectively hamstrung Delia from helping in the same way due to restrictions on movement and contact. Having additionally lost her husband a year and a half beforehand, her experience of it was consequentially much harder. Here, she summarises her experiences of each crisis and their relative impacts on her:

> Because the house hadn't sustained anything major, I felt secure and safe. And that's why I brought people in, because I wanted them to feel safe, and, and had we been able to open our doors to, to people coming to stay during the pan, pandemic, I would have done that, happily. But we weren't able to do that. So, there was a feeling of, yeah, I think I could sum it up is

> that the earthquake, there was no loneliness. There was a togetherness. The pandemic, there was loneliness. And that's how it affected me. (Delia)

Delia had moved in with her daughter mid-lockdown where she remained while her townhouse was being built. She expressed how, "when [she] get[s] into her new home, [she] will reopen [her] doors to being Carole again and entertaining and doing things". Delia's metaphorical use of doors as a gateway for expression of her true self indicates how home facilitated her identity as an active entertainer, something which had been inaccessible while forced out of her own environment due initially to the pandemic.

Connection was similarly important to Kent who established his identity as an active explorer and self-sufficient maverick through stories of international travel, boarding school, rigorous sporting competitions and mountain tramping. Kent's narratives were interwoven with accounts which substantiated this identity, attested to his successful ageing, and rejected ageing stereotypes. Although the pandemic made connection harder, it is apparent that this identity enabled Kent to approach the crises with a sense of curiosity and adventure. This meant that he fared well throughout both as is demonstrated in the below excerpt describing his experience of the earthquake:

> I actually enjoyed it – it was like, exciting! I was camping now, I had a porta loo. Yeah. There was a porta loo in the street. And then there was like, a dunny out the back like when I was a kid. And then you know, and I got water from the well and I got my little camping stove and candles. (Kent)

The childlike language Kent uses to describe his "dunny" and "my little camping stove and candles" emphasise his excitement and provides a stark contrast from the dominant ageing discourse which characterises older adults as needing care, set in their ways and

unable to change. Kent's identity is further evident in his relaying of his pandemic experience:

Kent	The lock downs. I wouldn't say it was fun, but it was different.
Int.	Yes. Yeah.
Kent	And I must admit, that my friend Andre and I, we'd sneak out we'd get on our bikes and bike into town. Yeah, bike around. You know, and that sort of thing. I mean, we weren't stupid. We were, you know, I was always keeping distance. And I never had people coming into the house. But it was. It was such a different time, it was amazing. And people got connected and, you go for a walk on the beach, and "hello, how are you?" And yeah, I found the lockdown, it, it was quite invigorating. Different pace.

(Kent)

Here, a slight mismatch emerges between Kent's presentation an adaptable, capable person for whom nothing is difficult, and his initial concession that he "wouldn't say (the lock downs were) fun, but [they were] different". Kent swiftly moves to redress his narrative, once more using childlike vernacular to underscore his youthful, rebellious identity as he "snuck out" with his friend to bike around town when it was prohibited. There is a sense of Kent warming to his positive theme as he uses increasingly more upbeat adjectives to describe the time - that was, "different", "amazing" and then finally, "invigorating". Here again the picture Kent paints of himself as a fit and active rule breaker provides a vivid juxtaposition with the master narrative of ageing as decline. Considering how these sections fit with the broader research topic the inference around Kent's capabilities are

clear – despite his chronological age he is resilient and capable of looking after himself irrespective of any crises encountered.

Florence represented herself as a homebody through stories recounting how she “hated” an apartment she moved into when her children were teenagers because “it was big, but it wasn’t home, it didn’t have that homely feel”, and how part of her divorce stemmed from her husband neglecting to give her “time to nest” due to always planning trips away. Her identity explains why she found the CES harder than the pandemic; the February 2011 earthquake destroyed her home of 30 years whereas she was happy ensconced within her home for the pandemic. This importance of home for Florence is underscored by multiple narratives where she personifies it as a spouse. She explains how her daughter exclaimed, “Mum, you’ve lost your significant other!” when it collapsed and moreover admits to how she knew she “should have had counselling but … do you go to counselling over a house?”. The unconditional love between spouses is evoked in the detail she lovingly goes into to reminisce about its imperfections. She describes how she:

Florence	…just loved every little wall!
Int.	Yeah, yeah, every nook and cranny, you knew where everything was.
Florence	Yeah, and nothing was perfect about the house. The doors didn't fit perfectly, you know, there was things wrong with the house everywhere. And it didn't matter, because I just loved it. It was heart rimu? It was just lovely. The wardrobes were only this, that deep? So, the coat hangers went this way rather than that way…

(Florence)

Here, Florence invokes a socially recognisable narrative of marital emotion and care to exhort the interviewer to understand her unconventional depth of feeling for a building of bricks and mortar and justify her devastation at its loss.

John presented himself as a non-conformist, tough, practical man's man who suffers no fools. This identity underscored his ability to weather both crises well. The importance of this identity to him is evident in his eschewing of social convention which obligates a period of light, non-provocative small talk in his opening line to the interview, "I hope you don't turn out like the last [interviewer]" who he "disliked immensely". Throughout his narratives John repeatedly used enthymeme to enable his expression of typically controversial opinions. When asked if there was anyone else at home during the 2011 February earthquake other than himself and his wife, he responded:

John	No, luckily. I say luckily. Because looking after more than one…
Int.	Yeah?
John	And women, women seem to be a little bit more…not quite so adapted to it as what men are, oh depending on who you are, of course.

(John)

John appears to invite the listener to agree with his unspoken opinion that women are incapable of self-care in acute situations when he explains how "luckily" he was only "looking after one". His use of "one" to categorise his wife effectively others her and infers that she is one of the collective of women who all need to be helped in crisis. When his invitation isn't taken up John appears to recognise that his comment may be received as being controversial by his younger female audience. He subsequently adjusts and softens his language to describe how "women seem to be a little bit more…not quite so adapted to

it as what men are" and provides the caveat, "oh, depending on who you are, of course". Later in the interview John's use of enthymeme is again evident in describing his opinion of others' responses to the earthquakes:

John	I've been in some pretty dangerous situations in my time. So…
Int.	Yeah, right.
John	So a little bit of a crack in the wall or something like that doesn't worry me particularly.
Int.	Yeah, you've got sort of a lot more serious things to compare dire straits to…
John	Yes. I mean, I've been buried up to the waist in sand, and roads falling in on me and all sorts of things, you see, so…

(John)

Analysing the excerpt at a personal level, John can be perceived as reaffirming his pragmatic, tough identity as he reflects how "cracks in the wall" are nothing compared to his dangerous work situations as a drain layer "buried up to the waist in sand, and roads falling in on me". At an interpersonal level, the interviewer is seen to co-author the narrative through their response to John's criticism of people who overreact in the CES embedded in the enthymeme, "so a little bit of a crack in the wall or something like that doesn't worry me particularly". Here, John guides the listener to understand his opinion which breaks with social norms which dictate the prohibition of slating victims of disaster by contrasting them with himself. They are obligated to confront his comment, or otherwise concede agreement verbally or through silence. Here, the interviewer agrees, "yeah, you've got sort of a lot more serious things to compare dire straits to", and in so doing progresses the narrative by

creating a sense of alliance which can facilitate John to tell his stories unfettered from judgement. At a positional level, John's manly self-concept is underscored by the significant contrast between his age and physically masculine life experiences in trade and the interviewer who is a younger female academic. At an ideological level the historical context of John's self-concept becomes apparent. His working life featured at a time when expediency and practicality was prioritised over safety. This contextualises his disdain for perceived over-regulation of current health and safety requirements. Taken in context with the broader overall narrative of resilience and ageing in place throughout multiple crises, this excerpt reminds the interviewer that despite John's age and first experience of living alone, he is someone who won't fuss over small details but is instead capable and responsible of looking after himself.

"The Virtuous Citizen"

Participant narratives were peppered with references, implications and examples of behaviours designed to convey to the interviewer their status as virtuous, responsible, self-managing and rule-abiding citizens and successfully ageing older adults. Mary emphasised her virtue in having only modest, simple needs, describing how she "isn't flash" and isn't worried by her "old bath with the water tank above the bath. Highly illegal, right? Yeah, but [she's] lived with it for 30 years". Despite making it clear throughout the interview that she "didn't have much money" and that "money was never given to [her] throughout her life, Mary stressed how she "only asked for what [she] deserved" in claiming for insurance contents after the earthquake and wasn't like "some people [who] were going a bit crazy". Her use of enthymeme She invites the interviewer to understand her morality as a rule-abiding citizen who doesn't ask for more than she deserves. Marama's virtue is similarly exemplified in the following excerpt explaining her experience of the first September 2010 earthquake:

Marama	So that was then, and had a lot, a lot of breakages, lost the chimneys, because we were in, we were living on the hill… so the first one we lost two, two chimneys,
Int.	Yeah.
Marama	And lots of broken, precious dishes. Because the house was, it was like a, it was an old-style villa house.
Int.	Yeah. So precious being both sentimental value and financial value?
Marama	Yeah, mmm, and then of course, I never, oh, you don't want me to keep going?
Int.	No, keep going..
Marama	I was gonna say I never took photos?
Int.	Yeah.
Marama	So I never thought to take photos of things, so that was a bit further down the track when my friends said, you know, did you take photos, did you do this, did you do that…? I said, No, I never thought about it. I just was going to lay an insurance claim, but I didn't in the end. I was just, just grateful that we didn't lose anyone really, did we?

(Marama)

Marama's prioritisation of collective others over herself as an individual is an integral Māori value. It is evident in her explanation that she didn't think about claiming for her

“broken, precious dishes” until “later down the track”, and then only upon the prompting of friends. This is furthermore inferred by her rejection of their capitalist directives, “did you take photos, did you do this, did you do that”, and repetition of “I never thought” [to take photos]”. Her coda that she was “just grateful that we didn't lose anyone really, did we?” summarises her beliefs and reinforces her characterisation as a virtuous citizen.

Virtuous, responsible citizenship was also often expressed in relation to the pandemic through statements of irritation at proponents of anti-vaccination. This is clear in Emma’s self- description as “…a rule obeyer, you know, generally. I, I mean, I would wear a mask when I was told to etcetera, and I would never rebel against it. And I got very angry with anti vaxxers that weren’t obeying the rules”. John similarly articulated how he “was a bit disappointed in some of the population and how long it took to get them vaccinated. And to try and when you get down to things like we'll pay you some way or another with a hamburger or whatever it is to come and have a, have a vaccination that, that to me is just… that's not how life's supposed to be”. Hilary invoked maternal social discourse to justify the unconditional love she has for her son and his wife despite his decision not to vaccinate his children. She describes how “[she] doesn’t agree with a lot of things they do. But [she loves] them dearly. And [she] wouldn't make any difference with him for that. But that's the sort of person he is. He's non-conventional”.

The stories chosen by participants to relate their crisis experiences give insight into their socio-cultural locations within neo-liberal, Western developed countries with successful ageing imperatives. In crisis the successfully ageing older adult demonstrates self-reliance and responsibility for their own safety and wellbeing and this was evident in many participant narratives. In the following excerpt Marama discusses how she “was very proud” that she and her partner avoided being infected with COVID-19:

So, people were asking me, our age group and older, were saying to, well, how come youz *(sic)* haven't got COVID? And I say a joke like, because we got taringa, meaning we got ears to listen to the instructions? Yes, we do everything that we're told. Yeah, like mask up. (Marama)

Richard and Elizabeth made a point of noting their vaccination status:

Richard	We've had every jab that they've offered so we've had it.
Int.	Right, because there's a fourth one now as well as a second booster. Have you had that yet?
Elizabeth	Yes. Yeah, yeah. And the flu jab and those sort of things?
Richard	Yeah, we've been having a flu jab for ages. So yeah.

(Richard and Elizabeth)

Here, they both ensure that the listener is aware of their pattern of self-responsibility in getting vaccinations that protect them even when they aren't an imperative forced by the pandemic. Of all 14 participants, just two had contracted COVID by the time of interview. This included Emma who made it clear that she tried to mitigate against it in her explanation how she was, "trying hard not to get it. You know, [she] wore a mask at bridge when it seemed to be around the bridge club. But yes, [she] did finally get it there, [she's] sure". Mary was the other participant and used personification to position the virus as a sparring opponent and convey her perception of its danger and the threat it posed to her independence. She described how it, "knocked the hell out of [her]" and caused her to "lose [her] power a wee bit". She explained how "it frightened me a bit because I don't want to be looked after that way. I need to look after myself. So, I've fought that one". Despite

reporting symptoms warranting hospital admission Mary explained how she didn’t admit herself:

Mary	I feel lucky I got through without having to go to hospital, that would be my biggest dread, going to hospital and getting really ill.
Int.	Why is that, do you think?
Mary	I just don’t like hospitals. I used to when I was married because it was peace.
Int.	It was respite.
Mary	But they were only jobs I got done, you know, put in there having babies and that. I loved the attention. I'm always looking for a bit.
Int.	But not now?
Mary	No, not really. I don't want to go into hospital with COVID. Yeah, the fear of not living was bad and mainly because I'm gonna leave (my daughter). Who’s so needy.

(Mary)

This excerpt illustrates changes in the need for hospital care and its perception over time and with age. Earlier in the interview Mary had divulged the emotional and physical abuse she endured throughout her marriage until it ended 30 years ago. Here, she describes how previously she had loved the attention she received in hospital as it was in stark contrast to her treatment at home. In her older age during the pandemic the hospital

changed for Mary from being a place of respite to a place of fear because it may signify where she died.

The successfully ageing older adult throughout crisis also expresses care and exercises concern not to become burdensome or dependent on others. This manifested in participant narratives which attested to their coping and accountability for the full spectrum of their needs relating to health, fitness, nutrition, and financial resources and the home. This was evident in the way John phrased his decision to stop working "around 75, 76" as an individual choice – he just, "drifted off…[work]... Just sort of said I can't be bothered". Despite it being a full decade older than the age at which people typically retire, age-related reasons do not feature. John embodies the successfully ageing stereotype of the pragmatic, practical and fiercely independent older adult as he responds to being asked if he received any support over the pandemic:

John	Nothing? Nothing I can think of. Nothing. Nothing that we were looking for.
Int.	Yes. Were you aware that help was available?
John	Well I probably was at the time. I don't know really, I wasn't about to… We weren't about to get it because we didn't need it. I don't go bleating for no reason at all or just to get some sympathy or whatever.
Int.	Yes.
John	You just get on and live life. Just carry on and eat and make sure

(John)

John's self-reliance is revealed in his contempt of those who accept help as implied in the above enthymeme that he "(doesn't) go bleating for no reason at all or just to get some sympathy of whatever". He draws the interviewer to understand that those who do ask for help are like sheep who are weak and attention-seeking in contrast to himself.

The oldest participants expressed their fear that the pandemic would force them to burden and rely on others. Hilary described how she had reduced her social activities to avoid this**:**

Hilary	I've stopped doing a lot of things since COVID. I've also been really worried about that. I don't want to get it. Not because I'm frightened of being sick, but because I don't want to be having, to have the family come and look after me. You know, that's really my main reason, I don't want to upset…
Int.	Well, you do seem, sort of, acutely aware of, you know, your children having their own busy lives? And not wanting to detract from that, or perhaps…
Hilary	No, no, no.
Int.	You know, be an additional burden?
Hilary	I try not to, I try not to rely on them, but I am becoming more reliant on them, really.
Int.	I think it's allowed…
Hilary	Most, most weekends somebody will come and put my rubbish out and things like that. I can still do my own washing, and, and still look after… but I have a cleaning lady who comes in once a

> week and vacuums because I can't, I can no longer heave a vacuum cleaner around. And I don’t get down, I can’t get down to clean showers and things like that. So, I have the luxury of having a cleaning lady.

(Hilary)

Hilary was exceptionally social and engaged throughout her working life and volunteering in multiple community groups. She isn’t “frightened of being sick”, but rather concerned that it will oblige her family to care for her. She concedes that she is already becoming reliant on them, and her repetition of “I try not to” reinforces that this is something she does not want. The successfully ageing discourse imposes on older adults to justify their acceptance of help which is seen in the explanation Hilary provides concerning her contracting of paid help that she can no longer “heave a vacuum cleaner around” or “get down to clean showers and things like that”. The closing coda highlights Hilary’s awareness of her socio-economic position and reflects the socio-cultural norms of her generation where paying for something which can be done yourself was a luxury. Ellen similarly justified her acceptance of help when she stayed with her daughter and her partner over lockdown; “I didn't feel that I was putting them out too much because they were going to be home anyway”. Ellen’s rationalisation indicates the extent to which independence is important which is further emphasised by the wider context of her stay – she had just been released from three weeks in hospital after breaking her hip during which time her Husband of 67 years had passed away.

Successfully ageing single female older adults presented themselves as having an addition layer of responsibility to prove how not only their independence, but also their ability to remain so without the help of men. Florence, 78, demonstrates this when telling a story about how she admonished the builder on her earthquake rebuild who “growled at

[her] once" and, "told [her] off a treat" for "ask[ing] why something hadn't been done". She explained how, "… [he didn't tell] me any of these problems so how was I to know?" Bloody hell, a man's not going to growl at me if he hasn't told me". Here, her use of 'growled at' and being 'told off' instills imagery of a child being disciplined by an adult. It underlines the power imbalance inherent in the master narrative about ageing women which depicts them as incapable of looking after themselves and dependent on male help. Florence clearly rejects this stereotype first through her dauntless attitude in asking why something hadn't been done then next in her forthright rebuke and use of 'bloody well' to emphasise her point and establish her counter narrative as a non-traditional, capable female who can look after herself at any age. This counter narrative is furthermore evident in her description of how, due to insufficient funding from insurance for the landscaping for her earthquake rebuild she:

Florence	… had to dig the garden and get all glass and debris out.
Int.	Yeah.
Florence	Particularly this garden along there. And I think this all the vertebrae in my spine moved. So, it compressed my spinal cord.
Int.	Right. Doing the gardening?
Florence	Yeah, yeah. Yeah. I didn't have anyone else to do it. So I've got stenosis of the spine.
Int.	Right.
Florence	And I've since had another spinal operation and got screws and plates and things in my back.

(Florence)

Here, Florence can be seen to embody the sometimes-detrimental corollary to the social imperative to successfully age. Driven by independence and the sense of personal responsibility felt for the task, Florence did not seek help and in so doing she suffers the permanent consequences of chronic pain.

Successfully ageing imperatives to remain active and busy appeared to help Caitlin cope throughout both crises and keep loneliness following the death of her long-term partner at bay. She explained how, “keeping busy has been the main object that's keeps me, not too worried about earthquakes or stuff”.

“You’re only as old as you feel”

A common refrain of participants throughout interviews was that they did not identify as elderly. This was expressed in the stories they told which expounded on their physical lifestyles, health, and distanced themselves from other older adults. Kent describes below how he values his identity as someone who is self-sufficient and active, and the positive attention it attracts from others as he responds to questioning about support in the aftermath of the earthquakes:

Kent — A lot of my friends, nearly all of my friends are younger than me, and they were just, they were staunch too, they were getting on with their lives and we were just getting on with it.

Int. — So that’s a common trait of your friends do you think?

Kent — Probably, yeah, adventurous people…

Int. — You’re drawn to people who are self-sufficient?

Kent	Doing stuff, Yeah, doing stuff. Yeah, exactly. Yeah. Yeah.
Int.	And do you think potentially, you might also portray those sort of qualities or characteristics…
Kent	Yes
Int.	Which is why people weren't at your door, saying, “Gosh, Kent is going to need help”.
Kent	No, no. I depict I, I, every so often there, someone would say something a little bit um, ageist. But I thought oh, “bugger off”, I thought. Um, you know, ”no, I'm not like that”. You know, I've got quite, quite staunch about it. Yeah. And a lot of my younger friends go, “I can't believe it. You know, you're, you're a role model”. A lot of my friends say to me who are younger than me say, “you're a really good role model. You know, you get out there and do stuff in your 70s”. What am I? 72? And so yeah, I guess I sort of, thrive on it a wee bit…
Int.	Yeah. So, in terms of self, self-concept, an identity…
Kent	I’ve got a concept that people go, you know, “I admire you, what you do? You’re always doing stuff, and you're always, you know, doing this and doing that”. And…
Int.	Yes. And sometimes that can propel you to keep doing that even when motivation is waning?
Kent	Yes. Yeah. Like, yesterday, I went on a tramp with an over 40s tramping club. Yeah. And we did 18kms up in the hills and

> roundabout, and, and people say, “oh, my God, how do you do it?” and I do it because it is there to do and it's like a goal - to get fit for the Wednesday tramp.

(Kent)

This can be read as a persuasive argument to convince the interviewer that not only does he feel younger, but in fact he is younger than his age indicates. He: aligns himself with his friends, “nearly all of” whom are younger than him to explain how “we were just getting on with it”; invokes the affirmation of younger third parties to substantiate that he is “a really good role model… [who gets] out there and do[es] stuff in [his] 70s”; tramps weekly with a group targeted not for over 70s as might be expected but for over 40s and consequently is far more physically demanding (“18kms up in the hills”). In this way Kent demonstrates that he is an over-achieving successfully ageing adult - his independence and self-sufficiency was such that not only did he not need help during the earthquakes, but also, no-one even thought to check on him either. He monitors his own health and abstains from his weekly walking group when he is unwell, and evidently has maintained his fitness. He later described how he inherited his youthful self-concept: “as my mother said, the elderly, the people, when she was 93, the elderly were the people five years older than her!”. Consequently, Kent found the media messaging during the pandemic depicting older adults as the ‘vulnerable elderly’ to be “a load of bull - it didn’t worry me? Yeah, I'm not, I'm not the vulnerable” because “it didn’t resonate”. Ellen similarly reflected, “when I was younger, you think 80-year-old? Who, they're in their dotage. Now, with all my friends that are still alive, you know, you don't think of it as being old?”.

Similarly in the below excerpt, Raven explains that although pandemic health messages theoretically applied to his age group, they didn’t apply to him because of his history of good health.

Raven	I just got frustrated, I never had the slightest concerns about health issues. Now, I'm not being silly. I'm aware that a lot of people were affected by the health for some people, although it was mostly elderly people. And I was right in the middle of the target health area in terms of age.
Int.	And again, there was a lot of media coverage around the age group as well. What was your sort of reaction or response to that?
Raven	"It's not me", quite frankly,
Int.	applying to other people?
Raven	Yeah, it just didn't mean anything to me personally.
Int.	It didn't resonate.
Raven	No, not at all. I haven't had a cold for five years. Just an ordinary common cold. Not even. Maybe I'm just been very blessed with, with good health and genes and so on. But yeah. So that didn't resonate with me at all. Honestly. I just got very frustrated with the lockdowns.

(Raven)

Here, Raven distances himself from those "elderly people" who were affected and minimises his connection to them by the implying that the only thing he has in common with them was "in terms of age". He explains, using repetition for emphasis that he hasn't "had a cold for five years. Just an ordinary common cold. Not even". Mary's excerpt below illustrates how the pandemic was a turning point in her self-concept as a younger person:

Mary	I still went to the supermarket, lined up with 100 people one day … I was there for an hour.
Int.	Was there not an early or a specific time set aside for older adults to go by themselves?
Mary	I never thought about it, I didn't want to be old. I don’t class myself as old. You know, one day I did, I said, “look, I’m pretty old”, he said, “look, go through madam”.
Int.	He probably wouldn't have believed you anyway!
Mary	Thank you. But no, I, I did it one day. And I thought, “Oh, this was quite good”, you know. And I've found in the last six months, I'm using my age for quite a few things. You get away with murder!
Int.	So you sort of made peace with, sort of going well, actually, this my age and it entitles me to…
Mary	Yeah, I've taken it, I’ve accepted age with grace as they say? Have you ever read the Desiderata?
Int.	Yes, of course.
Mary	I live by that…

(Mary)

Although she “didn’t want to be old…and didn’t class [herself] as old”, Mary asked the security guard for priority admittance to the supermarket to avoid lining up because she was “pretty old”. Although admitting to age-related vulnerabilities, Mary only partially

concedes to being older. She implies that she is cheating the system and doesn't deserve to "us[e] [her] age for quite a few things" because she "get[s] away with murder!". After her partial concession to vulnerability and needing help, both features of the master narrative of ageing as decline, Mary nimbly redirects the narrative to draw on a different, socially accepted master narrative of ageing with grace. This effectively reinstates her power by suggesting that it is a choice which Mary makes to accept the accoutrements of ageing. She draws on the well-known poem, "The Desiderata" which contains the line, "take kindly the counsel of the years, gracefully surrendering the things of youth" (Ehrmann, 2003) to emphasise her strength as wise and benevolent.

The narrative 'You're only as old as you feel' was predominant in relation to stories about the recent pandemic however there were also examples relating to the earthquake. Other participants indicated how messaging aimed at older adults was inapplicable to them through their contrast to the 'elderly' who needed help. This is evident in the excerpt from Delia's interview:

Int.	… I'm not sure if you're familiar with the 'All Right?' campaign that the government ran after the earthquakes. It was about mental health and people checking in and just checking, "are you alright?".
Delia	Yes. Oh, yes. Yes. Yeah. Particularly the elderly, people or people living alone. And that's when the Dad's Army was it? Was it the, the Dads Army?
Int.	Oh Yes.
Delia	Yeah. It's that wonderful young man. A student,
Int.	Student's Army?

Delia	Yes (laughing) That ages me, doesn't it.
Int.	I warned (Researcher) that, "no one can tell her age so don't try!"
Delia	So yeah, he was remarkable. And the support he got. And in a way, that gave a person who cares about people, peace of mind. Knowing that, you know, there was, there were lots of Nannas and maybe people, oh sick people, who were getting the, getting help and support that they needed.
Int.	Yeah. But you didn't need any of that yourself.
Delia	No, no, no, no.

(Delia)

Delia creates an invisible boundary between herself and older adults by articulating them as "the elderly" and "Nannas". This is a form of othering, which is a linguistic mechanism used to construct identity by contrast (Dervin, 2016). The dichotomy between them enhances Delia's self-concept that she is younger, and explains why she emphatically repeats, "no, no, no, no" to confirm that she is *not* an older adult who needed help. When Delia rhetorically asks the interviewer, "that ages me, doesn't it" in relation to her mistake in calling the Student Army "Dad's Army" – a British sitcom which finished broadcasting in 1977 – she is asking them to corroborate with her assertion that she appears younger than her biological age. The interviewer co-authors the narrative in their reflection that it is hard to guess her actual age and therein reassures Delia that her assumptions are right.

Hilary also explained how after the September quake which occurred in the middle of the night, she, “immediately … went over to look at the old couple that lived down the road to see that they were all right”. Here, Hilary leads the interviewer to deduce that she is younger than her neighbours and her role as the younger, capable person therefore societally expected to look after those older than herself and in so doing, also speaks to the previous narrative of being a virtuous citizen.

5: Discussion

The key narratives, ‘Reframe and reaffirm’, ‘The virtuous citizen’ and ‘You’re only as old as you feel’ each made unique contributions to exploring the impacts on the resilience and ability to age in place of older Cantabrians living throughout multiple crises. The narrative approach was especially useful to elicit the various ways in which perspective manifested. It emerged as a dominant and vital instrument of resilience which helped participants cope, maintain their sense of self, and comprehend their experiences of crises throughout older adulthood. The ability to have influence over and govern perspective is incredibly powerful; for example, the extent to which someone perceives a situation as stressful will often largely influence their biophysical experience of it (Rosowsky, 2009). Each narrative will each be discussed in turn in relation to existing research and theory.

‘Reframe and Reaffirm’

The first narrative, ‘Reframe and reaffirm’, demonstrated how participants wielded perspective to manage their stress and reassure themselves of their safety and self-concept. Such was the frequency of this narrative across interviews that it proved more dominant than the other two and more time was accorded to its discussion. Participants intentionally and positively reframed otherwise distressing experiences by concentrating on stories that focused on their luck or gratefulness, or on comparison with others who fared worse or harder life experiences.

Many participants attributed their fortunate circumstances throughout the crises to their perception that they were lucky. Their homes were relatively unscathed throughout the earthquakes, and most had avoided contracting COVID-19. Positively eliciting personal benefits from difficulty is a cognitive reframing practice which broadens individuals’ perspectives and can generate an “’upward spiral’ of improved coping and optimal functioning” (Fredrickson, 2001, as cited in Bono et al., 2004, p. 472). Emma is a great

example of this; she was part of the minority whose house had in fact been destroyed in the CES and had also already had the virus. She reframed these experiences as luck; her downsized rebuild suited her changing age-related needs better and she considered herself lucky to have been infected as she felt stronger having come out the other side.

Gratitude was evident throughout many participant narratives such as those of Hilary and sisters Florence and Emma who expressed appreciation of inheritance. For Emma this was the genes and intellect she inherited from her parents and the help of her children and for Florence and Hilary it was financial. Marama and Matiu both expressed their appreciation of the work of others throughout the crises. This likely reflects the acknowledgement of others' mana which is integral to Māori culture, and their appreciation of those who work for the betterment of the collective as opposed to for their own individual achievement.

Comparison with others who fared worse than themselves was seen across many narratives. Participants perceived that they were better off than others who lost their homes or lives or were lacking in support or suitable accommodation throughout the crises. This supports previous research into the dynamic coping processes of older adults where they are seen to make an explicit or implicit choice to focus on their own positive facets in comparison with others or previous personal functioning (Rebecca S. Allen et al., 2018). It accords with the theory of social comparison which suggests that individuals deliberately engage in downward social comparisons and contrast themselves with stereotypes or others worse off especially when under threat to restore positive self-concept (Kotter-Grühn & Hess, 2012). Support for the concept of 'social downgrading', where individuals compare themselves to negative stereotypes to bolster their self-concept and resilience was also evident. John contrasted himself with generalised others who "bleat" for sympathy or worry about a "crack in the wall" following the CES to reaffirm his self-concept as pragmatic and

strong. Mary compared herself to “people who were going a bit crazy” overclaiming for earthquake-damaged insurance items to shore up her self-concept as a virtuous, rule-abiding citizen.

Participants positively reframed their crisis experiences by comparing them to the many age- and crisis-related stressors they had encountered over their lifetime and the research period. Many recounted challenges previously faced which were subjectively harder on them than anything experienced throughout the crises such as living in abusive households, divorce, and the passing of significant people. Interestingly, Matiu cited the broader experiences of Māori living through the effects of colonisation instead of challenges he had individually faced. It is suggested that this relates to the collectivist nature of Māori and although this inter-generational cultural perspective would be a valuable topic for future research it is not of most relevance to this study. The tools and skills participants developed to help them cope with the stressors they described encountering over their life course appeared to have protected them throughout the research period. This corroborates with the Clark et al.’s theory of resilience repertoires which suggests that resilient abilities accumulate over time and once developed, remain within an individual as part of their armoury. When challenges arise be it through crises, ageing, or any other source, their selection and deployment by the individual has become automatic and instinctive. One of the resources which Emma raised was how her experience of divorce cultivated “scar tissue” which became a protective buffer against testing crisis experiences. It appeared to instil her with confidence in her ability to handle difficulty and provided reassurance of her future wellbeing; as she eloquently stated, “You think, ‘well I coped with that I'll cope with this’”. Participant explanations of how exposure to difficult life experiences helped them develop resilience and protected them from traumatic effects of the crises additionally supports inoculation theory. Moreover, they also appeared

to underscore participant acceptance of the overdue and likely catastrophic Alpine Fault rupture as manageable, inevitable, and not something to devote time to worrying about. This additionally aligns with previous study findings that awareness of limited lifespans tend to focus older adults on more positive things and those they deem subjectively most valuable (Carstensen et al., 1999). Termed the ‘positivity effect’, this explains older adults’ increasing propensity to attend more to positive information, experiences, and environments than their negative counterparts as they age (Carstensen & Mikels, 2005). This was evident in Kent’s focus on his goal of maintaining fit to ensure his participation in his regular tramping group and for others it manifested as avoiding environments in which they felt unsafe such as the mall and cinema for Florence and Elizabeth. The positivity effect was previously explained as being related to SST which suggests that older adults prioritise more meaningful present-focused goals over future-goals such as learning new skills (Carstensen & Hershfield, 2021). This was not seen to be the case for Emma, who at 81 years of age was actively researching and contemplating taking up tango. This could be indicative of the high value she placed upon novel activities as a strategy for maintaining active engagement and also is reflective of the true heterogeneous nature of older adults.

Maturation theory is additionally supported by these findings; participants demonstrated their growth over time such that their reactions as older adults to stressful life events such as the crises was more mature, balanced and less emotive (Rafiey et al., 2016). This was exemplified by Hilary, who, “cried for about 2 years” after her marriage ended yet now “find[s] it very difficult to cry now”.

Perspective was used by participants to reaffirm their self-concept, ground their ontological security, and make sense of their experiences throughout turbulent times (Crossley, 2000). Delia’s narratives expressed her identity as an active, stoic carer and consummate hostess and explained her differing crisis experiences; she thrived looking

after a multitude of people over the CES and suffered over lockdown where physical contact was prohibited. Kent established himself as an active explorer and self-sufficient maverick which contextualises his experiencing of the CES and pandemic as novel, exciting and invigorating. Florence represented herself as a homebody which explains her devastation when the earthquakes destroyed her home and why the pandemic hardly affected her at all. John presented himself as a non-conforming, tough, practical man's man who suffers no fools which underscored his ability to cope throughout either crisis. Filtering experiences through characteristics they strongly identified with that remain stable across the lifespan can facilitate resilience by providing a sense of continuity, coherence and stability throughout crises (Kotter-Grühn & Hess, 2012).

'The Virtuous Citizen'

'The virtuous citizen' second narrative provided significant discourse on the positive and negative effects of the successfully ageing master narrative in relation to growing older in place throughout crises. The behavioural criteria for achieving successful ageing includes maintaining a low risk of disease, high mental and physical functioning, and active and productive engagement with life (Rowe & Kahn, 2015). For older adults to achieve the criteria a high degree of Foucauldian self-surveillance to enable the pre-empting and proactive management of age-related changes in functioning is required (Tulle-Winton, 1999). From the perspective of successfully ageing through crises, older adults are expected to be prepared and socially responsible, and take steps to reduce risks to their health, safety, and wellbeing, and minimise any risk that may necessitate additional care. Participant internalisation of these expectations was evident in many narratives where they positioned themselves as responsible, self-managing, moral, and good. There were a few earthquake-related examples provided by Mary and Marama in relation to insurance claims, however the vast majority of participants demonstrated their virtue in relation to the

pandemic. Most expounded the steps they took to protect themselves and others and their criticism of anti-vaccination proponents. This may be explained by the pandemic's recency in comparison to the CES a decade prior, however key differences in the nature of the crises and government messaging may also factor. Although both crises were unexpected, the lag time until people were affected was very different. The earthquakes were sudden, and even preparing with grab bags and the securing of furniture didn't guarantee safety. With COVID-19, however, there was clear evidence of what steps needed to be taken to significantly reduce the chance of infection and preserving physical wellbeing. Government messages subsequently saturated citizens with explicit health and safety advice such as practicing distancing, mask wearing and getting vaccinations, and these were what was replicated in participant narratives. Their adherence to these safety precautions to avoid infection additionally accords with socioemotional theory which posits that older adults avoid negative states as they age (Lahar et al., 2023).

There is no doubt that the internalisation of successfully ageing norms of behaviour can produce positive effects for older adults in relation to ageing throughout crises; it can encourage preparedness such as the COVID-19 vaccinations sought by all but one of the participants. The imperative to remain active and useful helped keep older adults busy and engaged such as in Caitlin's case following the death of her long-term partner. Its promotion of fit and healthy behaviours can help bolster the physical and mental resilience of participants prior to crises and contribute to their coping throughout. As per the SOC model which supports successful ageing, Hilary made additional adjustments to her home help which contributed to enabling her to retain her independence ageing in place throughout the crises (Rowe & Carr, 2018). As positive as these outcomes are, the findings of this research are also suggestive of a negative corollary to successfully ageing norms and expectations of older adults in crises. Similar to the outcomes of prior research, the

belief that successfully ageing older adults should remain independent and be responsible for their own health and wellbeing appeared to mean that participants did not always seek or accept help when it was offered or needed throughout the crises (Brockie & Miller, 2017; Tuohy & Stephens, 2011). This could be seen as contributing to Florence's placement of herself in an especially vulnerable position by undertaking the removal of earthquake debris from her garden herself which then caused serious injury to her back. Participants were clearly reticent to engage in any behaviours which may construe them as burdensome as was seen in Hilary's fear of contracting COVID which might oblige her family to help and Ellen's need to justify staying with her daughter during lockdown. The imperative to remain independent furthermore adds another layer of responsibility, stress, and effort in a crisis environment – not only do older adults have to contend with coping in unstable environment with the effects of ageing, but they also must constantly self-monitor that they will be perceived as not coping, conceal any age-related decline, and demonstrate that they can look after themselves. This aligns with Breheny and Stephen's concerns that the constant self-surveillance and management required of older adults to live up to its demands to effectively "grow older without ageing" forces them to deny and conceal age-related evidence of decline (2010, p. 42).

'You're Only as Old as you Feel'

The third narrative, 'You're only as old as you feel' describes how participant self-perception frequently did not align with being elderly. Perception helps not only with resilience but also physical and mental health. Numerous studies have found that the younger one subjectively perceives themselves, the more likely it is that they will live longer and retain stability throughout changes which are associated with ageing (Kotter-Grühn et al., 2016). Extrapolating this to crises, it is hypothetically possible that those who feel subjectively younger will fare better throughout also. The predominance of this narrative,

‘You’re only as old as you feel’, amongst participant interviews certainly suggests this to be the case. The majority of participants expressed that they felt subjectively younger than their chronological age. They did this through outright statements such as in the case of Kent, Raven, and Richard, or by their insertion of distance between themselves and the ‘real’ older adults by referring to them in the third person such as Delia, Hilary, and Elizabeth. This is consistent with previous research that most older adults refer to others in their birth cohort in the third person and feel up to 20% younger than they actually are (Kotter-Grühn et al., 2016, as cited in Carstensen & Hershfield, 2021). Seen in the wider context of the research question, this narrative is also suggestive of resilient growth mindsets amongst participants in as much as perceived age constraints did not factor in their weathering of the crises. This was clear from Kent’s adventures camping out during the CES and exploring the city by bike over lockdown. It moreover contributed to their provision of help to others who they considered older than themselves and vulnerable such as when Hilary immediately went to “check on the old couple down the road” after the 2010 earthquake.

The prevalence of this narrative, ‘You’re only as old as you feel’, may also be viewed participant rejection of the master ageing as decline narrative that depicts older adults as frail and requiring care. In emphasising their subjective experience as being younger than their chronological age, participants effectively demonstrate and defend their right to remain ageing independently. The surrendering of self-responsibility for care to a nursing home is commonly an anathema for older adults; it is widely conceptualised as the final capitulation to ageing, signalling the irreversible transition from being a successfully ageing older adult in their active third age to the “black hole” that is the frail, dependent and decrepit fourth age of the truly old (Gilleard & Higgs, 2010, p. 125; Mercer & Kane, 1979).

Chapter 6: Conclusion

This study has provided valuable insight into the real experiences of older Cantabrians who have remained ageing in place throughout the multiple crises of the research period. The recruitment of participants who were already living in place at the time of the first 2010 and remained doing so throughout the whole research period enabled robust illustration and inclusion of their experiences across time. Moreover, their selection from areas with diverse deprivation scores across Christchurch presented the opportunity to analyse potentially different socio-economic influences on their narratives. Interestingly, their location did not yield significant differences which in itself may attest to the ubiquitousness of resilience. The findings make relevant suggestions about the coping strategies commonly used by participants which in turn can inform further learning and practice guidelines for future crisis events such as the impending Alpine Fault rupture. Despite the small sample size which was reflective of the qualitative nature of the study, it was a strength that two Māori participants were included as it enabled a more diverse cultural representation of experiences.

This findings of this study are limited insofar as they only relate to the specific, unique, lived experiences of the participants at this point in time. The sequencing of the type of crisis and when it occurred also needs considering; participant experiences and accounts may have differed with changes due to age-related differences in functioning and responsibilities. Māori were not the primary focus of this study, however further research into the differences in coping styles between Māori and non-Māori older adults ageing in place through crises would be a worthwhile undertaking by appropriate Māori researchers.

This study contributed to the field of disaster management by providing evidence of the many ways in which older adults can be resilient throughout crises, how they access,

perceive, and interpret health and safety communications and self-manage accordingly. The findings also support the need for more research to address the conundrum that is successfully ageing in crisis. Older adults undoubtedly benefit from many of the prevailing successfully ageing imperatives, however it is clear from this research that they can also be problematic insofar as preventing the seeking and accepting of help when needed. The findings collectively contribute to developing a more nuanced understanding of the requirements of emergency communication, preparedness and management which can be more responsive to older New Zealanders' needs as a result.

Reference Material

Bibliography

Aldwin, C. M., & Igarashi, H. (2015). Successful, optimal, and resilient aging: A psychological perspective. In P. A. Lichtenberg, B. T. Mast, B. D. Carpenter, & J. Loebach Wetherell (Eds.), *APA handbook of clinical geropsychology, Vol. 1: History and status of the field and perspectives on aging.* (pp. 331-359). American Psychological Association. https://doi.org/10.1037/14458-014

Allen, J., Brown, L. M., Alpass, F. M., & Stephens, C. V. (2018). Longitudinal health and disaster impact in older New Zealand adults in the 2010–2011 Canterbury earthquake series. *Journal of Gerontological Social Work*, *61*(7), 701-718. https://doi.org/https://doi.org/10.1080/01634372.2018.1494073

Allen, R. S., Dorman, H. R., Henkin, H., Carden, K. D., & Potts, D. (2018). Definition of resilience. In B. Resnick, L. P. Gwyther, & K. A. Roberto (Eds.), *Resilience in aging: Concepts, research, and outcomes, second edition* (pp. 1 - 16). Springer. https://doi.org/10.1007/978-3-030-04555-5_1

Alpass, F., Keeling, S., Stevenson, B., Allen, J., & Stephens, C. (2016). Ripples of recovery and resilience: Tracking the effects of the Canterbury earthquakes on older New Zealanders. *Australasian Journal of Disaster and Trauma Studies*, *20*(2), 117. https://trauma.massey.ac.nz/issues/2016-2/AJDTS_20-2_Alpass.pdf

Amundsen, D. (2022). A critical gerontological framing analysis of persistent ageism in NZ online news media: Don't call us “elderly”! *Journal of Aging Studies*, *61*(101009). https://doi.org/10.1016/j.jaging.2022.101009

Annear, M., Keeling, S., & Wilkinson, T. (2014). Participatory and evidence-based recommendations for urban redevelopment following natural disasters: Older adults as policy advisers. *Australasian Journal on Ageing*, *33*(1), 43-49. https://doi.org/10.1111/ajag.12053

Ardern, J. (2020, 14 March). *Major steps taken to protect New Zealanders from COVID-19* https://www.beehive.govt.nz/release/major-steps-taken-protect-new-zealanders-covid-19

Bakema, M., Parra, C., McCann, P., Dalziel, P., & Saunders, C. (2017). Governance in shaky societies: Experiences and lessons from Christchurch after the earthquakes. *Environmental Policy and Governance*, *27*(4), 365 - 377. https://doi.org/10.1002/eet.1764

Baltes, M. M., & Carstensen, L. L. (1996). The Process of Successful Ageing. *Ageing and Society*, *16*(4), 397-422. https://doi.org/10.1017/S0144686X00003603

Baltes, P. B., & Freund, A. M. (2003). The intermarriage of wisdom and selective optimization with compensation: Two meta-heuristics guiding the conduct of life. http://students.aiu.edu/submissions/profiles/resources/onlineBook/m7h6D2_positive%20psychology.pdf#page=227

Barusch, A. S. (2011). Disaster, vulnerability, and older adults: Toward a social work response. *Journal of Gerontological Social Work*, *54*(4), 347-350. https://doi.org/10.1080/01634372.2011.582821

Bastin, S. H., Quigley, M. C., & Bassett, K. (2015). Paleoliquefaction in Christchurch, New Zealand. *GSA Bulletin*, *127*(9-10), 1348-1365. https://doi.org/10.1130/B31174.1

Beattie, A., & Priestley, R. (2021). Fighting COVID-19 with the team of 5 million: Aotearoa New Zealand government communication during the 2020 lockdown. *Social Sciences & Humanities Open*, *4*(1), 100209. https://doi.org/10.1016/j.ssaho.2021.100209

Bell, S. A., Krienke, L. K., Dickey, S., & De Vries, R. G. (2021). “Helping fill that gap:” a qualitative study of aging in place after disaster through the lens of home-based care providers. *BMC Geriatrics*, *21*(1), 235. https://doi.org/10.1186/s12877-021-02159-0

Besley, T., & Peters, M. A. (2020). Terrorism, trauma, tolerance: Bearing witness to white supremacist attack on Muslims in Christchurch, New Zealand. *Educational Philosophy and Theory*, *52*(2), 109-119. https://doi.org/10.1080/00131857.2019.1602891

Bono, G., Emmons, R. A., & McCullough, M. E. (2004). Gratitude in practice and the practice of gratitude. In P. A. Linley & S. Joseph (Eds.), *Positive psychology in practice* (pp. 464-481). John Wiley & Sons, Inc. https://doi.org/10.1002/9780470939338.ch29

Breheny, M., & Stephens, C. (2010). Ageing in a material world. *New Zealand Journal of Psychology*, *39*(2), 41 - 48. https://mro.massey.ac.nz/bitstream/handle/10179/6004/breheny%20ageing.pdf

Brockie, L., & Miller, E. (2017). Understanding older adults' resilience during the Brisbane floods: Social capital, life experience, and optimism. *Disaster Medicine and Public Health Preparedness*, *11*(1), 72 - 79. https://doi.org/10.1017/dmp.2016.161

Burr, V. (2015). *Social constructionism* (3rd ed.). New York, NY: Routledge.

Carlin, P. S., & Park-Fuller, L. M. (2012). Disaster narrative emergent/cies: Performing loss, identity and resistance. *Text and Performance Quarterly*, *32*(1), 20-37. https://doi.org/10.1080/10462937.2011.622782

Carpentieri, J., Elliott, J., Brett, C. E., & Deary, I. J. (2017). Adapting to aging: Older people talk about their use of selection, optimization, and compensation to maximize well-being in the context of physical decline. *Journals of Gerontology: Social Sciences: Series B*, *72*(2), 351-361. https://doi.org/10.1093/geronb/gbw132

Carstensen, L., Isaacowitz, D., & Charles, S. (1999). Taking time seriously: A theory of socioemotional selectivity. *The American psychologist*, *54*, 165-181. https://doi.org/10.1037//0003-066X.54.3.165

Carstensen, L. L., & Hershfield, H. E. (2021). Beyond stereotypes: Using socioemotional selectivity theory to improve messaging to older adults. *Association for Psychological Science*, *30*(4), 327-334. https://doi.org/10.1177/09637214211011468

Carstensen, L. L., & Mikels, J. A. (2005). At the intersection of emotion and cognition: Aging and the positivity effect. *Current directions in psychological science*, *14*(3), 117-121. https://doi.org/10.1111/j.0963-7214.2005.00348.x

Center for Research on the Epidemiology of Disasters CRED. (2022). *2022 Disasters in numbers*.

Chartered Accountants Australia and New Zealand. (2018). Population ageing: Do we understand and accept the challenge? *Future[inc] Perspectives on Prosperity*.

Chaudhary, M. T., & Piracha, A. (2021). Natural disasters: Origins, impacts, management. *1*(4), 1101-1131. https://doi.org/10.3390/encyclopedia1040084

Chmutina, K., & von Meding, J. (2019). A dilemma of language: “Natural disasters” in academic literature. *International Journal of Disaster Risk Science*, *10*(3), 283-292. https://doi.org/10.1007/s13753-019-00232-2

Christchurch City Council. (2014). *Community profile - November 2014 Christchurch Central*. ccc.govt.nz/assets/Documents/Culture-Community/Stats-and-facts-on-Christchurch/CommunityProfile-HagleyFerrymead-ChristchurchCentral.pdf

Clark, P. G., Burbank, P. M., Greene, G., & Riebe, D. (2018). What do we know about resilience in older adults? An exploration of some facts, factors, and facets. In B. Resnick, L. P. Gwyther, & K. A. Roberto (Eds.), *Resilience in Aging: Concepts, Research, and Outcomes* (pp. 61-80). Springer International Publishing. https://doi.org/10.1007/978-3-030-04555-5_4

Clement, C., Abeling, S., Deely, J., Teng, A., Thomson, G., Johnston, D., & Wilson, N. (2019). Descriptive epidemiology of New Zealand’s highest mortality earthquake: Hawke’s Bay in 1931. *Scientific Reports*, *9*, 4914. https://doi.org/10.1038/s41598-019-41432-6

Cooke, H. (2020, 8 April). Coronavirus: Public surge in trust of Government during Covid-19 crisis. *Stuff*. https://www.stuff.co.nz/national/health/coronavirus/120911320/coronavirus-public-surge-in-trust-of-government-and-national-pride

Crengle, S., & McCreanor, T. (2006). How Tikanga guides and protects the research process: insights from the Hauora Tāne Project. *Social policy journal of New Zealand*(29). https://msd.govt.nz/documents/about-msd-and-our-work/publications-resources/journals-and-magazines/social-policy-journal/spj29/29-pages-60-77.pdf

Crossley, M. (2000). Narrative psychology, trauma and the study of self/identity. *Theory and Psychology*, *10*(4), 527-546.

Crotty, M. (1998). *The foundation of social research: Meaning and perspective in the research process*. Thousand Oaks: Sage.

Cunningham, C. (2013). The future of New Zealand's social contract [Article]. *Future Times*, *1/2*, 11-13. https://search.informit.org/doi/10.3316/informit.370761418110539

Cutter, S. L. (2018). Compound, cascading, or complex disasters: What's in a name? *Environment: Science and Policy for Sustainable Development*, *60*(6), 16-25. https://doi.org/10.1080/00139157.2018.1517518

Davey, J. (2006). " Ageing in place": The views of older homeowners on maintenance, renovation and adaptation. *Social policy journal of New Zealand*, *27*, 128. https://msd.govt.nz/documents/about-msd-and-our-work/publications-resources/journals-and-magazines/social-policy-journal/spj27/27-pages128-141.pdf

Delker, B. C., Salton, R., & McLean, K. C. (2020). Giving voice to silence: Empowerment and disempowerment in the developmental shift from trauma 'victim'to 'survivor-advocate'. *Journal of Trauma and Dissociation*, *21*(2), 242-263. https://doi.org/10.1080/15299732.2019.1678212

Denzin, N. K., & Lincoln, Y. S. (2005). Introduction: The discipline and practice of qualitative research. In N. Denzin & Y. Lincoln (Eds.), *The SAGE handbook of qualitative research* (3rd ed., pp. 1 - 32). Thousand Oaks, CA: Sage.

Department for Work and Pensions (DWP). (2005). *Opportunity age: Meeting the challenges of ageing in the 21st century*. Retrieved 7 November from https://www.rightsnet.org.uk/pdfs/Opportunity_Age.pdf

Dervin, F. (2016). Discourses of Othering. In F. Dervin (Ed.), *Interculturality in Education: A Theoretical and Methodological Toolbox* (pp. 43-55). Palgrave Macmillan UK. https://doi.org/10.1057/978-1-137-54544-2_4

Ehrmann, M. (2003). *Desiderata: Words for Life*. Scholastic Inc.

Elder Jr, G. H. (1994). Time, human agency, and social change: Perspectives on the life course. *Social Psychology Quarterly*, 4-15. http://links.jstor.org/sici?sici=0190-2725%28199403%2957%3A1%3C4%3ATHAASC%3E2.0.CO%3B2-K

Environmental Health Intelligence New Zealand: Rapu Mātauranga Hauora mo te Taiao - Aotearoa. *Socioeconomic deprivation profile*. Retrieved 1 September from http://www.ehinz.ac.nz/indicators/population-vulnerability/socioeconomic-deprivation-profile/#nzdep-for-2018-nzdep2018

Farkas, G. (2018). Family, schooling, and cultural capital. In B. Schneider (Ed.), *Handbook of the sociology of education in the 21st century*. Springer International Publishing. https://doi.org/10.1007/978-3-319-76694-2

Fazio, R. H., Ruisch, B. C., Moore, C. A., Granados Samayoa, J. A., Boggs, S. T., & Ladanyi, J. T. (2021). Social distancing decreases an individual's likelihood of contracting COVID-19. *118*(8), e2023131118. https://doi.org/doi:10.1073/pnas.2023131118

Feldman, M. S., Sköldberg, K., Brown, R. N., & Horner, D. (2004). Making sense of stories: A rhetorical approach to narrative analysis. *Journal of Public Administration Research and Theory*, *14*(2), 147-170. https://doi.org/10.1093/jopart/muh010

Ferrer, I., Grenier, A., Brotman, S., & Koehn, S. (2017). Understanding the experiences of racialized older people through an intersectional life course perspective. *Journal of Aging Studies*, *41*, 10-17. https://doi.org/10.1016/j.jaging.2017.02.001

Ferris, E., Petz, D., & Stark, C. (2013). *The year of recurring disasters: A review of natural disasters in 2012*. The Brookings Institution - London School of Economics Project on Internal DIsplacement. https://www.brookings.edu/wp-content/uploads/2016/06/Brookings_Review_Natural_Disasters_2012.pdf

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, *7*(2), 117-140.

Fletcher, D., & Sarkar, M. (2013). Psychological resilience: A review and critique of definitions, concepts, and theory. *European Psychologist*, *18*(1), 12-23. https://doi.org/10.1027/1016-9040/a000124

Formosa, M. (2013). Positive ageing in an age of neo-liberalism: Old wine in new bottles? https://www.um.edu.mt/library/oar/bitstream/123456789/1650/3/Positive%20aging%20in%20an%20age%20of%20neo-liberalism%20-%20Old%20wine%20in%20new%20bottles.pdf

Forster, P. I. (2005). The natural history of Southern New Zealand. *Plant Systematics and Evolution*, *254*(1/2), 122 - 125. https://doi.org/10.1007/s00606-005-033

Gergen, K. (1985). The social constructionist movement in modern psychology. *American Psychologist*, 266-275.

https://www.researchgate.net/publication/302871718_The_Social_Constructivist_Movement_in_Modern_Psychology

Gibson, M. (2008). Guideline: Addressing older adults' distinct psychosocial issues in emergency situations. https://ccsmh.ca/wp-content/uploads/2016/03/Guideline_Addressing-Older-Adults-Distinct-Psychsocial-Issues-in-Emergeny-Situations.pdf

Gibson, M. J., & Hayunga, M. (2006). *We can do better: Lessons learned for protecting older persons in disasters*. American Association of Retired Persons. https://www.caloes.ca.gov/wp-content/uploads/AFN/Documents/General/better.pd_.pdf

Gilleard, C., & Higgs, P. (2010). Aging without agency: Theorizing the fourth age. *Aging & Mental Health*, *14*(2), 121-128. https://doi.org/10.1080/13607860903228762

Gluckman, P. (2011). The psychosocial consequences of the Canterbury earthquakes: A briefing paper. *Office of the Prime Minister's Science Advisory Committee*. https://dpmc.govt.nz/sites/default/files/2021-10/pmcsa-Christchurch-Earthquake-Briefing-Psychosocial-Effects-10May11.pdf

Golant, S. (2017). Explaining the ageing in place realities of older adults. In G. A. Mark Skinner, Malcom Cutchin (Ed.), *Geographical Gerontology: Concepts and Approaches* (pp. 189-202). Routledge.

Golant, S. M. (2015). Residential normalcy and the enriched coping repertoires of successfully aging older adults. *The Gerontologist*, *55*(1), 70-82. https://doi.org/10.1093/geront/gnu036

Granbom, M., Himmelsbach, I., Haak, M., Löfqvist, C., Oswald, F., & Iwarsson, S. (2014). Residential normalcy and environmental experiences of very old people: Changes in residential reasoning over time. *Journal of Aging Studies*, *29*, 9-19. https://doi.org/10.1016/j.jaging.2013.12.005

Hatton, T., Kipp, R., Brown, C., & Seville, E. (2017). Assessing research priorities and practices following the 2016 Kaikoura Earthquake. *Australasian Journal of Disaster and Trauma Studies*, *21*(2), 83-89. https://www.massey.ac.nz/~trauma/issues/2017-2/AJDTS_21_2_full.pdf#page=31

Heckhausen, J., & Brim, O. G. (1997). Perceived problems for self and others: Self-protection by social downgrading throughout adulthood. *Psychology and Aging*, *12*(4), 610.

Heidrich, S. M., & Ryff, C. D. (1993). The role of social comparisons processes in the psychological adaptation of elderly adults. *Journal of Gerontology: Psychological Sciences*, *48*(3), 127-136. https://doi.org/10.1093/geronj/48.3.P127

Heslin, P. A., Burnette, J. L., & Ryu, N., G. (2021). Does a growth mindset enable successful aging? *Work, Aging and Retirement*, *7*(2), 79 - 89. https://doi.org/10.1093/workar/waaa029

Hildon, Z., Montgomery, S. M., Blane, D., Wiggins, R. D., & Netuveli, G. (2009). Examining resilience of quality of life in the face of health-related and psychosocial adversity at older ages: What is “right” about the way we age? *The Gerontologist*, *50*(1), 36-47. https://doi.org/10.1093/geront/gnp067

Hildon, Z., Smith, G., Netuveli, G., & Blane, D. (2008). Understanding adversity and resilience at older ages. *Sociology of Health & Illness*, *30*(5), 726-740. https://doi.org/10.1111/j.1467-9566.2008.01087.x

Horesh, D., & Brown, A. D. (2020). Traumatic stress in the age of COVID-19: A call to close critical gaps and adapt to new realities. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*(4), 331. https://doi.org/10.1037/tra0000592

Hornblow, S., Quigley, M., Nicol, A., Van Dissen, R., & Wang, N. (2014). Paleoseismology of the 2010 Mw 7.1 Darfield (Canterbury) earthquake source, Greendale Fault, New Zealand. *Tectonophysics*, *637*, 178-190. https://doi.org/10.1016/j.tecto.2014.10.004

Horner, B., & Boldy, D. P. (2008). The benefit and burden of "ageing-in-place" in an aged care community. *Australian Health Review*, *32*(2), 356-365. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=33f4301eb32856ba17177936d76c15db7bda0de4

Jacobs, K., & Malpas, J. (2013). Material objects, identity and the home: Towards a relational housing research agenda. *Housing, Theory & Society*, *30*(3), 281-292. https://doi.org/10.1080/14036096.2013.767281

Jamieson, T. (2020). “Go hard, go early”: preliminary lessons from New Zealand’s response to COVID-19. *The American Review of Public Administration*, *50*(6-7), 598-605. https://doi.org/10.1177/0275074020941721

Kawachi, I., Aida, J., Hikichi, H., & Kondo, K. (2020). Disaster resilience in aging populations: Lessons from the 2011 Great East Japan earthquake and tsunami. *Journal of the Royal Society of New Zealand*, *50*(2), 263-278. https://doi.org/10.1080/03036758.2020.1722186

Kinsella, K. G. (1992). Changes in life expectancy 1900–1990. *The American Journal of Clinical Nutrition*, *55*(6), 1196S-1202S. https://doi.org/10.1093/ajcn/55.6.1196S

Kira, I. A., Shuwiekh, H. A. M., Ashby, J. S., Elwakeel, S. A., Alhuwailah, A., Sous, M. S. F., Baali, S. B. A., Azdaou, C., Oliemat, E. M., & Jamil, H. J. (2021). The impact of COVID-19 traumatic stressors on mental health: Is COVID-19 a new trauma type. *International Journal of Mental Health and Addiction*. https://doi.org/10.1007/s11469-021-00577-0

Kok, A. A. L., Aartsen, M. J., Deeg, D. J. H., & Huisman, M. (2015). Capturing the diversity of successful aging: An operational definition based on 16-Year trajectories of functioning. *The Gerontologist*, *57*(2), 240-251. https://doi.org/10.1093/geront/gnv127

Kotter-Grühn, D., & Hess, T. M. (2012). The impact of age stereotypes on self-perceptions of aging across the adult lifespan. *The Journals of Gerontology: Series B*, *67*(5), 563-571. https://doi.org/10.1093/geronb/gbr153

Kotter-Grühn, D., Kornadt, A., & Stephan, Y. (2016). Looking beyond chronological age: Current knowledge and future directions in the study of subjective age. *Gerontology*, *62*, 86-93. https://doi.org/10.1159/000438671

Kuijer, R. G., Marshall, E. M., & Bishop, A. N. (2014). Prospective predictors of short-term adjustment after the Canterbury earthquakes: Personality and depression. *Psychological Trauma: Theory, Research, Practice, and Policy*, *6*(4), 361-369. https://doi.org/10.1037/a0034591

Lahar, C. J., Nadeau, A. L., Violette, J., Roberts, S., & Reindl, D. (2023). Socio-emotional resilience among older adults during the COVID-19 pandemic. *Journal of the South

Carolina Academy of Science, *21*(1), 7. https://scholarcommons.sc.edu/cgi/viewcontent.cgi?article=1245&context=jscas

Lazzari, C., & Rabottini, M. (2022). COVID-19, loneliness, social isolation an drisk of dementia in older people: A systematic review and meta-analysis of the relevant literature. *International Journal of Psychiatry in Clinical Practice*, *26*, 196 - 207. https://doi.org/10.1080/13651501.2021.1959616

Lehning, A. (2018). Promoting resilience through aging-friendly community initiatives: Opportunities and challenges. In B. Resnick, L. P. Gwyther, & K. A. Roberto (Eds.), *Resilience in aging: Concepts, research, and outcomes (Second edition)* (pp. 297 - 314). Springer. https://doi.org/10.1007/978-3-030-04555-5

Leppold, C., Gibbs, L., Block, K., Reifels, L., & Quinn, P. (2022). Public health implications of multiple disaster exposures. *The Lancet Public Health*, *7*(3), e274-e286. https://doi.org/10.1016/S2468-2667(21)00255-3

Lesthaeghe, R. (2010). The unfolding story of the second demographic transition. *Population and Development Review*, *36*(2), 211-251.

Liu, B. F., Austin, L., Lee, Y.-I., Jin, Y., & Kim, S. (2020). Telling the tale: The role of narratives in helping people respond to crises. *Journal of Applied Communication Research*, *48*(3), 328-349. https://doi.org/10.1080/00909882.2020.1756377

Lock, S., Rubin, G. J., Murray, V., Rogers, M. B., Amlôt, R., & Williams, R. (2012). Secondary stressors and extreme events and disasters: a systematic review of primary research from 2010-2011. *PLoS currents*, *4*. https://doi.org/10.1371/currents.dis.a9b76fed1b2dd5c5bfcfc13c87a2f24f

Lorenz, C., de Oliveira Lage, M., & Chiaravalloti-Neto, F. (2021). Deforestation hotspots, climate crisis, and the perfect scenario for the next epidemic: The Amazon time bomb. *Science of The Total Environment*, *783*, 147090. https://doi.org/10.1016/j.scitotenv.2021.147090

MacLeod, S., Musich, S., Hawkins, K., Alsgaard, K., & Wicker, E. R. (2016). The impact of resilience among older adults. *Geriatric Nursing*, *37*(4), 266-272. https://doi.org/10.1016/j.gerinurse.2016.02.014

Manatū Hauora Ministry of Health. (2022). *COVID-19 Trends and Insights Report 9 September 2022*. https://www.health.govt.nz/system/files/documents/pages/trends_and_insights_report_-_23_december_2022.pdf

Manning, L. K. (2013). Navigating hardships in old age: Exploring the relationship between spirituality and resilience in later life. *Qualitative Health Research*, *23*(4), 568-575. https://doi.org/10.1177/1049732312471730

McColl, G. J., & Burkle, F. M. (2012). The new normal: Twelve months of resiliency and recovery in Christchurch. *Disaster Medicine and Public Health Preparedness*, *6*(1), 33-43. https://doi.org/10.1001/dmp.2012.8

Mead, S. M. (2003). *Tikanga Māori: Living by Māori values*. Huia Publishers.

Mercer, S., & Kane, R. A. (1979). Helplessness and hopelessness among the institutionalized aged: An experiment. *Health and Social Work*, *4*(1), 90-116. https://doi.org/10.1093/hsw/4.1.90

Ministry of Health Manatū Hauora. (2023). *COVID-19: Case demographics*. Retrieved 29 March 2023 from https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-case-demographics

Morton, J. (2016, 14 November). Kaikoura quake: 100,000 landslides. *NZ Herald*. https://www.nzherald.co.nz/nz/kaikoura-quake-100000-landslides/IC3ABZGCG6BM5LT4OIKG6QBK7I/

Murray, M. (2000). Levels of narrative analysis in health psychology. *Journal of Health Psychology*, *5*(3), 337-347.

Neumann-Podczaska, A., Al-Saad, S. R., Karbowski, L. M., Chojnicki, M., Tobis, S., & Wieczorowska-Tobis, K. (2020). COVID 19 - Clinical picture in the elderly population: A qualitative systematic review. *Aging Dis*, *11*(4), 988-1008. https://doi.org/10.14336/ad.2020.0620

Norrick, N. R. (2009). The construction of multiple identities in elderly narrators' stories. *Ageing & Society*, *29*(6), 903-927. https://doi.org/10.1017/S0144686X09008599

Olsberg, D. W., Mark. (2005). *Ageing-in-place? Intergenerational and intra-familial housing transfers and shifts in later life*. Australian Housing and Urban Research Institute. https://apo.org.au/sites/default/files/resource-files/2004-07/apo-nid210.pdf

Orchiston, C., Mitchell, J., Wilson, T., Langridge, R., Davies, T., Bradley, B., Johnston, D., Davies, A., Becker, J., & McKay, A. (2018). Project AF8: Developing a coordinated, multu-agency response plan for a future great Alpine Fault earthquake. *New Zealand Journal of Geology and Geophysics*, *61*(3), 389 - 402. https://doi.org/10.1080/00288306.2018.1455716

Oriol, W. E., & Nordboe, D. (1999). Older Persons in Disasters. In *Psychosocial issues for older adults in disasters*. Substance Abuse and Mental Health Services Administration, Center for Mental Health Services. https://www.ce-credit.com/articles/100113/psychosocialOlderAdultsDisasters.pdf

Parker, M., & Steenkamp, D. (2012). The economic impact of the Canterbury earthquakes. *Reserve Bank of New Zealand Bulletin*, *75*(3), 13-25. https://www.rbnz.govt.nz/-/media/project/sites/rbnz/files/publications/bulletins/2012/2012sep75-3.pdf#page=13

Pearce, H. (2018). The 2017 Port Hills wildfires - a window into New Zealand's fire future? *Australasian Journal of Disaster and Trauma Studies*, *22*, 35-50. http://trauma.massey.ac.nz/issues/2018-2/AJDTS_22_2_Pearce.pdf

Pescaroli, G., & Alexander, D. (2015). A definition of cascading disasters and cascading effects: Going beyond the “toppling dominos” metaphor. *Planet at Risk*, *3*(1), 58-67. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=5e056c0990d341ce554b98d25d2bca935623ad76

Phoenix, C., Smith, B., & Sparkes, A. C. (2010). Narrative analysis in aging studies: A typology for consideration. *Journal of Aging Studies*, *24*(1), 1-11. https://doi.org/10.1016/j.jaging.2008.06.003

Powell, S., Plouffe, L., & Gorr, P. (2009). When ageing and disasters collide: Lessons from 16 international case studies. *Radiation Protection Dosimetry*, *134*(3-4), 202-206. https://doi.org/10.1093/rpd/ncp082

Prayag, G., Ozanne, L. K., & Spector, S. (2021). A psychological wellbeing perspective of long-term disaster recovery following the Canterbury earthquakes. *International Journal of Disaster Risk Reduction*, *63*, 102438. https://doi.org/10.1016/j.ijdrr.2021.102438

Quarantelli, E. L., Boin, A., & Lagadec, P. (2018). Studying future disasters and crises: A heuristic approach. In H. Rodríguez, W. Donner, & J. E. Trainor (Eds.), *Handbook of disaster research* (pp. 61 - 83). Springer International Publishing. https://doi.org/10.1007/978-3-319-63254-4_4

Quigley, M., & Duffy, B. (2020). Effects of earthquakes on flood hazards: A case study from Christchurch, New Zealand. *Geosciences*, *10*(3). https://doi.org/10.3390/geosciences10030114

Rafiey, H., Momtaz, Y. A., Alipour, F., Khankeh, H., Ahmadi, S., Khoshnami, M. S., & Haron, S. A. (2016). Are older people more vulnerable to long-term impacts of disasters? *Clinical Interventions in Aging*, *11*, 1791. http://dx.doi.org/10.2147/CIA.S122122

Randall, W. L. (2001). Storied worlds: Acquiring a narrative perspective on aging, identity, and everyday life. *Narrative gerontology: Theory, research, practice*, 31-62.

Rosowsky, E. (2009). Challenge and resilience in old age. *Generations: Journal of the American Society on Aging*, *33*(3), 100-102. https://www.jstor.org/stable/10.2307/26555682

Rowe, J. W., & Carr, D. C. (2018). Successful aging: History and prospects. In *Oxford Research Encyclopedia of Psychology*. https://doi.org/10.1093/acrefore/9780190236557.013.342

Rowe, J. W., & Kahn, R. L. (2015). Successful aging 2.0: Conceptual expansions for the 21st century. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, *70*(4), 593-596. https://doi.org/10.1093/geronb/gbv025

Rowles, G. D. (2017). Being in place: Identity and place attachment in late life. In *Geographical gerontology* (pp. 203-215). Routledge. https://www-taylorfrancis-com.ezproxy.massey.ac.nz/chapters/edit/10.4324/9781315281216-16/being-place-graham-rowles

Ryff, C. D., Love, G. D., Essex, M. J., & Singer, B. (1998). Resilience in adulthood and later life: Defining features and dynamic processes. In *Handbook of aging and mental health: An integrative approach* (pp. 69-96).

Sengul, H., Santella, N., Steinberg, L. J., & Cruz, A. M. (2012). Analysis of hazardous material releases due to natural hazards in the United States. *Disasters*, *36*(4), 723-743. https://doi.org/10.1111/j.1467-7717.2012.01272.x

Severinsen, C., Breheny, M., & Stephens, C. (2016). Ageing in unsuitable places. *Housing Studies*, *31*(6), 714-728. https://doi.org/10.1080/02673037.2015.1122175

Shih, R., Acosta, J., Chen, E., Carbone, E., Xenakis, L., Adamson, D., & Chandra, A. (2018). Improving disaster resilience among older adults: Insights from public health departments and aging-in-place efforts. *Rand health quarterly*, *8*, 3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6075802/

Shrira, A., Palgi, Y., Hamama-Raz, Y., Goodwin, R., & Ben-Ezra, M. (2014). Previous exposure to the World Trade Center terrorist attack and posttraumatic symptoms among older adults following Hurricane Sandy. *Psychiatry: Interpersonal and Biological Processes*, *77*(4), 374-385. https://doi.org/10.1521/psyc.2014.77.4.374

Smith, A. E. (2009). Environmental gerontology. In *Ageing in urban neighbourhoods: Place attachment and social exclusion*. Policy Press. https://doi.org/10.1332/policypress/9781847422712.003.0002

Statistics New Zealand Tatauranga Aotearoa. (2006). A history of survival in New Zealand: Cohort life tables 1876–2004. http://globalag.igc.org/elderrights/world/2007/survivalnewzealand.pdf

Statistics New Zealand Tatauranga Aotearoa. (2019). *National and subnational period life tables: 2017–2019*. Retrieved 3 March 2023 from https://www.stats.govt.nz/information-releases/national-and-subnational-period-life-tables-2017-2019

Statistics New Zealand Tatauranga Aotearoa. (2020a). Almost 1 in 9 people live in a crowded house. Retrieved 29 March 2023, from https://www.stats.govt.nz/news/almost-1-in-9-people-live-in-a-crowded-house

Statistics New Zealand Tatauranga Aotearoa. (2020b). *Housing in Aotearoa: 2020*. New Zealand Government. Retrieved 1 March 2023 from https://www.stats.govt.nz/assets/Uploads/Reports/Housing-in-Aotearoa-2020/Download-data/housing-in-aotearoa-2020.pdf

Stephens, C. (2011). Narrative analysis in health psychology research: Personal, dialogical and social stories of health. *Health Psychology Review*, *5*(1), 62-78. https://doi.org/10.1080/17437199.2010.543385

Stephens, C. (2017). From success to capability for healthy ageing: Shifting the lens to include all older people. *Critical Public Health*, *27*(4), 490-498. https://doi.org/10.1080/09581596.2016.1192583

Stephens, C., & Breheny, M. (2022). Diverse experiences among older adults in Aotearoa/New Zealand during COVID-19 lockdown: A qualitative study. *Australasian Journal on Ageing*, *41*(1), e23-e31. https://doi.org/10.1111/ajag.12995

Stephens, C., Breheny, M., & Mansvelt, J. (2015). Healthy ageing from the perspective of older people: A capability approach to resilience. *Psychology & Health*, *30*(6), 715-731. https://doi.org/10.1080/08870446.2014.904862

Stones, D., & Gullifer, J. (2016). ‘At home it's just so much easier to be yourself’: Older adults' perceptions of ageing in place. *Ageing & Society*, *36*(3), 449-481. https://doi.org/10.1017/SO144686X14001214

Su, Y., Rao, W., KLi, M., Caron, G., D'Arcy, C., & Meng, X. (2022). Prevalence of loneliness and social isolation among older adults during the COVID-19 pandemic: A systematic review and meta-analysis. *International Psychogeriatrics*, 1 - 13. https://doi.org/10.1017/S1041610222000199

Swaffield, S. (2013). Place, culture and landscape after the Christchurch earthquake. *Space Place & Culture*, 1-26. http://www.futureleaders.com.au/book_chapters/pdf/Space-Place-Culture/Simon-Swaffield.pdf

Taylor, M. C., FIsher, T. S. R., Ng, K. K. S., & Pennington, M. (2018). Flooding vulnerability lessons learned in assessing the effects of flooding caused by the Canterbury earthquake

sequence. *International Journal of Geoengineering Case Histories*, *4*(4), 242 - 253. https://www.geocasehistoriesjournal.org/pub/article/view/IJGCH_4_4_2

Taylor, M. G., & Carr, D. (2020). Psychological resilience and health among older adults: A comparison of personal resources. *The Journals of Gerontology: Series B*, *76*(6), 1241-1250. https://doi.org/10.1093/geronb/gbaa116

Taylor, S., & Lobel, M. (1989). Social comparison activity under threat: Downward evaluation and upward contacts. *Psychological review*, *96*, 569-575. https://doi.org/10.1037//0033-295X.96.4.569

Thomas, D. S. K., Jang, S., & Scandlyn, J. (2020). The CHASMS conceptual model of cascading disasters and social vulnerability: The COVID-19 case example. *International Journal of Disaster Risk Reduction*, *51*, 101828. https://doi.org/10.1016/j.ijdrr.2020.101828

Tulle-Winton, E. (1999). Growing old and resistance: towards a new cultural economy of old age? *Ageing and Society*, *19*(3), 281-299. https://doi.org/10.1017/S0144686X98007193

Tuohy, R., & Stephens, C. (2011). Exploring older adults' personal and social vulnerability in a disaster. *International Journal of Emergency Management*, *8*(1). https://doi.org/10.1504/IJEM.2011.040399

Tuohy, R., Stephens, C., & Johnston, D. (2014a). Older adults' disaster preparedness in the context of the September 2010 – December 2012 Canterbury earthquake sequence. *International Journal of Disaster Risk Reduction*, *9*, 194-203. https://doi.org/10.1016/j.ijdrr.2014.05.010

Tuohy, R., Stephens, C., & Johnston, D. (2014b). Qualitative research can improve understandings about disaster preparedness for independent older adults in the community. *Disaster Prevention and Management*. https://doi.org/10.1108/DPM-01-2013-0006

Tuohy, R. J. (2010). *Improving disaster preparedness of older adults living in the community*. GNS Science Report 2010/07. https://www.eqc.govt.nz/assets/Publications-Resources/1793-disaster-preparedness-older-adults.pdf

United Nations International Strategy for Disaster Reduction. (2009). 2009 UNISDR terminology on disaster risk reduction. https://www.undrr.org/publication/2009-unisdr-terminology-disaster-risk-reduction

Van Breda, A. D. (2018). A critical review of resilience theory and its relevance for social work. *Social Work (Stellenbosch. Online)*, *54*, 1 - 18. https://doi.org/10.15270/54-1-611

van Rensburg, M., Domican, S., & Kennedy, A. (2021). *Background paper for the 2021 statement on the long-term fiscal position: The economic impacts of an ageing population in New Zealand*. Te Tai Ōhanga The Treasury. https://www.treasury.govt.nz/sites/default/files/2021-09/ltfs21-bp-economic-impact-ageing-population-nz.pdf

WHO Centre for Health Development. (2004). A glossary of terms for community health care and services for older persons. In *Ageing and Health Technical Report* (Vol. 5). World Health Organisation. https://apps.who.int/iris/bitstream/handle/10665/68896/WHO_WKC_Tech.Ser._04.2.pdf?sequence=1&isAllowed=y

Wiki, J., Marek, L., Hobbs, M., Kingham, S., & Campbell, M. (2021). Understanding vulnerability to COVID-19 in New Zealand: A nationwide cross-sectional study. *Journal of the Royal Society of New Zealand*, *51*, S179 - S196. https://doi.org/10.1080/03036758.2021.1900294

Wiles, J., Allen, R., Palmer, A., Hayman, K., Keeling, S., & Kerse, N. (2009). Older people and their social spaces: A study of well-being and attachment to place in Aotearoa New Zealand. *Social Science & Medicine*, *68*(4), 664-671. https://doi.org/10.1016/j.socscimed.2008.11.030

Wiles, J., Leibing, A., Guberman, N., Reeve, J., & Allen, R. (2012a). The meaning of “aging in place” to older people. *The Gerontologist*, *52*(3), 357-366. https://doi.org/10.1093/geront/gnr098

Wiles, J., Rolleston, A., Pillai, A., Broad, J., Teh, R., Gott, M., & Kerse, N. (2017). Attachment to place in advanced age: A study of the LiLACS NZ cohort. *Journal of Social Science & Medicine*, *185*, 27-37. https://doi.org/10.1016/j.socscimed.2017.05.006

Wiles, J., Wild, K., Kerse, N., & Allen, R. (2012b). Resilience from the point of view of older people: ‘There's still life beyond a funny knee’. *Social Science & Medicine*, *74*(3), 416-424. https://doi.org/10.1016/j.socscimed.2011.11.005

Wong, G., & Breheny, M. (2018). Narrative analysis in health psychology: A guide for analysis. *Health Psychology and Behavioural Medicine*, *6*(1), 245-261. https://doi.org/10.1080/21642850.2018.1515017

Wong, M., L., Brown, C., J., Kitzman, D., W., Zeng, S., & Mohile, S., G. (2022). Survive and thrive: Personal stories of persistence and resilience in aging research. *Journal of the American Geriatrics Society*, *70*, 2209 - 2213. https://doi.org/10.1111/jgs.17902

Wood, S. (2022, 4 March). *Eastern Ukraine: The needs of older people* https://reliefweb.int/report/ukraine/eastern-ukraine-needs-older-people-4th-march-2022

World Health Organisation. (2008). *Older persons in emergencies: An active ageing perspective*.

World Health Organisation. (2023). *WHO Coronavirus (COVID-19) Dashboard*. Retrieved 4 January 2023 from https://covid19.who.int/

Wu, J. T., Leung, K., Bushman, M., Kishore, N., Niehus, R., de Salazar, P. M., Cowling, B. J., Lipsitch, M., & Leung, G. M. (2020). Estimating clinical severity of COVID-19 from the transmission dynamics in Wuhan, China. *Nature Medicine*, *26*(4), 506-510. https://doi.org/10.1038/s41591-020-0822-7

Yalcinoz Baysal, H., Aktas, B., & Bakan, A. B. (2020). An investigation of the relationship between ageing in place and successful ageing in elderly individuals. *Journal of Psychogeriatrics*, *20*(4), 473-479. https://doi.org/doi:10.1111/psyg.12534

Appendix A: Participant Recruitment Advertisement (Facebook)

Appendix B: Study Ethics Approval

Appendix C: Study Information Sheet

Appendix D: Study Consent Form

Appendix E: Risk Assessment Guidelines

Appendix F: Interview Schedule

Appendix G: RF07 & Copyright Form