Self-Compassion and Mental Health in Older Adults: The Mediating Role of Emotion Regulation Skills

A thesis presented in partial fulfilment of the requirements for the degree of

Master of Science

in

Psychology

At Massey University, Auckland, New Zealand

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2024

Abstract

Promoting wellbeing and reducing emotional distress (depression and anxiety) in older adults is a growing imperative worldwide. One promising psychological factor that may enhance the complete mental health of older adults is self-compassion. Research in younger adults indicates that self-compassion protects against emotional distress, while also promoting wellbeing. However, limited research has examined self-compassion's benefits in older adulthood. Additionally, despite the promise of self-compassion, little is known about how self-compassion creates beneficial mental health outcomes. Emotion regulation skills is one potential process underlying self-compassion. However the evidence for this is preliminary for the mental health outcomes of emotional distress and unclear for wellbeing. This research explored associations that self-compassion had with the outcomes of wellbeing, depression and anxiety in older adults, as well as whether emotion regulation skills mediated each of these relationships. Older adults aged 65 or greater (N = 132) were recruited through convenience sampling. The survey consisted of measures for self-compassion, emotion regulation skills, depression, anxiety, and wellbeing. Three separate cross-sectional mediation models were conducted using the PROCESS macro in SPSS to assess both self-compassion's relationship with the corresponding health outcomes of wellbeing, depression and anxiety, as well as to examine the role of emotion regulation skills as mediator in each of these three relationships. Self-compassion had a significant positive correlation with wellbeing, and a significant negative correlation with depression and anxiety. The three mediation models indicated that emotion regulation skills significantly mediated the relationship that self-compassion had with wellbeing, depression and anxiety. This research suggests that self-compassion is a valuable resource for promoting the complete mental health of older adults. Older adults with higher self-compassion tended to have higher wellbeing and less symptoms of emotional distress. This research extended the application of an emotion regulation theory of self-compassion to older adults, demonstrating that emotion regulation may be a possible process underlying not only self-compassion's association with emotional distress but also wellbeing.

Acknowledgements

I would like to firstly thank my supervisor, Professor Fiona Alpass. Your expertise, guidance and, patience has been invaluable. Secondly, I would like to thank all the participants that gave their time and energy to allow this research to materialise. Last but not least, a special thank you to my family. Philip, Helena, Pasty and Roger, I would not have got this far without your unwavering support. Siobhan and Saoirse this thesis is for you.

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Chapter One: Introduction

The rapidly increasing ageing population is an accepted phenomenon across the world. As a result of decreasing birth rates and increasing life expectancies there is an increasing portion of the world's population that is older. In Aotearoa New Zealand, 17% of the population was 65 years or older in 2022, and this percentage is projected to increase to almost 20% of the population by 2028 (Statistics New Zealand, 2022a). In total is it expected that more than a million New Zealanders will be aged 65 and over by 2028, with this increasing to 1.5 million by the 2050s (Statistics New Zealand, 2022a). The rate at which the population is ageing has major implication for society and it has even lead policy makers to consider raising the official pension age as a means of supporting the additional costs associated an ageing society (Edmunds, 2023). It is projected that the New Zealand healthcare system will not be able to adequately support the increasing mental health needs of older New Zealanders (Cheung et al., 2018; Te Pou o te Whakaaro Nui, 2019). Consequently, protecting and maintaining the mental health of older adults is a national imperative (Associate Minister of Health, 2016; Te Pou o te Whakaaro Nui, 2019).

One aspect of mental health that is of concern for older adults is emotional distress. Emotional disorders (anxiety and depressive disorders) are the most common manifestations of emotional distress in older adults (Hinrichsen, 2020; Wermelinger Ávila et al., 2017). The negative impact of emotional disorders cannot be understated. Emotional disorders can result in significant psychological distress and functional impairment, representing some of the leading causes of disability worldwide (James et al., 2018). Over and above the more evident negative outcomes of emotional disorders such a suicide (Kułak-Bejda et al., 2021), emotional disorders are also associated with a number of additional negative outcomes in older adults. This can include increased frailty, hospitalization and aged care admission, loneliness and impaired physical health (Blazer, 2003; Fiske et al., 2009; Karlin & Fuller, 2007). Notably, emotional disorders increase the risk of developing chronic conditions such as heart disease, cognitive decline and dementia (Karlin & Fuller, 2007; Wolitzky-Taylor et al., 2010). Emotional disorders can also exacerbate the current impact of existing

medical conditions (Katon, 2011) and hinder individuals ability to self-manage their conditions as well as adhere to medical advice (DiMatteo et al., 2000). Ultimately emotional disorder are not only inherently distressing and result in a poor quality of life but they are also associated with an increased mortality (Blazer, 2003; Wolitzky-Taylor et al., 2010).

Given the unique life circumstances and challenges of older adulthood, there is concern that older adults are at risk of experiencing greater impairment from emotional disorders than younger adults (Blazer, 2003; Lenze et al., 2011; Lutz et al., 2018). Older adults experience and manifest emotional disorders differently than younger cohorts (Bryant, 2010). They experience high rates of co-occurring medical conditions (Tinetti et al., 2012) and face negative narratives of ageing that make it challenging to identify emotional disorders (Bryant, 2010). As such, emotional disorders are often underreported, or not identified, with symptoms being misattributed to coexisting medical conditions or 'normal ageing' by both older adults themselves and the caring professionals responsible for assessment (Therrien & Hunsley, 2012; Waterworth et al., 2015). To compound this, researchers argue that it is more common for older adults to present with 'sub-threshold' emotional disorder symptoms, that while not meeting the full diagnostic criteria for diagnosis, still cause significant distress and impairment (Chachamovich et al., 2008; Flint, 2002). Older adults also face barriers to support as they are less aware of psychotherapy treatment options (Woodward & Pachana, 2009) and are more reluctant to seek help or psychological care for emotional concerns (Dear et al., 2013). Taken together, it is crucial to better support older adults with emotional disorder symptoms as they not only face significant distress, negative outcomes and functional impairment but they are more likely to be underrecognized and untreated (Bryant et al., 2008; Karlin & Fuller, 2007). Simply put, many older New Zealanders are not receiving the care they need (Te Pou o te Whakaaro Nui, 2019).

However, protecting against emotional distress is not the only relevant dimension of mental health for older adults. Contemporary definitions of mental health acknowledge that mental health is more than the absence of distress or something negative, mental health also involves the

presence of wellbeing (Keyes, 2005). Wellbeing refers to positive states of optimal functioning and experiences that make life fulfilling and worth living (Keyes, 2005). Wellbeing is commonly accepted as a distinct, independent element of mental health which is inherently valuable to promote in its own right (Magyar & Keyes, 2019). Consequently, while it is imperative to protect against the burden of emotion disorders, it is equally important to ensure older adults are living optimal lives. To address the mental health needs of the ageing population it is important for research to identify psychological factors that are widely applicable and not only protect against emotional distress but also promote wellbeing.

One such promising factor is self-compassion (Neff, 2003a). Self-compassion is an adaptive means of self-relating in times of failure, distress and suffering whereby one attempts to alleviate their own suffering in an empathic, gentle and non-judgmental way (Neff, 2003a). Self-compassion has attracted significant interest over the past two decades and a wealth of evidence illustrates that self-compassion is associated with multiple indicators of wellbeing (McKay & Walker, 2021; Zessin et al., 2015). It has also been linked to transdiagnostic reductions in psychopathology (Germer, 2023), such as anxiety and depression (Macbeth & Gumley, 2012). Furthermore, self-compassion is a malleable and trainable factor (Neff & Germer, 2013) in which interventions that aim to teach self-compassion are effective in reducing stress, depression and anxiety symptoms as well as enhancing wellbeing (Ferrari et al., 2019). More recently these well-established relationships have begun to be explored in older cohorts (Brown et al., 2019). Within the small literature base regarding older adults, there is also some evidence that self-compassion increases with age (Tóth-Király & Neff, 2021) and that it is a uniquely powerful factor for promoting the mental health of older adults (Tavares et al., 2023).

However, despite the comprehensive evidence surrounding self-compassion's impact on mental health and the promising application it may have for older adults, the specific processes by which self-compassion creates mental health outcomes is unclear (Finlay-Jones, 2023). In order to promote the mental health of older adults most effectively, it is beneficial to understand not only

what factors influence mental health outcomes but also *how.* Self-compassion's influence has been assumed as self-evident and little research has attempted to explore how, or by what processes self-compassion operates (Germer, 2023). Better understanding the mechanism by which self-compassion influences mental health will help guide and refine interventions, maximising future mental health outcomes for older adults. In attempting to understand how self-compassion operates researchers have considered self-compassion within the context of more robust theoretical frameworks (Germer, 2023). Specifically, the predominant theory proposed by researchers, including Neff (2003b) herself, is that self-compassion operates through an emotion regulation process (Germer, 2023). Self-compassion is hypothesised to facilitate the use of emotion regulation skills, which in turn operate to improve mental health (Berking & Whitley, 2014; Finlay-Jones, 2017). However, this hypothesis has only preliminary evidence and is in need of further exploratory investigation (Finlay-Jones, 2023; Inwood & Ferrari, 2018). In particular, there is limited, inconsistent research that has examined this hypothesis in regards to wellbeing as mental health outcome (Carona et al., 2022; Finlay-Jones, 2023) and no research has explored this relationship in older adults for any mental health outcome.

The following literature review provides background to this hypothesis and the potential role that emotion regulation may play in explaining how self-compassion influences the mental health of older adults. First an overview of mental health outcomes relevant to older adulthood is provided. The concept of self-compassion is then reviewed, followed by a summary of the evidence for self-compassion's influence on mental health and the existing literature base extending this to older adults. Lastly the theorical and empirical rationale for emotion regulation's role within self-compassion is examined.

Chapter Two: Literature Review

What is Older Adulthood?

What defines older adulthood is not universal, rather old age is a socially constructed concept (Gilleard, 2023). Commonly older adulthood refers to adults over the approximate age of 60-70, however the exact age that defines older adults varies across society and within literature (Harper, 2014). In New Zealand the eligibility for aged pension support is commonly used as a reference for older adulthood, however an individual may not necessary identify with 'old age' at 65 (Associate Minister of Health, 2016). In line with convention, this research defines older adulthood as 65 years of age and older. In the context of mental health literature, this categorisation of older age is used to indicate the shared psychological, physiological and social role changes that occur across this cohort (Harper, 2014), as well as the unique sociocultural contexts of this cohort (Pachana et al., 2015). However, it is important to acknowledge that older adults within this categorisation represent a large and heterogenous group. How any one individual experiences older adulthood is unique and varies widely (Kohn et al., 2023). The recognition of increasing heterogeneity in mental health presentation with advancing age is a core tenant of psychogeriatric research (Bryant, 2010; Kohn et al., 2023). As such older adulthood in this research should not been taken as a direct measure of shared experiences across older adults, such as increased medical conditions or generational beliefs, yet rather as a general indicator of these shared experiences (Bryant, 2010; Harper, 2014; Pachana et al., 2015).

What is Mental Health?

Emotional Disorders

Depression and anxiety are commonly regarded as core determinants of poor mental health and research in older adults frequently utilises them as indicators of emotional distress (Wermelinger Ávila et al., 2017). The umbrella term, emotional disorders is widely used as a category that refers to anxiety and depressive disorders (Bullis et al., 2019). Emotional disorders represents a unified and transdiagnostic framework for conceptualising anxiety and mood disorders (Barlow &

Kennedy, 2016). This broad perspective of grouping disorders, while complementary to, reflects a shift away from the traditional medical and diagnostic approach of psychopathology in light of the criticism of its validity and utility (Barlow et al., 2004; Barlow & Kennedy, 2016). In recognition of these criticisms, such as the high levels of comorbidity between disorders, especially generalised anxiety, social anxiety and, major depressive disorder (Mennin et al., 2007), emotional disorders conceptualises disorders in terms of the common, unifying processes that underlie them (Bullis et al., 2019). Consequently the high-order categorisation of emotional disorders is based on the assumption that there are shared etiological and maintaining factors that underlie anxiety and depressive disorders. This transdiagnostic assumption asserts that emotional disorders develop from a few, core processes (Barlow et al., 2013). Extensive evidence suggests that one core, transdiagnostic process that is involved in both the development and maintenance of anxiety and mood disorders is emotion regulation (Aldao et al., 2016; Hofmann et al., 2012). It is important to acknowledge that despite emotional disorders being commonly used as a reference to anxiety and depression, emotional disorders are often poorly or implicitly defined, and it is often not consistent across research as to which disorders fall the under the reference of emotional disorders (Bullis et al., 2019). Therefore, to assist in the consolidation of research and future developments to operationalize emotional disorders (Bullis et al., 2019), this research explicitly examines anxiety and depressive symptoms, conceptualising them to represent the broad cluster of emotional disorders. For the purposes of this research the term emotional disorders is used to refer broadly to anxiety and depression. The term psychopathology is used as a wider reference to all mental health disorders, including emotional disorders.

Emotional disorders are an especially appropriate indicator of negative mental health in older adults. Firstly, depression and anxiety are the most common manifestations of psychological distress in older adults and often co-occur, presenting together in clinical practice (King-Kallimanis et al., 2009; Wermelinger Ávila et al., 2017). Older adults have been noted to have exceptionally high levels of comorbidity with some researchers arguing it is the norm, rather than the exception for

depression and anxiety disorders to present together (Hinrichsen, 2020; Möller et al., 2016). For example, it has been observed that over 50% of older adults presenting with depression also present with an anxiety disorder (King-Kallimanis et al., 2009). Therefore, utilising an emotional disorder framework as an index of poor mental health appropriately captures the most common manifestations of emotional distress in older adults while also providing a conceptual understanding for the complex interaction and high levels of comorbidity between anxiety and depressive disorders (Barlow et al., 2004). The use of a broad, non-specific approach to psychopathological disorders is also common in research with older adults on account of the complexities in emotional disorder assessment and age-related differences in symptoms presentation (Bryant, 2010).

Emotional Disorders: What is Depression & Anxiety? Fear and depression are normal, adaptive emotions. However, if these emotions become contextually inappropriate, intense, prolonged or frequent they can negatively impact cognitive, behavioural and physical functioning (Hammen & Watkins, 2018; Rachman, 2020). The manifestation of these symptoms (emotional, cognitive, behavioural and physiological) can come to reflect the criteria for anxiety or depressive disorders if they result in significant distress and/or functional impairment (Hammen & Watkins, 2018; Rachman, 2020). Within psychological practice and research, depressive and anxiety disorders are predominantly defined by the Diagnostic and Statistical Manual 5th edition (DSM-5; American Psychiatric Association, 2013). Depressive and anxiety disorders are heterogenous, especially in older adults, and individuals differ in the severity as well as the combination of symptoms that they express (American Psychiatric Association, 2013). Therefore, diagnostic tools such as the DSM-5 represent attempts to capture the major forms of anxiety and depression that can occur across the vast spectrum of presentations (Hammen & Watkins, 2018).

According to the DSM-5, the defining feature of depressive disorders is a disturbance in mood that is characterised by a sad, empty or dysphoric mood and/or anhedonia (American Psychiatric Association, 2013). What differentiates specific depressive disorders is onset, duration and assumed aetiology. However, major depressive disorder is considered the principle depressive

disorder and is commonly associated with the term depression. In addition to the core mood disturbance symptoms depression can include symptoms of decreased energy or fatigue, sleep disturbances such as hypersomnia or insomnia, appetite alterations that are associated with weight changes, inappropriate feelings of self-reproach, worthlessness or guilt, psychomotor disturbances, difficulties with concentration and/or thoughts of death or suicide (American Psychiatric Association, 2013).

The DSM-5 (American Psychiatric Association, 2013) proposes that anxiety disorders are characterised by the emotions of excessive fear (response to perceived imminent threat) and anxiety (anticipation of future threat) as well as engagement in avoidant behaviours. The DSM-5 acknowledges that anxiety disorders are highly comorbid and outlines that they can be differentiated by the situations or objects that induce fear and anxiety as well as the associated avoidance and cognitive symptoms. Generally speaking anxiety disorders represent an overestimation of threat and can include symptoms such as a fearful or anxious mood, cognitive symptoms such as excessive worry or meta-worry (worry about worry) physical symptoms of hyperarousal, restlessness, feeling on edge, fatigue or concentration issues as well as sleep disturbances and muscle tension (American Psychiatric Association, 2013).

Emotional Disorders: Older Adults. Current prevalence rates for emotional disorders in older adults vary widely based on the definition of emotional disorder, assessment method and sample used (Balsamo, Cataldi, Carlucci, & Fairfield, 2018; Balsamo, Cataldi, Carlucci, Padulo, et al., 2018). Estimates of depressive disorder prevalence is commonly cited as between 10% to 30% (i.e., Abdoli et al., 2022; Hu et al., 2022), with some reports indicating a global average as high as 31.74%, with this rate being higher in developing (40.78%) as opposed to developed countries (17.05%) (Zenebe et al., 2021). Anxiety disorders have been suggested to range between 1.2% to 15% in the community to 1% to 28% in clinical settings (Bryant et al., 2008). Rates of emotional disorders also are suggested to further increase in older adults who experience significant physical health conditions or who are in residential care (Büchtemann et al., 2012; Seitz et al., 2010).

It is widely accepted that identifying emotional disorders in older adults is challenging and as such some researchers suggest that prevalence estimates potentially underrepresent the scope of emotional disorders in older adults (Byrne & Pachana, 2011). A higher portion of older adults are proposed to experience emotional disorders symptoms that are significantly distressing and impairing, but do not meet the full criteria for a formal a diagnosis (Bryant et al., 2008; Büchtemann et al., 2012). Researchers suggest subsyndromal or sub-threshold presentations of emotion disorders are the more typical presentation in clinical practice for older adults (Meeks et al., 2011; Möller et al., 2016). Consequently, the emotional disorder symptoms that are relevant to older adults have been suggested to be somewhat common (Wolitzky-Taylor et al., 2010).

The presentation and experience of emotional disorder symptoms also varies in older adults compared to younger adults (Bryant, 2010). As previously mentioned, older adults tend to experience high levels of anxiety and depressive symptom co-occurrence and high emotional disorder diagnosis co-occurrence, in particular with generalised anxiety disorder co-occurring with major depressive disorder (Wolitzky-Taylor et al., 2010). This “double jeopardy” presentation of mixed anxiety and depression is argued to be a more severe presentation than either disorder alone, resulting in more significant functional impairment and distress, such as cognitive impairment, disability, suicide and death (Beattie et al., 2010).

Additionally, older adults vary in their presentation and communication of emotional disorder symptoms. Older adults tend to minimize their psychological symptoms and not endorse absolute references to mental health, for example using language such as concern rather than worry or anxiety (Lenze et al., 2011). Older adults are also less likely to report negative emotions, such as anxiety, low mood or having feelings of worthlessness or guilt. Rather than report emotional-cognitive symptoms of emotional disorders, older adults trend to present with somatic or cognitive symptoms such as sleep disturbances, reduced energy, appetite, psychomotor changes and cognitive impairment (Balsamo, Cataldi, Carlucci, & Fairfield, 2018; Fiske et al., 2009; Hegeman et al., 2012). This variation in presentation for older adults creates complexity in identifying emotional disorders

within this population. In particular, the preference for reporting somatic and cognitive symptoms creates challenges as these symptoms can be alternatively attributed to normative ageing or medical conditions that are highly present in older age (Pachana et al., 2007; Yesavage et al., 1982). This is also compounded by older adults tendency to themselves attribute the cause of emotional disorders symptoms to 'normal ageing' or physical health conditions rather than emotional origins (Therrien & Hunsley, 2012; Waterworth et al., 2015).

There is ongoing discussion in the literature as to whether these differences in presentation reflects a quantitative or qualitive difference in emotional disorders (Bryant, 2010). For example, older adults may in fact experience less negative affect in emotional disorders as there is some evidence that they process and experience emotions differently such as having less bias toward negative emotions and physiological reactivity to stressors (Wolitzky-Taylor et al., 2010). On the other hand, it is likely that some differences in presentation reflect a cohort effect and the influence of generational beliefs surrounding emotions (Bryant, 2010). Irrespective, emotional disorders as a construct is largely similar to younger cohorts, however there is complexity in that older adults may manifest and express their symptoms differently than younger cohorts (Hinrichsen, 2020).

Emotional Disorders: Ageing Risk Factors. Ageing, and in particular the later years of life, is often characterised as a time of loss, reduced functioning and stressful adjustment in which a number of psychosocial risk factors are present (Knight & Poon, 2008). Researchers have expressed concern that older adults are more likely to be exposed to stressful social role transitions such involuntary job loss, retirement and caregiving duties for partners or grandchildren (Pachana et al., 2015). In addition, they may face specific life transitions including grief and bereavement, isolation, loneliness and financial insecurity (Hinrichsen, 2020; Knight & Poon, 2008). Older adults also frequently have to adapt to declines in cognitive or physical functioning as well as increases in the management of chronic medical conditions (Edelstein et al., 2015). Over 90% of older adults have been found to manage one chronic medical condition, with, 75% managing numerous conditions (Tinetti et al., 2012). Physical declines and medical conditions that often co-occur with ageing can

present significant adjustments. For example, reduced mobility, hearing or sight may respectively reduce an individual's ability engage in hobbies, socialise or independently drive. These adverse circumstances are inherently stressful and increase older adults risk of developing emotional disorders (Fiske et al., 2009; Hinrichsen, 2020). It is important to acknowledge that many of these risk factors are not unique to older adults but are argued to be more commonly experienced by older adults (Pachana et al., 2015). For example, having a lower education, low income, or having physical impairments are significant correlates of emotional disorders yet these are not unique to older adults (Fiske et al., 2009).

Given this, older adults research has tended to focus on a deficits based approach centred around the idea of "ageing well" in light of these adverse circumstances (Knight & Poon, 2008). However, to align more with a contemporary positive psychology perspective, it is important to recognise the unique strengths of older adults and to not pathologize ageing or reinforce ageist myths (Lutz et al., 2018). Although cognitive decline is more common in older adults, the majority of older adults do not experience significant cognitive decline as they age and this decline is not typical nor characteristic of normal ageing (Laidlaw & Pachana, 2009). Similarly, while it is important to acknowledge there are unique stressors associated with ageing, this is not to say that the ageing process is inherently stressful or to be expected to result in depression or anxiety (Pachana et al., 2015). Simply put, emotional disorders are not a normal product of ageing. Perpetuating these negative ageing beliefs itself creates a risk factor for emotional disorders, as evidence illustrates that negative views of ageing contribute to the development of emotional disorders in older adults (Freeman et al., 2016). In fact, generally evidence suggests there is an 'old age paradox', whereby older adults by in large do 'age well" and maintain health despite loss and risk factors associated with ageing. With the exception of advanced age, generally research indicates that emotional disorders decrease with age and that older adults report less negative affect (Riediger & Rauers, 2014; Wolitzky-Taylor et al., 2010), as well as similar if not better wellbeing to younger cohorts (Hansen & Slagsvold, 2012). For example, in the New Zealand Mental Health Monitor, older adults

reported lower levels of emotional distress than younger adults (Wilson & Nicolson, 2020). Some researchers however criticise these findings as inaccurate given the diagnostic and assessment complexities of emotional disorders in older adults that have been previously mentioned (i.e., O'Connor, 2006). While variations in findings exist based on conceptualisation and assessment measures, some authors highlight the possibility of a U-shaped relationship, whereby emotional disorders are less common in older than younger cohorts, but there is an increased occurrence of emotional disorders in the later stages of ageing (Hansen & Slagsvold, 2012; Westerhof & Keyes, 2010).

In summary, in light of the ageing population and the historic neglect of older adults in psychological literature, research has appropriately investigated the different, heterogenous and complex presentations of emotional disorders in older adults as well as the potential risk factors that can occur during ageing. This research has been fruitful in highlighting that older adults represent a cohort, just like any other, with unique needs and vulnerabilities. While some older adults (i.e., those with significant medical conditions) may be at particular risk for emotional disorders and represent a uniquely vulnerable group, there is also a large portion of older adults that are resilient and it is important to recognise their strengths in line with contemporary models of maturation (Knight & Poon, 2008). As discussed in the next section, many older adults are not only resilient, but thrive in terms of wellbeing.

Wellbeing

In light of the burden of emotional disorders in older adults, psychological research has appropriately focused on reducing the symptoms of mental illness. This psychiatric focus has resulted in the commonly accepted, yet antiquated assumption, that *good mental health or wellbeing* is equivalent to the absence of mental illness (Magyar & Keyes, 2019). Complete mental health however is more than the absence of distress, it involves the presence of positive states (Keyes, 2002). This contemporary and comprehensive approach to mental health that shifts away from a deficits perspective in line with positive psychology. Positive psychology is the practice of

focusing on helping individuals thrive and flourish in life, rather than feel less 'unwell' (Seligman & Csikszentmihalyi, 2000). Instead of focusing on dysfunction, positive psychology places importance on humans' strengths and resilience factors that enable individuals to feel well, live optimally and experience a life worth living (Seligman, 2008; Seligman & Csikszentmihalyi, 2000). Wellbeing refers to the positive states of being, optimal functioning and, experiences that make life fulfilling or worth living (Keyes, 2002).

There are numerous taxonomies of wellbeing, however traditionally there are two broad lines of wellbeing literature that developed from the hedonic and eudaimonic philosophical ideas of a 'good life' or a 'life lived well' (Magyar & Keyes, 2019). As such wellbeing is often researched in terms of either experiencing positive emotions (i.e., happiness) or functioning optimally in life (i.e., an individual realising their human potential). These theorical traditions and dominant models of wellbeing are synthesised in Keyes' (2002) comprehensive conceptualisation of wellbeing. Keyes (2002; 2005) proposes that wellbeing is a multidimensional construct involving emotional, psychological and social wellbeing.

Wellbeing: Emotional Wellbeing. The hedonic philosophy of the good life as the pursuit of pleasure, gratification and positive emotions influenced the emotional wellbeing line of research (Waterman, 1993). This line of research defines wellbeing in terms of the frequency of experiencing positive emotions as well as an individual's perception of their quality of, and satisfaction with life (Diener et al., 1999). Emotional wellbeing is well evidenced to involve three major components; two affective components involving the absence of negative emotions alongside the presence of positive emotions, as well as the cognitive component of an individual's evaluation of their emotional experience and satisfaction with life (Westerhof & Keyes, 2010). The cognitive evaluation of life satisfaction within emotional wellbeing is important as it provides a stable and long term indication of an individual's emotional life (Keyes & Magyar-Moe, 2003). In summary, emotional wellbeing is a distinct element of wellbeing that focuses on feeling good, specifically involving the subjective

evaluation of life satisfaction and the ratio of positive and negative emotions (Keyes & Magyar-Moe, 2003).

Wellbeing: Psychological and Social Wellbeing. On the other hand, the line of research that proposes positive functioning constitutes wellbeing, is derived from the eudaimonic perspective that 'a good life' is achieved through self-development and the realisation of an individual's potential (Waterman, 1993). Keyes (2005) suggests that positive functioning consists of both psychological (Ryff, 1989) and social wellbeing (Keyes, 1998). Ryff (1989) integrated lifespan development theories in proposing that psychological wellbeing involves six dimensions: self-acceptance, purpose in life, autonomy, positive relations with others, environmental mastery and personal growth. These dimensions are each inclusive of challenges that individuals can strive towards in order to realise their potential, function optimally and ultimately become a better person (Ryff, 1989).

Keyes (1998) further proposes that another important aspect of positive functioning is social wellbeing. In perceiving optimal functioning beyond the level of the individual, social wellbeing reflects the quality of relationships that an individual has with other individuals and the community more generally (Keyes & Shapiro, 2004). Specifically, Keyes (1998) proposed that optimal social functioning incorporates the five dimensions of social coherence, social acceptance, social actualization, social contribution and social integration.

The construct of social wellbeing is similar to psychological wellbeing in that each dimension represents a challenge individuals must face to function optimally (Keyes & Shapiro, 2004). Psychological wellbeing however is a largely private phenomenon that focuses on challenges an individual must take towards becoming a better person, for example developing an accepting attitude towards one's own personality. Social wellbeing on the other hand represents a public phenomenon and the social challenges that individuals face towards becoming better community members within their social structures, for example by being more accepting of others' differences (Keyes & Shapiro, 2004).

In summary, emotional wellbeing refers to feeling good about life, while psychological and social wellbeing refers to functioning well in life (Magyar & Keyes, 2019). These elements of wellbeing are correlated and overlap, yet each represent distinct types of wellbeing (Keyes et al., 2008; Lambert et al., 2015). In isolation, neither offer a complete representation of wellbeing (Lambert et al., 2015), therefore Keyes (2002; 2005) proposes that collectively emotional wellbeing, psychological wellbeing and social wellbeing constitute wellbeing.

Wellbeing: Older Adulthood. As previously mentioned, in light of the life transitions associated with ageing it is common for researchers to characterise ageing as a process that puts an individual's wellbeing at risk. This argument does have some merit and research indicates that many of the determinants of wellbeing reflect that of the risk factors for emotional disorders. For example, poor physical health (Allen et al., 2012), low material standards of living (Huang et al., 2020), employment status (Schwingel et al., 2009), low education, living alone, and not having a partner (Román et al., 2017) all reflect factors that contribute to low wellbeing. However, it is also important to recognise that older adulthood is not only associated with negative circumstances and transitions. Many aspects of ageing are rewarding and result in positive gains in wellbeing. In fact, New Zealand older adults have been found to score highly on wellbeing indicators. The General Social Survey (Statistics New Zealand, 2022b) indicated that older New Zealand adults reported high positive affect, and a mean life satisfaction rating of 8 out of 10. In this survey, almost half of older adults over 75 years of age also reported life satisfaction scores of either 9 or 10 out of 10. Further, current research generally demonstrates that many adults thrive with increasing age, and experience higher levels of wellbeing than younger cohorts (Keyes & Westerhof, 2012).

It is important to note however, that how research defines and measures wellbeing varies greatly. In a systematic review, Lindert et al. (2015) identified over 60 measures of wellbeing. Given the large variation in wellbeing measurement it is consequently difficult to make definitive claims regarding the association between age an wellbeing without assessment caveats. Although there appears to be a general trend for high levels of wellbeing in older adults, the specific relationship

that age has with the dimensions of wellbeing used in this research is more nuanced. For example, only small variations in wellbeing have been reported with increasing age such that older adults compared to younger cohorts, report higher emotional wellbeing, similar social wellbeing and lower psychological wellbeing (Keyes & Westerhof, 2012; Westerhof & Keyes, 2010). Further, when one examines the specific dimensions of wellbeing in Keyes conceptualisation, the picture becomes more complex. Within the psychological wellbeing dimensions (Ryff, 1989) some research suggests that purpose in life as well as personal growth appear to decline into older adulthood, yet the other four psychological wellbeing elements remain stable (Springer et al., 2011).This is in addition to the fact that chronological age per se does not influence wellbeing, but rather the various external and interpersonal factors that are associated with ageing (Steverink, 2019).

Mental Health: Wellbeing and Psychopathology

Wellbeing and psychopathology (i.e., emotional disorders) are distinct, independent indicators of mental health that are related in a complex manner (Iasiello et al., 2020; Keyes et al., 2020). Despite common assumptions, wellbeing and psychopathology do not reflect two sides of the same coin. They do not occur on the same continuum, whereby an individual moves 'away' from psychopathology to wellness (Herron & Trent, 2000). For example, an individual can experience a low level of wellbeing and an emotional disorder diagnosis at the same time, similarly they may also experience high levels of wellbeing and an emotional disorder diagnosis (Goodman et al., 2018). Keyes's (2005) proposal that wellbeing and psychopathology are distinct constructs has been supported by a multitude of research in clinical and community populations across the lifespan, including older adults (Lamers et al., 2015; Westerhof & Keyes, 2010) and individuals with high levels of depression (Weijers et al., 2021). This distinction not only highlights that wellbeing must be considered a unique indicator of mental health, but that wellbeing is not merely a luxury afforded for older adults that are not suffering emotional disorders (Iasiello et al., 2019). Wellbeing is inherently valued for all older adults, and it is even valued as a treatment target by individuals managing and recovering from psychopathology (de Vos et al., 2017). In fact older adults

experiencing serious psychopathological illnesses often express more interest in enhancing wellbeing than managing pathological symptoms (Ogden, 2021).

While acknowledging that wellbeing and psychopathology are independent, they are still related (Iasiello et al., 2019). This connected relationship in itself provides further rational for targeting wellbeing alongside emotional disorders in older adults. Researchers have suggested that a bidirectional relationship may exist between these two constructs, where there is a general tendency for psychopathology to decrease as wellbeing increases and vice versa (Keyes et al., 2020). Specifically, evidence suggests that a U shaped relationship may exist, particularly for depression, whereby at higher levels of psychopathology or wellbeing, the correlation between these two constructs becomes stronger (Iasiello et al., 2020; Weijers et al., 2021). Nevertheless, the distinct, yet complexly connected, relationship between wellbeing and psychopathology is clinically relevant as it indicates that the promotion of wellbeing can protect and provide resilience against emotional disorders (Westerhof & Keyes, 2010). The protective role of wellbeing against the development and relapse of emotional disorders has been supported by a host of longitudinal research (Keyes et al., 2020; Lamers et al., 2015; Schotanus-Dijkstra et al., 2019). Therefore, Improving wellbeing in older adults is not only inherently important and valued by older adults themselves, but doing so may provide protection from and reduce emotional disorders.

In summary, older adults may represent a particularly diverse and heterogenous group with regards to mental health. On the one hand, older adults can be argued to be at particular risk for emotional disorders and represent a uniquely vulnerable group. While on the other hand, there is the tendency for a large portion of older adults to experience high levels of wellbeing. In line with contemporary perspectives, improving mental health in older adults is not restricted to purely protecting against states of distress but it also involves maximising wellbeing and ensuring older adults are living fulfilled, satisfied and happy lives. To address the mental health needs of the ageing population it is therefore, important for research to identify modifiable factors that are widely

applicable and not only protect against emotional distress but also promote wellbeing (Jeste et al., 2013).

What is Self-Compassion?

One such factor that has attracted significant interest over the past two decades is self-compassion. Self-compassion is compassion for others turned inward. To be self-compassionate is to treat oneself with the same care, warmth and kindness that one would a close friend in distress (Terry & Leary, 2011). Drawing from Buddhist origins, Neff (2003b) operationalised self-compassion in western psychological literature as an adaptive means of self-relating in times of failure, distress and suffering whereby one attempts to alleviate their own suffering in a supportive, empathetic and non-judgmental way. According to Neff (2003a, 2016, 2023b), self-compassion involves three loosely organised dimensions and their respective counterparts:

Self-Kindness & Self-Judgement

Firstly, how an individual responds emotionally to suffering, either with kindness or judgement (Neff, 2023b). Responding to oneself with *self-kindness* rather than *self-judgment* is the ability to respond to personal suffering with a reassuring, understanding and, caring attitude, actively comforting the self with unconditional acceptance, warmth and empathy. Self-judgement on the other end of the continuum is the harsh, critical, judgemental and condemning attitude that an individual takes during failure or distress. It is important to acknowledge that self-kindness is more than the absence of being self-critical or having a positive self-evaluation, it involves having a genuine care and concern for the suffering of oneself that manifests in an active motivation to ease one's own suffering (Neff, 2023b).

Common Humanity & Isolation

The second component of self-compassion is how an individual cognitively understands their suffering and circumstances, as part of the common human experience or as an isolating experience (Neff, 2023b). *Common humanity* as opposed to *isolation*, involves appreciating that failure and suffering is part of the shared human condition. It is to recognise that all humans experience

adversity, inevitably make mistakes and fail at times. This appreciation that vulnerability and imperfection is what makes an individual human, in turn creates a sense of unity. According to Neff (2023b), this feeling of unity enables an individual's personal experience to be validated, accepted and tolerated. Isolation, on other the other end of the spectrum is the irrational perspective that an individual's failure, loss or negative event is a unique, personal experience. For example, individuals believe they are the "only one to fail or experience distress" or that others "have it easier" (Neff, 2023b). This belief of being abnormal and alone in suffering is suggested to intensify the suffering experience

Mindfulness & Overidentification

The cornerstone, and third, component of self-compassion involves how attention is given to the suffering and pain, either in a mindful or overly identified fashion (Neff, 2023b). *Mindfulness* involves the intentional focus on the present moment and having a nonreactive, non-judgemental, and balanced, accepting attention to any experiences that arises into consciousness (Neff, 2023a). Mindfulness in the framework of self-compassion, however, is more narrow and specifically relates to being mindful of the negative, suffering experience rather than any internal experience that arise into awareness (Neff & Dahm, 2015). Mindfulness with regards to self-compassion also focuses on the 'self' as the suffer, and it is interconnected with, and cannot be disentangled from, self-kindness and community humanity (Germer & Barnhofer, 2017; Neff, 2023a). Mindfulness as opposed to overidentification, involves a shift in attention away from the specific nature or content of our suffering experiences (i.e., thoughts of inadequacy) towards how an individual relates to these experiences. For example, emotions and cognitions of inadequacy are accepted as simply emotions and cognitions (Neff, 2023b). This balanced attention does not attempt to resist, avoid, or control the suffering experience, providing individuals with the space and clarity to openly engage with their suffering irrespective of how distressing it may be (Germer & Barnhofer, 2017; Neff, 2023a). Being *overidentified* on the other hand is the tendency to narrowly focus attention and ruminate on resisting or controlling the suffering experience. This absorbed focus intensifies the suffering

experience and may lead to the further development of negative reactions. Overidentification inhibits the individual from creating distance from, or a balanced perspective of, their suffering that is essential for self-care and compassion to be exercised (Neff, 2023b).

Neff (2023a) also outlines that each component of self-compassion occurs across a continuum and an individual can relate to themselves in varying degrees, ranging from compassionate responding, which involves the positive aspects of self-kindness, common humanity, and mindfulness, to uncompassionate self-responding which includes self-judgment, isolation, and overidentification. Although each component of self-compassion is conceptually distinct, they also overlap and mutually interact together in a dynamic way, and as such they synergically contribute to a global self-compassionate mindset (Neff, 2016, 2023a). For example, the detached, accepting nature of mindfulness can reduce self-judgement. Likewise, reducing self-judgment can lessen the impact of negative emotions and in turn makes it easier to be more mindful.

Self-Compassion and Mental health

There is substantial evidence that self-compassion is an adaptative resource that positively influences mental health (Neff, 2023b). Multiple meta-analyses of adult populations demonstrate that self-compassion has moderate to strong negative associations with stress, negative affect and emotional disorders (Macbeth & Gumley, 2012; Muris & Petrocchi, 2017). Similarly, a large amount of research suggests that self-compassion has a moderate to strong positive association with indicators of wellbeing (Chio et al., 2021; Zessin et al., 2015). This research base includes wellbeing indicators ranging from composite measures of emotional, psychological and social wellbeing, such as the Mental Health Continuum (Shin & Lim, 2019; Trompetter et al., 2017) to various individual indicators of wellbeing such as positive affect (Neff & Vonk, 2009), and life satisfaction (Arimitsu & Hofmann, 2015). This large correlational research base is further supported by longitudinal evidence that suggests self-compassion predicts lower negative affect and emotional disorders at five months (Raes, 2011), six months (Stutts et al., 2018) one year (López et al., 2018), two years (Tobin &

Dunkley, 2021) and across a five year period (Lee et al., 2021). Importantly, self-compassion has been found to predict, but not be predicted by emotional disorders (Krieger et al., 2016).

The potentially causal role that self-compassion plays in wellbeing and emotional disorders has been further reinforced by experimental and intervention research. Interventions that comprehensively train trait levels of self-compassion such as Mindful Self-Compassion (Neff & Germer, 2013) have been shown to both increase wellbeing (Kirby et al., 2017) and moderately reduce distress and emotional disorder symptoms in general adult and clinical populations (Ferrari et al., 2019; Kirby et al., 2017). Interestingly, long term positive outcomes have even been reported in brief interventions. For example, Shapira and Mongrain (2010) reported that the task of writing a self-compassionate letter to oneself over five days resulted in decreased levels of depression, and increased happiness at three months. Similar experimental designs that manipulate state self-compassion, for example through direct self-compassion instructions or a writing task, have demonstrated that increases in self-compassion increase positive and reduce negative affect as well as depressive symptoms (Diedrich et al., 2014; Leary et al., 2007). Ultimately, this evidence suggests that increases in either temporary state, or more stable trait levels of self-compassion result in an improved affective profile, reduction in emotional disorder symptoms and improved wellbeing.

In summary, robust evidence suggests that self-compassion is an psychological resource that on the one hand reduces the risk of emotional disorders while on the other promotes wellbeing.

Self-Compassion and Mental Health: Older Adulthood

The utility of self-compassion cuts across multiple populations (Tóth-Király & Neff, 2021). Self-compassion's relationship with mental health, particularly psychopathology, has been established beyond the general adult community to a wide range of cultures (Tóth-Király & Neff, 2021), clinical populations (Athanasakou et al., 2020), and various special interest groups ranging from adolescents experiencing chronic illnesses (Prentice et al., 2021) to mothers facing postpartum distress (Carona et al., 2022). Unsurprisingly self-compassion's utility for improving mental health is supported in older adults (Brown et al., 2019; Tavares et al., 2023). Self-compassion continues to be

negatively associated with stress (Smith, 2015), negative affect (Phillips & Ferguson, 2013), anxiety (Harrison et al., 2017) and depression (Allen et al., 2012; Gao et al., 2023). Some research suggests that self-compassion in older adults explains over 50% of the variance in anxiety (Harrison et al., 2017), stress and depressive symptoms (Smith, 2015). Similarly, self-compassion in older adults remains positively associated with indicators of wellbeing including; happiness (Smith, 2015), positive affect and psychological wellbeing (Homan, 2016; Phillips & Ferguson, 2013) as well as life-satisfaction (Bratt & Fagerström, 2023) in both community and clinical populations (Yotsidi et al., 2023). Taken together, this evidence suggests that self-compassion's relationship with mental health in older adulthood largely corresponds to that of the more robust findings in younger cohorts (Brown et al., 2019; Tavares et al., 2023).

However, self-compassion's research base in older adults is still in its infancy and further exploratory research on wellbeing and emotional disorders is needed (Gao et al., 2023; Moraes et al., 2021; Tavares et al., 2023). The emerging nature of this field is best illustrated by the limited scope of recent international meta-analyses. A review by Brown et al. (2019) of self-compassion in older adults was only able to include eleven studies in total. Only five of these address depression or anxiety and four respectively wellbeing. Moreover a follow up review by Tavares et al. (2023) was only able to add an additional five more studies to previous reviews by removing research quality assessments, incorporating grey and qualitative literature, as well as decreasing the criteria for old age to 60 years. Consequently, while there is as indication that older adults are likely to benefit from self-compassion, the literature confirming this is limited.

The need to verify self-compassion's impact on the mental health of older adults' is compounded by the potential unique benefit it may have for this population. Self-compassion has been established as a useful construct to support individuals to face negative or distressing life events, specifically those associated with failure, loss or feelings of personal inadequacy (Leary et al., 2007). Researchers argue that self-compassion is therefore likely an appropriate psychological asset for older adults', as it can support them to 'age well' and adapt to the distressing life circumstances

that can occur alongside ageing (Brown et al., 2019). For example, self-compassion appears to support older adults to adjust to the physical health challenges that occur with ageing. Self-compassion has not only been associated with fewer physical health problems (Herriot & Wrosch, 2022) but self-compassion has also been found to moderate the negative effect that poor physical health has on wellbeing and depressive symptoms (Allen et al., 2012; Homan, 2016; Smith, 2015). Similarly, self-compassion is associated with less loneliness in older adults (Lee et al., 2021) and has been demonstrated to moderate the negative impact that loneliness has on depressive symptoms (Gao et al., 2023). Further, self-compassionate responding has been associated with more positive attitudes towards ageing (Brown et al., 2016), and it has been found to predict positive response to ageing related stressors, including the belief that one's attitude can help one cope with ageing stressors (Allen & Leary, 2014). Collectively, this evidence highlights that self-compassion may be a beneficial resource for promoting older adults' mental health as it can support individuals to adapt to the specific stressors or risk factors for poor mental health that can occur with ageing.

Further, research suggests that older adults mental health may be more likely to benefit from self-compassion than younger cohorts. This hypothesis is based on two core findings within the general self-compassion literature. Firstly, that as individuals age they generally become more self-compassionate (Tóth-Király & Neff, 2021). Secondly, that as age increases, the relationship that self-compassion has with mental health outcomes becomes stronger (Hwang et al., 2016), leading self-compassion to become a better predictor of mental health outcomes in older compared to midlife adults (Greene et al., 2016). Taken together, these initial observations imply that older adults may have an increased likelihood of benefiting from self-compassion.

While this conclusion is promising, caution is warranted, as self-compassion's relationship with age is likely more nuanced and complex. For example, the majority of the evidence indicating that individuals become more self-compassion as they age has been conducted across the lifespan and included younger cohorts. This can be illustrated by a recent meta-analysis that included 10,997 participants with ages ranging between 15 and 83 years old (Tóth-Király & Neff, 2021). Some

research that has examined older adults as a collective group have replicated these findings and suggested that older adults do experience higher self-compassion compared to younger (Allen et al., 2012) or middle aged adults (Greene et al., 2016). However, older adults are a vastly heterogenous group (Kohn et al., 2023) and when researchers have explicitly examined samples of only older adult populations, both significant (Homan, 2016) and non-significant (Bratt & Fagerström, 2020) relationships between age and self-compassion have emerged. Further, a recent longitudinal study has attempted to explain these mixed reports and suggested that an inverted-U shaped relationship exists in older adulthood whereby self-compassion increases with age to a point, reaching its height at 77 years old approximately, before declining (Lee et al., 2021).

In summary, comprehensive research indicates that self-compassion is a useful factor for promoting wellbeing and reducing emotional disorders in adults. Recently a small body of literature has begun to confirm these findings in older cohorts. Some initial evidence also suggests older adults are uniquely poised to benefit from self-compassion, making this a particularly promising area of exploration for this population. However the literature surrounding self-compassion's influence on mental health in older adults is generally underdeveloped. There is a need for further research to verify self-compassion's association with mental health outcomes in older adults.

How Does Self-Compassion Influence Mental health?

Although it is fruitful to further examine self-compassion's role in older adults' mental health, an important goal for self-compassion research is to better understand the pathways by which self-compassion produces mental health outcomes (Finlay-Jones, 2023). Despite the substantial research on self-compassion's positive influence on mental health, there is very limited understanding in the wider literature as to how and via what mechanism(s) self-compassion reduces emotional disorders and improves wellbeing (Germer, 2023; Inwood & Ferrari, 2018). Self-compassion's underlying mechanisms are especially underdeveloped in regards to wellbeing (Carona et al., 2022; Finlay-Jones, 2023). Developing our understanding of these processes is valuable for older adults and the wider community as it will assist in refining self-compassion interventions and

ultimately maximise mental health outcomes (Finlay-Jones, 2017). The predominant theory proposed in the literature, including by researchers such as Neff (2003b), is that emotion regulation may be a prominent process by which self-compassion influences both emotional disorders and wellbeing (Finlay-Jones, 2017; Germer, 2023; Inwood & Ferrari, 2018). Before examining this relationship, it is important to first understand what emotion regulation is, and appreciate the various definitions used in the literature. Appreciating the dominant means by which emotion regulation is conceptualised is essential for interpreting the literature and drawing meaningful conclusions as to self-compassion's relationship with mental health, through emotion regulation.

What is Emotion Regulation?

Emotions are cultural and psychobiological mechanisms that are essential for our daily functioning, achieving our goals and reacting dynamically to the environment (Scherer, 2009). Emotions provide information about our needs, subjective experience, and provide meaning as well as motivate behaviour changes (Leahy et al., 2012). Emotions are typically defined by the subjective experiential state or 'feeling' that is elicited from activating events, however emotions are multidimensional phenomena that are also characterised by changes in physiology and behavioural responses, for example the fight, flight or freeze response to fear (Gross, 2015). Compared to moods, which are often more prolonged and generalised states without clear causes, emotions tend to be more specific in nature and occur in response to an event (Gross, 2015). Emotion regulation refers to the processes that individuals use to influence how they experience and manage emotions (Berking & Wupperman, 2012; Gross, 2015). More specifically, emotion regulation is used as a reference to the broad set of processes which individuals use to monitor, evaluate and change their emotional experience in order to adapt to the environment and meet their goals (Berking & Wupperman, 2012; Naragon-Gainey et al., 2017; Thompson, 1994). Emotion regulation processes are generally considered to either upregulate or downregulate emotions, influencing the intensity and/or duration of how these emotions are experienced and expressed (Thompson, 1994). The momentary up or down regulation of emotions, is not inherently good or bad, but rather regulation

is considered in light of the goals and environment of the individual (Gross, 2015; Thompson, 1994). For example, it may be inappropriate to upregulate and have high levels of positive emotions (i.e., joy) at a funeral but appropriate in other social settings. Despite the acknowledgement that at any one moment, the utility of up or down regulating emotions is unique, the research field of emotion regulation is dominated by clinical psychology. As such, most research examines emotion regulation processes in light of their effectiveness in influencing psychopathological symptoms over time (Berking & Wupperman, 2012; Naragon-Gainey et al., 2017). The processes that momentarily down-regulate negative emotions or moods such as fear, anxiety or sadness and subsequently reduce symptoms are considered indicators of *effective emotion regulation,* whereas if the emotion regulation process is associated with a long-term reduction or exacerbation of symptoms it is considered putative *adaptive or maladaptive* respectively (Aldao et al., 2016; Naragon-Gainey et al., 2017).

Overall, emotion regulation is considered a dynamic, innate process that is fundamental to psychological functioning (Montana et al., 2020), and, as such, understanding how we experience and regulate our emotions is evidently of core interest to the study of psychopathology (Berking & Wupperman, 2012). Emotional disturbances are considered a core element of psychopathological disorders (Berking & Whitley, 2014; Lincoln et al., 2022). For example, the distinctive low mood and lack of positive emotion (ahendonia) that characterises depression, or the excess presence of positive emotions seen in manic episodes (American Psychiatric Association, 2013). Emotional states, especially when inappropriately frequent, intense or prolonged may trigger cognitions, behaviours, and physiological reactions that resemble the symptoms of disorders (Lincoln et al., 2022). For example, the intense negative emotion of fear or anxiety can prompt restlessness, rumination and avoidance behaviours typical of anxiety conditions. Although the emotional disturbances that are central to psychopathology can have multiple causes, issues of emotion regulation have been established as one prominent transdiagnostic factor (Aldao et al., 2016; Lincoln et al., 2022; Lukas et al., 2018; Sloan et al., 2017). There is particularly strong evidence to support an

emotion regulation model of emotional disorders, whereby emotional dysregulation, or deficits in how individuals respond to emotions, has a significant role in the development and maintenance of emotional disorders (Aldao et al., 2016; Berking et al., 2014; Hofmann et al., 2012; Sloan et al., 2017; Wirtz, Hofmann, et al., 2014). Further, emotion regulation is also proposed to reflect the central mechanism of change across traditional psychotherapies (McRae & Gross, 2020), while also being the sole treatment target of more contemporary treatments for emotional disorders such as the Unified Protocol for Emotion Disorders (D. H. Barlow et al., 2017).

Despite emotion regulation being predominantly applied within clinical psychology (Naragon-Gainey et al., 2017) emotions and their cognitive, physiological and behavioural consequences also contribute to positive states and functioning. Emotion regulation literature, as discussed, considered emotion regulation as a fundamental skill responsible for overall mental health (Berking & Whitley, 2014). As such healthy emotion regulation has also been established to be essential for promoting wellbeing (Kraiss et al., 2020). Therefore, emotion regulation is considered to a core factor that contributes to both emotional distress and wellbeing.

Conceptual Distinctions: What Specifically is an Emotion Regulation Process?

Over the past three decades the investigation of emotion regulation has proliferated considerably (Gross, 2015). This growth has created a complex research base whereby a number of conceptual models have been developed in an attempt to define emotion regulation processes, namely those that are causally related to mental health (Naragon-Gainey et al., 2017). Researchers openly acknowledge the limitation this poses to research as not only is there little consensus as to what specifically constitutes emotion regulation processes, but the research has proliferated (in quantity and complexity) to the extent that it is challenging to clearly define emotion regulation itself (Berking & Wupperman, 2012; Gross, 2015; Lincoln et al., 2022; Moore et al., 2022; Naragon-Gainey et al., 2017; Paucsik et al., 2023). Nevertheless, many of the dominant emotion regulation models overlap and complement each other (Paucsik et al., 2023). Therefore a brief review of these approaches of emotion regulation is necessary for a meaningful and informed investigation of self-

compassion's relationship with emotion regulation. This is particularly necessary given the exploratory nature of self-compassion's relationship with emotion regulation and the variation in emotion regulation models used in this line of research. A detailed review of all emotion regulation models and approaches is out of the scope of this thesis, however a contextual overview follows prior to introducing the Active Coping with Emotions model (Berking & Whitley, 2014) that underpins this research.

It is important to acknowledge that conceptualisations of emotion regulation share some similarities with the concepts of coping and emotional intelligence (Lincoln et al., 2022). Emotional intelligence is a more broad ability to manage emotions that while may include emotion regulation, is not restricted to emotion regulation (Peña-Sarrionandia et al., 2015). Similarly, there are is overlap with the coping literature and emotion regulation in regards to regulating responses (Compas et al., 2017). The construct of coping is narrower in that it refers only to regulation processes taken in response stressors, as opposed to emotion regulation which focuses on regulation in response to emotions that can arise from both stressful and non-stressful situations (Compas et al., 2017). Coping is also broader than emotion regulation as it involves regulation of not only emotion processes but also of cognitive, behavioural and physiological processes (Compas et al., 2017).

A popular way to distinguish between the main conceptual models of emotion regulation is by categorising models as either "Strategy" or "Skills-based" approaches (Naragon-Gainey et al., 2017; Paucsik et al., 2023). The literature traditionally takes a strategy-based approach, focusing on specific strategies that modify emotions, and their relationship with mental health (Berking & Wupperman, 2012). This strategy approach evolved from Gross' seminal Process Model (Gross, 2015) which proposes that there is a sequence of cyclic stages in emotion generation. Within each stage of the emotion generation timeline, different strategies can be utilised to modify emotions. The vast majority of "strategy-based" approaches, however, have deviated from strictly examining strategies across the stages of emotion generation and rather explored specific strategies that are either adaptive or maladaptive across specific forms of psychopathology and wellbeing (Aldao et al.,

2016; Moore et al., 2022). For example, meta-analyses indicate that acceptance, problem solving, and reappraisal are adaptive emotion regulation strategies across psychopathology, whereas rumination, behavioural avoidance and worry are maladaptive (Aldao et al., 2016; Gross, 2015). Extensive evidence supports the role of these strategies in the development and maintenance of psychopathology, especially in the case of depression and anxiety (Aldao et al., 2016; Gross, 2015). This approach has been fruitful in highlighting relevant strategies, however it has been criticised for not accounting for the complexity of emotion regulation (Berking & Wupperman, 2012). Contemporary research acknowledges that emotion regulation is more than the habitual use of specific strategies. Emotion regulation rather is a dynamic process, whereby numerous strategies, as well as other environmental factors and dispositional factors of the individual interact simultaneously in a complex manner (Aldao et al., 2016).

Skills-based models on the other hand, attempt to account for this criticism by broadly capturing emotion regulation as higher order, trait-level, dispositional skills that contribute to an individual's overall ability to adaptively regulate their emotions (Berking & Whitley, 2014; Berking & Wupperman, 2012; Paucsik et al., 2023). For example, the Difficulties in Emotion Regulation model (DER; Gratz & Roemer, 2004) attempts to capture the unifying factors of emotion regulation across psychopathological symptoms. This model proposes that overall, emotion dysregulation involves deficits in at least one of four main skills of: (a) awareness and understanding emotions, (b) acceptance of emotions, (c) ability to control impulses to achieve goals in the face of negative emotions and (d) the ability to flexibly use appropriate strategies to modify emotions in light of goals and contextual demands (Gratz & Roemer, 2004). Correspondingly, evidence supports the role of these skills in the development and maintenance of psychopathology (Sloan et al., 2017). However, a criticism of this model is the inherent deficits based approach to health, in which a lack of emotion regulation difficulties is used as proxy for 'healthy' or adaptive regulation skills (Zahniser, 2016). An alternative skills based model that conceptualises emotion regulation as a set of absolute skills for promoting adaptive health rather than merely an absence of emotion regulation difficulties is the

Adaptive Coping with Emotion (ACE) model (Berking & Whitley, 2014). A more detailed account of the ACE model is given in the following section as it provides the basis for this thesis given it's conceptualisation of emotion regulation as an absolute skill in addition to the theoretical integration of self-compassion within its model.

Emotion Regulation: Active Coping With Emotions (ACE) Model

Similar to the DER model, the ACE model is a clinically focused, transdiagnostic, skills-based model of adaptive emotion regulation. The ACE model takes a comprehensive approach and proposes a broad range of emotion regulation skills that are fundamental for mental health (Berking & Lukas, 2015). These skills were developed from clinical experience and the synthesis of previous theoretical models, including Gross' Process Model (2015) and the DER (Berking & Whitley, 2014; Gratz & Roemer, 2004). Specifically, the ACE model proposes that adaptive emotion regulation is the situation-dependent interaction between nine emotion regulation skills (Berking & Lukas, 2015; Berking & Whitley, 2014; Lukas et al., 2018):

- First, to *be aware of emotions*, as this is a prerequisite for conscious emotion regulation (i.e., Subic-Wrana et al., 2005).
- Second to be able to *correctly identify and label emotions*. This is suggested to provides information about the emotion, enabling it to be linked to existing knowledge about the said emotion, and in turn supports subsequent effective management of the experienced emotion (i.e., Vine & Aldao, 2014).
- Third, the ability to *correctly interpret emotion-related body sensations*. This I suggested to help to provide appropriate information and minimise maladaptive interpretations that can encourage undesired psychological symptoms (i.e., Marchesi et al., 2005).
- Fourth, to *understand what causes and maintains emotions*. Berking and Whitley (2014) propose that understanding the causes of emotion can create meaning that makes it easier to tolerate negative emotions. Additionally, they outline that this skill provides information that directs the subsequent effective management of emotions, such as clarifying whether

an emotion can be changed through emotion modification and/or whether it would be more appropriate to use acceptance skills (i.e., Roseman & Smith, 2001).

- Fifth, the ability to *modify emotions in an adaptive manner* and use effective strategies that do not have negative long term consequences. Berking and Whitley (2014) argued that beyond its inherit function to change undesired emotions, this skill also has a secondary function of improving emotion regulation self-efficacy. Increased self-efficacy in one's own emotion regulation ability is In turn proposed to further improve mental health by reducing avoidance of undesired emotions and encouraging engagement in emotionally challenging scenarios.
- Sixth, to *accept negative emotions when necessary*. Berking and Whitley (2014) state that this limits the development of further negative emotions that can arise from non-acceptance, unsuccessful strategy use, and meta-emotions or self-judgements about one's emotion experience or regulation. For example, self-criticism for not being able to alter one's emotional state.
- Seventh, to *tolerate negative emotions* when they cannot be changed, avoiding the use of dysfunctional emotional control attempts that while they may provide temporary emotion relief, ultimately maintain of negative emotions (i.e., Wupperman et al., 2009).
- Eighth, the ability to *confront rather than avoid distressing situatio*ns to enable development of emotion regulation skills and achieve of goals,(i.e., Hayes et al., 1996).
- Ninth*, self-support or compassionate self-support* when facing distressing or undesired emotions. Berking and Whitley (2014) propose that *compassionately supporting oneself* enables individuals to continue to use other emotion regulation skills as all emotion processes can result in emotional suffering.

An assumption of the ACE model is that all nine skills do not have an equal or direct influence on mental health. The core emotion regulation skills that influence mental health are hypothesised to be the ability to *adaptively modify emotions* as well as the ability to *accept* and

tolerate emotions (Berking et al., 2012; Berking, Wupperman, et al., 2008; Diedrich et al., 2017; Radkovsky et al., 2014). The other skills, such as *compassionately supporting oneself* are hypothesised to only improve mental health by facilitating the effective use of modification, acceptance and tolerance skills (Berking et al., 2012; Lukas et al., 2018).

It is important to recognise that the ACE skills overlap with models such as the DER model (Gratz & Roemer, 2004), and are complementary to the strategy based approach that dominates the literature (Paucsik et al., 2023). Essentially higher emotion regulation skills result in a greater capacity to apply adaptive emotion regulation strategies (Berking & Whitley, 2014; Fujisato et al., 2017; Paucsik et al., 2023). The ACE model however does not focus on specific emotion regulation strategies as such, for example cognitive appraisal or suppression. However an individual who is adept in the core skill of *modifying emotions adaptively* may be able to flexibly use a number of strategies (Berking & Whitley, 2014) such as cognitive appraisal to adaptively regulate their emotions appropriately within their unique context.

Emotion Regulation (ACE) and Mental Health

ACE and Mental Health: Psychopathology

The ACE model proposes that without effective emotion regulation skills to down-regulate negative emotions from everyday experiences, emotions can become severe, persistent, and eventually develop into negative mood states that reflect diagnostic criteria of emotional disorders (Berking et al., 2019; Berking & Whitley, 2014). Additionally without effective emotion regulation skills, individuals will attempt to reduce these undesired mood states by using maladaptive emotion regulation attempts (Berking et al., 2019; Berking & Whitley, 2014). For example, depressive rumination, self-harm, worry, avoidance and catastrophizing. While these attempts to reduce negative emotions may be effective in the short term, the ACE model proposes they lead to long term dysregulation and the maintenance of emotional disorders. These dysfunctional efforts are also suggested to reflect the cognitive and behavioural symptoms of the respective emotional disorder diagnostic criteria (Berking et al., 2019; Berking & Whitley, 2014).

The ACE model's transdiagnostic relationship with psychopathology has robust empirical support. Cross-sectional research suggests that ACE model skills are significantly associated with a number of emotional disorder symptoms in healthy (Berking, Orth, et al., 2008), at risk (Berking et al., 2014; Wirtz, Hofmann, et al., 2014) and clinical cohorts (Diedrich et al., 2017; Radkovsky et al., 2014). Longitudinal research indicates that deficits in ACE emotion skills predict negative affect (Berking, Orth, et al., 2008) and psychopathology, such as depression and anxiety across a five year and 14 day period respectively (Berking et al., 2014; Wirtz, Hofmann, et al., 2014). Intervention research indicates that these findings reflect a causal relationship. Affect Regulation Training (ART) (Berking & Whitley, 2014) is an explicitly designed transdiagnostic therapy to train ACE skills for clients who experience or are at risk of developing clinical disorders (Berking & Lukas, 2015). ART has been shown to improve ACE skills and lower the risk of developing mental health disorders in non-clinical cohorts (Berking et al., 2010; Lotfi et al., 2020). It has also shown to be as well as being an effective standalone therapy for clinical populations with depression and binge eating symptoms (Berking et al., 2019; Berking et al., 2022). Further, ART has also been added to Cognitive Behaviour Therapy as a complementary treatment, providing incremental improvements in symptoms with inpatients presenting with emotional disorders (Berking et al., 2013; Berking, Wupperman, et al., 2008). Improvement in ACE skills during the course of therapy are associated with, and predict a reduction in emotional disorder symptoms (Berking, Wupperman, et al., 2008; Wirtz, Radkovsky, et al., 2014). Emotional disorder symptoms have also been found to not predict ACE skills, indicating that emotion regulation skills result in psychopathology changes rather than being a symptom of psychopathology (Wirtz, Radkovsky, et al., 2014). Collectively this correlational, longitudinal and intervention research provides strong empirical support that deficits in ACE model skills play an important role in emotional disorders

ACE and Mental Health: Wellbeing. Similarly emotion regulation plays an important role in promoting wellbeing (Aldao et al., 2016). The role that emotion regulation plays in emotional (hedonic) and psychological (eudemonic) wellbeing has even been demonstrated across clinical

populations in experimental and correlational research (Kraiss et al., 2020). Emotion regulation skills difficulties, as per Gratz and Roemer's (2004) conceptualisation, has also been correlated with broad measures of wellbeing, such as the Mental Health Continuum (Carona et al., 2022). In addition, emotion regulation strategies such as suppression, cognitive appraisal and savouring have been correlated with individual indicators of emotional wellbeing (Hu et al., 2014; Quoidbach et al., 2010) and psychological wellbeing (Langston, 1994).

Despite the general agreement in the literature that emotion regulation plays a robust role in promoting overall mental health, the emotion regulation literature has relatively understudied wellbeing as an outcome of mental health compared to that of psychopathology (Kraiss et al., 2020). This is not unexpected given the traditional precedence of addressing psychopathology in clinical literature and this also aligns with the fact that emotion regulation models are clinically informed, largely neglecting to account for the theoretical role that positive emotions or emotion regulation plays in wellbeing (Carl et al., 2013; Colombo et al., 2021). For example, the more contemporary ACE model is in need of further validation in respect to wellbeing given it has only been investigated in relation to emotional wellbeing, specifically positive affect (i.e., Berking, Orth, et al., 2008). Despite current research only linking the ACE model to improvements in emotional wellbeing, the literature base on emotion regulation more broadly demonstrates the role of emotion regulation in emotional, psychological and social wellbeing (Carona et al., 2022; Kraiss et al., 2020).

Self-Compassion and Emotion Regulation

In light of the well-established role of emotion regulation in overall mental health, an emotion regulation framework has been increasingly applied to self-compassion in order to better understand how self-compassion may influence mental health (Germer, 2023). In fact within the original proposal for the theory of self-compassion, Neff (2003b) argued that self-compassion is a beneficial construct by integrating self-compassion with the more established framework of emotion regulation. Neff originally theorised that self-compassion resembles an emotion regulation process in which painful and distressing emotions are not avoided, but held in a mindful awareness with

kindness, acceptance and a belief of common humanity. Self-compassion was also hypothesised to not intensify or maintain negative emotions through reducing overidentification, isolation and self-judgment. Neff proposed that self-compassion acts to transform negative emotions, especially those directed towards the self, into positive emotions such as acceptance, understanding and kindness towards oneself. Within this original argument, Neff further suggested that the emotion changes that result from self-compassion enable a greater clarity and understanding of one's circumstances, which in turn allows an individual to more appropriately and effectively take actions to change either their internal or external environment. In effect, Neff's (2003b) initial attempts to integrate self-compassion with emotion regulation served as the first attempt to explain how self-compassion may act through emotion regulation to influence mental health.

More recently empirical evidence has built on Neff's (2003b) original proposal of how self-compassion may influence mental health through emotion regulation by focusing on how self-compassion may be related to emotion regulation at a foundational level. In other words, by examining how self-compassion may be associated with the ability to alter, or *effectively* regulate emotions in a generally healthy manner. Collectively, research indicates that at the stable trait level, being self-compassionate is associated with experiencing high positive emotions and low negative emotions (Trompetter et al., 2017). At the momentary state level, responding to oneself with self-compassion is also generally associated with an emotional profile of increased positive and decreased negative emotions. For example, experimental designs in which state self-compassion is induced prior to the introduction of an emotional stressor have demonstrated that increases in self-compassionate responding are associated with higher positive and lower negative emotions (Leary et al., 2007). Furthermore, this improved emotional profile that results from being self-compassionate has been replicated in paradigms that specifically induce a depressed mood (Diedrich et al., 2014), as well as those that assess self-compassion at the momentary level (Neff et al., 2021) in response to an individual's everyday life stressors (Mey et al., 2023). Through the use of ecological momentary assessments methods, Mey et al., (2023) observed that higher self-compassionate

responding in the face of daily stressors and hassles resulted in less emotional reactivity. This was indicated by a lower increase in negative affect and lower reduction in positive affect after everyday stressors. Taken together the emotional profile that results from being self-compassionate suggests that self-compassion influences emotions by effectively up-regulating positive and down-regulating negative emotions. Thus inferring that self-compassion has the capacity to effectively regulate emotions. Not surprisingly this evidence that self-compassion influences emotions has led researchers to suggest that self-compassion is either strongly associated with emotion regulation processes, or that self-compassion itself represents an emotion regulation strategy or process (Berking & Whitley, 2014; Diedrich et al., 2014; Germer, 2023).

Although it is evident that self-compassion is associated with effectively regulating emotions, research acknowledges that this is not the only way self-compassion may be associated with mental health. The primarily hypothesis in the literature is that self-compassion produces long term mental health outcomes through its capacity to actually improve other emotion regulation processes (Diedrich et al., 2017; Finlay-Jones, 2023; Finlay-Jones, 2017; Germer, 2023). The hypothesis that self-compassion is related to an improvement in emotion regulation skills is established in theoretical and empirical rationale. From a theoretical perspective, researchers have loosely drawn parallels between the constructs to suggest the logical influence that self-compassion should have on other emotion regulation skills. For example, self-compassion fundamentally requires a mindful awareness of emotions, and it would be expected that this would lead to improved emotion regulation skills of *emotional awareness* and *clarity of emotions* (Finlay-Jones, 2017). Similarly, self-compassion is incompatible with avoidance on account that self-compassion involves the mindful, equanimous attending to negative emotions, without resistance or avoidance, but rather the active engagement with emotions in a warm, kind, non-judgemental and accepting manner (Neff, 2003b). Therefore, it is rational that being self-compassionate would in effect improve the ACE skills of *tolerance of emotions*, *confronting distressing emotions*, as well as the skill *of*

accepting emotions when necessary and not engaging in self-criticism regarding one's own emotion regulation proficiency.

In line with these theoretical parallels between self-compassion and emotion regulation skills, there is developing empirical evidence to suggest that self-compassion may influence emotion regulation skills more broadly. From a skills perspective, self-compassionate individuals have been reported to generally possess higher ACE emotion regulation skills (Diedrich et al., 2017; Paucsik et al., 2023) as well as fewer difficulties in emotion regulation skills (Inwood & Ferrari, 2018; Prentice et al., 2021; Scoglio et al., 2015; Shenaar-Golan et al., 2023; Vettese et al., 2011). Further, self-compassion is also associated with a greater tendency to use adaptive emotion regulation strategies linked to reducing emotional disorders, such as cognitive reappraisal (Chishima et al., 2018) and acceptance (Bakker et al., 2019). It is also linked to a reduced tendency to use maladaptive strategies associated with the aetiology of emotional disorders, such as emotional and behavioural avoidance (Krieger et al., 2013), thought suppression (Murray et al., 2021), rumination and worry (Bakker et al., 2019; Raes, 2010). Furthermore, self-compassion has been shown to improve the quality and effectiveness of some emotion regulation strategies such as cognitive appraisal (Diedrich et al., 2016). Recent longitudinal evidence has confirmed that self-compassion predicts both an increase in global emotion regulation ACE skills and putative adaptative emotion regulation strategies (Paucsik et al., 2023). Taken together this evidence supports the notion that self-compassion may broadly increase or facilitate the use of other emotion regulation skills.

In summary, self-compassion can be perceived as an emotion regulation process given its association with emotional outcomes that resemble effective emotion regulation. Additionally theoretical and empirical evidence indicates that self-compassion also influences a number of other emotion regulation skills. This ultimately highlights the potential indirect effect self-compassion may have on mental health outcomes through emotion regulation. Considering emotion regulation skills are fundamental to mental health, the predominant hypothesis in the literature is that self-

compassion, at least in part, may influence mental health though emotion regulation skills (Finlay-Jones, 2017; Germer, 2023; Inwood & Ferrari, 2018).

Self-Compassion, Emotion Regulation and Mental Health: Psychopathology

The current evidence base for this hypothesis, however, is cross-sectional and preliminary (Finlay-Jones, 2023) with almost all research exclusively focused on psychopathological indicators of mental health. For example, only five studies were identified (M. R. Barlow et al., 2017; Diedrich et al., 2017; Finlay-Jones et al., 2015; Scoglio et al., 2015; Vettese et al., 2011) in a systematic review that aimed to summarise the evidence for the mediating role of emotion regulation in self-compassion's relationship with various psychological disorders (Inwood & Ferrari, 2018). Admittedly the literature has developed since, and a few further studies have confirmed that difficulties in emotion regulation mediate self-compassion's relationship with distress (Prentice et al., 2021) and emotional disorders (Carona et al., 2022; Neyestani et al., 2023). It is also important to note that the review by Inwood and Ferrari (2018) only included research that utilised valid, established measures of emotion regulation. The hypothesis that self-compassion's influence on mental health though emotion regulation skills is also supported by further evidence that specific emotion regulation strategies, such as rumination and avoidance, mediate the relationship between self-compassion and emotional disorders (Bakker et al., 2019; Krieger et al., 2013; Raes, 2010). Consequently, there is a small, yet promising literature base of cross-sectional research that has confirmed self-compassion's association with emotional disorders may be explained by emotion regulation. Researchers openly acknowledge however, that this research is exploratory and in need of further validation (Finlay-Jones, 2023; Finlay-Jones, 2017; Inwood & Ferrari, 2018).

Researchers have requested more cross-sectional mediation research be conducted across various populations and international contexts (Inwood & Ferrari, 2018; Murfield et al., 2020). As previously mentioned, very little research has examined self-compassion's relationship with mental health in older adults, and no research has attempted to investigate the corresponding underlying mechanisms of self-compassion in older adults. Exploring emotion regulation as a potential

mediating factor and underlying process in older adults offers a number of valuable contributions to the literature. Firstly, some evidence suggests the relationship between emotion regulation and self-compassion may change across both disorders and populations (Inwood & Ferrari, 2018). Therefore, exploring this mediation in an unexamined population (and within a New Zealand context) may provide both credibility for the general hypothesis that emotion regulation is an underlying process of self-compassion as well as potentially highlighting the unique role it may play for older adults. Secondly, considering that emotional disorders are the most common manifestation of psychopathology in older adults, understanding the underlying mechanisms of self-compassion within this population is important to produce clinically relevant information that can guide future self-compassion interventions for older adults. Thirdly, the notion that older adults are poised to uniquely benefit from self-compassion compounds the potential value in understanding emotion regulation as a potential underlying process in self-compassion in this population. Lastly, integrating self-compassion within an emotion regulation framework directly highlights the potential promise of self-compassion in older adults as there is a strong body of research that supports emotion regulation with the development and maintenance of emotional disorders (Finlay-Jones, 2017).

In addition to generally demonstrating and verifying this mediation relationship in populations such as older adults, there is also a need for future research to use the ACE model of emotion regulation. At present most research has relied on the DER (Gratz & Roemer, 2004), rather than the ACE model. As previously mentioned the DER is highly correlated with, and shares some similarities with the ACE model, however the ACE model has the benefit of self-compassion being theoretically integrated within the model.

Unlike other models, the ACE model provides an explicit theory as to how self-compassion interacts with, and influences other emotion regulation processes (Berking & Whitley, 2014). Within the nine skills required for mental health in the ACE model, self-compassion is incorporated into the *effective self-support skill. Effective self-support* includes any activity or skill that stabilises mood. However, Berking and Whitley (2014) propose stabilisation of mood predominantly occurs through

self-compassion and as such *effective self-support* is interchangeably referred to as compassionately supporting oneself or compassionate self-support. It is important to also note that the conceptualisation of compassionate self-support is theoretically and empirically similar to Neff's (2003b) self-compassion (Diedrich et al., 2017).

Firstly, in respect to the nature of self-compassion's general relationship with emotion regulation and mental health, the ACE model proposes that *compassionate self-support* does not have a direct influence on mental health itself. Instead self-compassion is theorised to facilitate the use of other emotion regulation skills, namely the core skills of *modification, tolerance and acceptance skills* to directly influence emotional health (Berking & Whitley, 2014). This assumption is grounded in the original validation of the ACE model whereby *compassionate self-support's* influence on emotional health was entirely mediated by *modification of emotions* (Berking et al., 2012). Reassuringly, this foundational assumption of the ACE model holds when the self-compassion scale is utilised in place of compassionate self-support. Diedrich et al. (2017) confirmed that the core skill of *tolerance of emotions* significantly mediates self-compassion's association with depressive symptoms. As such, the ACE model is unique in that it directly incorporates self-compassion as one of the major skills for global adaptive emotion regulation. In line with the wider literature and predominant theories of how self-compassion operates (i.e., Finlay-Jones, 2017), the ACE model also explicitly assumes that self-compassion only has an indirect influence on mental health through its influence on other core emotion regulation skills.

Furthermore, the ACE model details how self-compassion may facilitate the use of other emotion regulation skills to influence mental health. Based on clinical observations Berking and Whitley (2014) proposed self-compassion facilitates other emotion regulation skills by stabilising mood during the process of emotion regulation. Stabilising mood is argued to be essential for employing emotion regulation skills, as utilising any emotion regulation skill is suggested to inherently create short term emotional distress. For example, Berking and Whitley suggest that c*onfronting situations* that provoke negative emotions will instinctively cause distress, while

increasing *conscious awareness* of emotions can intensify the experience of these emotions. Similarly, failure to accept emotions or unsuccessful attempts to modify emotions may result in further undesired emotions such as frustration, disappointment, or self-criticism. According to Berking and Whitley (2014), without reducing this distress produced during emotion regulation and stabilising mood, individuals are restricted from using the emotion regulation skills that are essential for long term emotional relief. It is proposed that they may rely on maladaptive means to reduce short term suffering such as emotional avoidance at the cost of long term health. In other words, within the ACE model, self-compassion is perceived as an essential emotion regulation skill that effectively stabilises mood during the inherently distressing process of engaging with and regulating emotions (Berking & Whitley, 2014). This maintenance of mood in turn facilitates the use of other core emotion regulation skills that have a direct impact on improving mental health. Interestingly, this function of self-compassion according to the ACE model (Berking & Whitley, 2014) resonates with the previously described attempt to integrate self-compassion within an emotion regulation framework by Neff (2003b).

Despite the ACE model providing a theoretical explanation for how self-compassion may act within emotion regulation to provide mental health outcomes, the ACE model has been neglected in this niche line of research. To the best of the researchers knowledge, only Diedrich et al. (2017) have investigated the mediating role of ACE skills in the relationship between self-compassion and depression, within a clinical cohort of 69 individuals. Addressing this gap and validating this research in respect to the ACE model would provide theoretically grounded guidance for mechanism testing in future self-compassion research, and ultimately assist in improving self-compassion interventions (Finlay-Jones, 2023).

In summary, theoretical inferences connecting self-compassion to emotion regulation, preliminary cross-sectional mediation evidence, and the underlying assumptions of the ACE model suggest that self-compassion facilitates the use of other emotion regulation skills to influence emotional disorders. However only a small amount of literature has examined this hypothesis and

more cross-sectional mediation research is needed to provide further proof of concept (Finlay-Jones, 2023; Murfield et al., 2020). As such, it would be beneficial to examine this mediation relationship with the ACE model of emotion regulation, and in the context of older adults.

Self-Compassion, Emotion Regulation and Mental Health: Wellbeing

Although preliminary evidence suggests that emotion regulation may be a process underlying how self-compassion influences emotional disorders, this is not as clear in the case of wellbeing. In fact there is a general lack of understanding of any mechanisms explaining how self-compassion improves wellbeing (Finlay-Jones, 2023). A few researchers have speculated that emotion regulation may be involved. For example, in their systematic review of self-compassion's relationship with wellbeing, Zessin et al. (2015) proposed that self-compassion may influence wellbeing though it's capacity to reduce negative emotions and improve positive emotions. Similarly it has been suggested that self-compassion may protect wellbeing from declining in response to the negative emotional impact of life events and stressors (Allen et al., 2012; Leary et al., 2007).

However, beyond these inferences, there is very limited theoretical or empirical exploration of whether self-compassion may actually influence wellbeing through emotion regulation. Considering that self-compassion is associated with emotion regulation skills, and emotion regulation skills influence wellbeing, in addition to the preliminary evidence indicating self-compassion influences distress outcomes through emotion regulation skills; it is possible that self-compassion also produces wellbeing outcomes through its influence on emotion regulation skills.

This hypothesis has only been examined by a handful of cross-sectional mediation studies, and collectively there is no clear agreement among them as to whether emotion regulation skills are a significant mediator. On the one hand, Carona et al. (2022) reported that difficulties in emotion regulation skills significantly mediated the relationship between self-compassion and wellbeing in a cohort of women at risk of postpartum depression. Contrastingly, Prentice et al. (2021) did not find a significant mediation relationship in young adults with chronic health conditions. Similarly, in exploring this relationship in parents of children with behavioural and emotions problems, Shenaar-

Golan et al. (2023) did not find any support for a mediation relationship between difficulties in emotion regulation and wellbeing. Consequently, there is currently no clear picture as to whether emotion regulation plays a part in self-compassion's relationship with wellbeing.

The null findings among these studies are unexpected considering the rationale for self-compassion's connection with emotion regulation, and the evidence for emotion regulation's role in improving wellbeing (Prentice et al., 2021; Shenaar-Golan et al., 2023). One explanation for these null findings may be the methodological differences in these in studies. Specifically, the null findings may have occurred due to the differing characteristics of the samples which may have produced in errors in detection. Prentice et al. (2021) openly acknowledged that their findings may have resulted from a lack of statistical power due to the highly distressed nature of their sample (N = 107) and/or their lacking ability detect a significant effect due to insensitivity of the World Health Organisation Wellbeing Index (WHO-5; Bech et al., 1996) measure used. Alternatively, Inwood and Ferrari (2018) have speculated that the true nature of emotion regulation could differ across context, populations and health outcomes. Therefore, it could also be the case that these differences in findings represent true differences in the self-compassion, emotion regulation and wellbeing relationship across populations.

Another possible explanation for the unexpected null findings could be the alternative conceptualisation and measurement of wellbeing among these studies. Interestingly, Carona et al. (2022) confirmed a significant mediation relationship using the Mental Health Continuum Short Form (MHC-SF; Keyes et al., 2008). As mentioned this is a broad, composite measure that includes emotional, psychological and social wellbeing. In contrast the null findings in the literature used similar, yet different measures of wellbeing. Research by Shenaar-Golan et al. (2023) that did not find a significant mediation utilised the Personal Wellbeing Index (International Wellbeing Group, 2013) which largely assesses subjective wellbeing in terms of life satisfaction and quality of life across several life domains (i.e., standard of living and health). Similarly, the WHO-5 (Bech et al., 1996) used by Prentice et al. (2021) differs in that it focuses on aspects of life satisfaction and the

domains of cheerfulness, calmness, activity, rest, and interest. As such, it is possible that the inconsistencies across these findings may also be a product of differences in wellbeing theory and measurement.

In summary, on account of the methodical differences, the mixed evidence in the literature and the fact that this research is limited to only three studies, further exploration is needed to clarify the possible role that emotion regulation may play in self-compassion's relationship with wellbeing. Considering the exploratory nature of this relationship, it would be fruitful to assess whether this relationship is present at an overall, general level by using a comprehensive and broad measure of wellbeing. A measure of wellbeing, such as Keyes' (2008) MHC-SF, would satisfy this need and enable a direct comparison with the only existing research to have confirmed this relationship. This would enhance the ability to interpret and draw conclusions given that wellbeing measures are widely varied and challenging to compare (Lindert et al., 2015). Given the mixed findings, it would also be valuable to explore this relationship across different populations (Inwood & Ferrari, 2018; Murfield et al., 2020) and ideally in a more balanced or well population, such as older adults, to avoid errors in detecting an effect.

Summary

Promoting the mental health of older adults is an international imperative. Contemporary definitions of mental health involve both the absence of psychopathology as well as the presence of positive states of wellbeing. Therefore, it is important to research factors that not only address the common pathology presentation of mental health in older adults, such as anxiety and depressive symptoms, but also those that improve wellbeing. Self-compassion is a promising factor for improving wellbeing, anxiety and depression in older adults. However, the underlying mechanisms, or processes by which self-compassion improves mental health, especially wellbeing, is largely underdeveloped and in need of further exploration (Finlay-Jones, 2023). The predominant hypothesis in the literature is that emotion regulation is a process by which self-compassion influences both psychopathology and wellbeing.

A large body of literature has established that emotion regulation skills are a developing and maintaining factor in psychopathology while also promoting wellbeing. Research also indicates that self-compassion can be interpreted as an emotion regulation process given its ability to influence emotions, and that self-compassion may act to improve emotion regulations skills more broadly. The implication of this evidence is that self-compassion may operate through emotion regulation skills to impact mental health.

Preliminary evidence supports this hypothesis with psychopathological outcomes, whereby emotion regulation skills have been shown to mediate the relationship between self-compassion and psychopathology. However this line of research is it its infancy and in need of further validation. There is both a general need for further research to confirm these findings as well as to address specific gaps in the literature. Firstly, more research needs to be done with alternative populations such as older adults. Secondly, only one study (Diedrich et al., 2017) has conceptualised emotion regulation in line with the ACE model despite this model providing a theoretical rationale for self-compassion's involvement in the wider emotion regulation process. Consequently, further research is needed to explore the potential role that emotion regulation skills may have in explaining self-compassion's influence on emotional disorders.

There is also a need to further investigation the possible role that emotion regulation may play in self-compassion's relationship with wellbeing (Finlay-Jones, 2023; Zessin et al., 2015). Despite the rationale for this relationship, the literature is very limited nature. Only three studies have investigated the mediating role of emotion regulation skills in relation to wellbeing with inconsistent findings as to whether a significant mediation exists. Further, there are methodological and theoretical differences within these studies that make it challenging to determine whether emotion regulation may be a process by which self-compassion influences wellbeing. As such, there is a need to clarify the existence of this mediation in relation wellbeing. Additionally, it is important for research to develop on the potential methodological limitations of previous studies by utilising a well-validated, comprehensive measure of wellbeing such as Keyes MHC-SF (Keyes et al., 2008) and

examining an alternative, comparatively less distressed population such as New Zealand older adults.

Aims

The first aim of this research was to examine the relationship that self-compassion has with mental health in older New Zealand adults. A complete approach to mental health was adopted whereby depression and anxiety were assessed as negative indicators of mental health, and wellbeing as a positive indicator of mental health.

In addition, this research aimed to develop our understanding of how self-compassion may influence mental health. Emotion regulation skills were explored as a potential process though which self-compassion could be associated with mental health. Specifically, this research aimed to examine three mediation models to assess the relationship that self-compassion has with emotion regulation skills and mental health (wellbeing, depression and anxiety), as well as whether the relationship that self-compassion has with the mental health would be significantly mediated by emotion regulation skills.

Hypotheses

1. Self-compassion will have a significant, positive relationship with wellbeing.
2. Self-compassion will have a significant, negative relationship with depression.
3. Self-compassion will have a significant, negative relationship with anxiety.
4. Self-compassion will have a significant positive relationship with emotion regulation skills.
5. Self-compassion's relationship with wellbeing will be significantly mediated by emotion regulation skills.
6. Self-compassion's relationship with depression will be significantly mediated by emotion regulation skills.
7. Self-compassion's relationship with anxiety will be significantly mediated by emotion regulation skills.

Chapter Three: Method and Materials

Research Overview

This research used a cross-sectional, quantitative survey design. Participants were provided an email with a link to an online survey. To be eligible to participate, participants were required to be 65 years or older. The survey consisted of 84 items (Appendix A), including initial items to confirm eligibility and consent followed by demographic items and scales measuring anxiety, depression, wellbeing, self-compassion and emotion regulation skills. The survey took participants approximately 20 minutes to complete. Data was collected and stored using Qualtrics survey software, via a secure Massey University computer server. The survey was available from 20 October 2022 to 1 September 2023.

Procedure

Participants were recruited through non-random convenience sampling. Participants were recruited via The Health and Ageing Research Team (HART) at Massey University and multiple University of the Third Age (U3A) sites across the north island of New Zealand. U3A and HART were sent an initial email requesting assistance with distributing research information (Appendix B) along with an invitation to participate email (Appendix C). This invitation email was disseminated among organisation members. Information regarding this research was also included in organisational newsletters, and interested participants contacted the researcher to receive the same invitation email to participate.

The invitation email included a link to the online survey and briefly outlined information about the research including its inclusion criteria and the anonymous, voluntary nature of participation. Prior to the link directing participants to the survey, a research information sheet was provided (Appendix A) to support participants to make an informed decision about their participation. The information sheet provided further background information about the research, its purpose and aims, contact details of the researcher as well ethical considerations and participation rights.

Ethical Considerations

This research was reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application SOB 22/10, on the 13/07/22 (Appendix D). The predominant ethical consideration centred on confidentiality, informed consent and minimisation of harm. Prior to engaging in the survey, participants were required to first confirm they understood the information sheet and consent to participation. Participants were informed that engagement in the survey was voluntary but if they chose to complete the survey their participation implied consent. The information sheet also detailed the anonymous nature of the survey and participants were advised they could chose not to answer any questions. On completion of the survey, participants were able to enter a separate, secure window to request a summary of research findings once available and if desired to enter a draw to win one of five $50 vouchers. While not expected, there was potential for participants to find survey items distressing. Participants were informed of this prior to participation and available support services along with contact details were provided to participants prior to participation in the information sheet, and on completion of the survey.

Participants

To meet inclusion criteria participants were required to be 65 years or older. As seen in table 1, this sample consisted of 132 participants, 35 (26.5%) identified as male, and 97 (73.5%) as female, with a mean age of 76 (SD 5.79). The vast majority of the sample (94.7%) identified as New Zealand European, with only 2.3% identifying as Māori, 0.8% Asian and 1.5% as other. Similarly, the majority of participants had a tertiary education (75%), with 12.1% having a trade or occupational certificate, 7.6% a secondary education qualification and 5.3% a secondary education with no qualification. Four fifths of the sample was retired (81.1%) whereas approximately one fifth was working, either in an unpaid (3.8%), self-employed (6.8%), part-time (6.1%) or full time (2.3%) capacity. Most participants reported a ‘high’ (17.4%) or ‘fairly high’ (52.3%) material standard of living, approximately one third reported a ‘moderate’ (29.5%) standard of living, while very few identified with ‘fairly low’ (0%) or a ‘low’ (0.8%) standard of living. The majority of the sample also reported either ‘excellent’ (28.8%),

'very good' (47.7%) or 'good; (18.2%) physical health with only 4.5% reporting 'fair' and no participants (0%) reporting 'poor' physical health. Approximately half the sample was partnered (52.3%) with others being widowed (25%), separated (16.7%) or unpartnered (6.1%). Similarly, approximately half lived with their partner (48.5%) or alone (47.8%) rather than with 'others only' (1.5%) or 'partner and with others' (0.7%).

Table 1

Sociodemographic Characteristics of Participants

Participant Characteristics		N	Percentage
Gender			
	Male	35	26.5%
	Female	97	73.5%
Ethnicity			
	New Zealand European	125	94.7%
	Māori	3	2.3%
	Asian	1	0.8%
	Other	2	1.5%
	Missing	1	0.8%
Education			
	Secondary education, no qualification	7	5.3%
	Secondary education qualification	10	7.6%
	Trade or occupational certificate	16	12.1%
	Tertiary education	99	75.0%
Relationship Status			
	Married or Partnered	69	52.3%
	Unpartnered	8	6.1%
	Separated/divorced	22	16.7%
	Widowed	33	25.0%
Employment Status			
	Full time employed	3	2.3%
	Part time employed	8	6.1%
	Retired	107	81.1%
	Unpaid work	5	3.8%
	Self-employed	9	6.9%
Standard of living			
	High	23	17.4%
	Fairly high	69	52.3%
	Moderate	39	29.5%
	Low	1	0.8%
Living Situation			
	Living alone	63	47.7%
	Living with partner	64	48.5%
	Living with partner and others	1	0.8%

Participant Characteristics				N	Percentage
Living Situation	Living with others only			2	1.5%
	Missing			2	1.5%
Physical Health					
	Excellent			38	28.8%
	Very good			63	47.7%
	Good			24	18.2%
	Fair			6	4.5%
	Missing			1	0.8%
	Minimum	Maximum	Mean	N	Missing
Age	65	90	76	123	9

Measures

The core measures used in this survey were self-compassion, emotion regulation, anxiety, depression and wellbeing. Along with these core constructs, the survey also measured nine control variables. As seen in table 1 these variables were: age, gender, education, ethnicity, relationship status, physical health, employment, material standard of living as well as housing and living arrangements.

Self-Compassion

The Self-Compassion Scale Short Form (SCS-SF; Raes et al., 2011) is a 12-item self-report scale that measures self-compassionate responding to oneself in times of distress (Neff, 2003b). The SCS-SF measures all six dimensions of self-compassion (self-kindness, self-judgement, common humanity, isolation, mindfulness, overidentification) and it is a reliable alternative to the original 26-item Self-Compassion Scale with very high correlations between the two scales ($r \geq .97$) (Raes et al., 2011). Participants respond to items on a five-point likert scale indicating the frequency they experience each item with scores ranging from 1 = *Almost Never* to 5 = *Almost Always*. The items resembling the dimensions of self-judgement (11, 12), isolation (4, 8) and overidentification (1, 9) are reverse scored. A global score of self-compassion is recommended when using the short form rather than utilising scores of individual subscales (Neff & Tóth-Király, 2022; Raes et al., 2011). A total score of compassionate self-responding can be obtained by computing the mean of each subscale and then using these subscale means to calculate a total mean (the average of the six

subscale means). With no clinical norms, total scores range from 1-5, with scores ranging from 1-2.5 being indicative of low self-compassion, 2.5-3.5 indicating moderate and 3.5-5.0 indicating high self-compassion (Raes et al., 2011). The SCS-SF has high internal consistency (α ≥ .80), face, content convergent and divergent validity (Raes et al., 2011). In the current study the Cronbach alpha coefficient was .87. These findings of high internal reliability have been mirrored in numerous studies in diverse populations, including older adults (Bratt & Fagerström, 2020; Homan, 2016).

Anxiety

The Geriatric Anxiety Inventory Short Form (GAI-SF; Byrne & Pachana, 2011) is five-item self-report measure to screen for anxiety in older adults. The GAI-SF is a reduction of the original 20-item Geriatric Anxiety Inventory (Pachana et al., 2007). The Geriatric Anxiety Inventory measures anxiety symptoms across the range of anxiety disorders rather than reflecting a diagnosis (Byrne & Pachana, 2011). It assesses the primary domains of anxiety in older adults, namely fearfulness, worry, cognitions about worry and anxiety (meta-worry), somatic symptoms and anxious mood. However, the GAI is specifically designed to be age appropriate and overcome many of the issues present in other scales developed for younger populations. There is strong content emphasis on worry and cognitive expressions of anxiety rather than somatic symptoms to avoid the confounds this may have with medical conditions in older age (Byrne & Pachana, 2011). Participants also respond to items about their anxiety symptoms over the past week in a dichotomous, agree or disagree response format. This response format, in addition to the small number of items in the scale, limits administration burden as well as potential confusion and possible fatigue (Balsamo, Cataldi, Carlucci, & Fairfield, 2018). A total score ranging from zero to five can be calculated by summing up the score of each item (0 for disagree or 1 agree), with higher scores indicating more severe anxiety. A total score of 3 out of 5 is often utilised to indicate the presence of anxiety disorders (Johnco et al., 2015). Multiple systematic reviews support the psychometric properties of the GAI-SF in clinical and non-clinical groups (Balsamo, Cataldi, Carlucci, & Fairfield, 2018; Champagne et al., 2021). The GAI-SF has adequate internal consistency (α = .81), test-rest reliability and concurrent validity (Byrne &

Pachana, 2011) as well as adequate convergent and divergent validity (Champagne et al., 2021). In the current study the Cronbach alpha coefficient was .73.

Depression

The Geriatric Depression Scale – Short Form (GDS-15; Yesavage & Sheikh, 1986) is a 15-item self-report measure that is specifically designed to screen for depression in older adults. The GDS-15 is a shortened version of the original Geriatric Depression Scale (GDS) (Yesavage et al., 1982), which is one of the most extensively used measures for assessing depression in older adults (Tsoi et al., 2017). Similar to the GAI-SF, the GDS has been designed to consider unique characteristics of depression in older adults and to minimise common issues in the measurement of depression for older adults, such as the confounding influence of physical health conditions and response errors due to social desirability, fatigue or poor concentration (Montorio & Izal, 1996). In line with research and clinical experts in geriatric depression, the items of the scale focus on psychological aspects of depression rather than somatic symptoms (Yesavage et al., 1982). Participants respond to items about their depressive symptoms over the past week in a dichotomous, agree or disagree format that are respectively coded as 1 or 0. This response format avoids response errors from fatigue or confusion that have been noted in some older adults (Balsamo, Cataldi, Carlucci, Padulo, et al., 2018). A total score ranging from zero to 15 can be calculated by summing up items responses, with higher scores suggesting more severe depression. Ten of the 15 items indicate depressive symptoms when answered positively, whereas five items (1,5,7,11, 13) require reverse scoring as they indicate depression with negative answers. Recommended guidelines to indicate the presence of depression suggest total scores that range from five to eight indicate mild depression, nine to 11 moderate depression, and 12 to 15 severe depression (Pocklington et al., 2016; Yesavage & Sheikh, 1986). The GDS-15 has been extensively researched as an effective tool for depression screening with a recent meta-analysis indicating a pooled sensitivity of 0.86 and specificity of 0.79 (Krishnamoorthy et al., 2020). The GDS-15 has been reported to have sufficient internal consistency ($\alpha = 0.86$) and retest reliability ($r = 0.81$) (Brown & Schinka, 2005). The Cronbach alpha in this research was .84. The

validity and reliability of the GDS-15 have also been supported in both clinical practice and research across a variety of cultural and clinical settings (Brown & Schinka, 2005; Pocklington et al., 2016), including New Zealand (Knight et al., 2004).

Wellbeing

The Mental Health Continuum-Short Form (MHC-SF; Keyes et al., 2008) is a 14-item self-report measure that assesses social (items 4-8), emotional (items 1-3) and psychological (items 9-14) dimensions of wellbeing (Keyes, 2005). Participants respond to the items on a six-point likert scale indicating the frequency of which they have experienced these items over the past four weeks (from *never* = 0 to *everyday* = 5). Continuous rather than categorical scoring was used in this research and a total score ranging from zero to 70 is calculated by summing up all items responses. There are no recommended cut of scores or norms for the MHC-SF, and as such higher scores are indicative of greater wellbeing (Keyes et al., 2008). A substantial body of evidence supports the validity and internal reliability of MHC-SF, including in older adults populations (Westerhof & Keyes, 2010) and across several countries, including New Zealand (Joshanloo et al., 2017; Pir et al., 2023). The Cronbach alpha in this current study was .91.

Emotion Regulation Skills

The Emotion Regulation Skills Questionnaire (ERSQ; Grant et al., 2018) assesses overall adaptive emotion regulation skills (Berking & Whitley, 2014; Berking, Wupperman, et al., 2008; Berking & Znoj, 2008). The ERSQ is a 27 item measure that assesses nine emotion regulation skills with three items to assess each skill. These skills include emotional awareness ("*I paid attention to my feelings.*"), clarity (*"I was clear about what emotions I was experiencing."*), acceptance ("*I accepted my emotions.*"), understanding (*"I was aware of why I felt the way I felt.*"), modification ("*I was able to influence my negative feelings.*"), tolerance ("*I felt I could tolerate my negative feelings.*"), the ability to identify sensations and emotions ("*My physical sensations were a good indication of how I was feeling.*") as well as confront distressing emotions ("*I did what I had planned, even if it made me feel uncomfortable.*"), and to support oneself during distress ("*I supported myself*

in emotionally distressing situations."). Each item is responded to on a five-point likert scale (from *not at all* = 0 to *almost always* = 4) to indicate the frequency of using these skills over the past week.

Both a subscale and total score can be derived from the mean of items within each subscale or within the entire questionnaire. A resulting total score can range from zero to five, with higher scores indicative of overall successful use of emotion regulation skills. The scale demonstrates good internal consistency and adequate test-retest reliability (Grant et al., 2018; Wirtz, Hofmann, et al., 2014) and good convergent, discriminant, and construct validity (Berking & Znoj, 2008). The Cronbach alpha in this study was .96. In this research, the self-support subscale was removed from the ERSQ without any change to internal consistency. The SCS-SF displayed a significant correlation with the self-support subscale of the ERSQ in this research r = .44, p . < 001. This subscale has also been removed in previous research due to the theoretical and empirical overlap of these constructs (Diedrich et al., 2017).

Data Analysis

All statistical procedures, except power analysis, used Statistical Package for Social Sciences (SPSS) Version 29. The PROCESS marco version 4.3 for mediation (Hayes, 2022) was used to calculate three simple mediation models (model 4). These models were used to test the three hypotheses that emotion regulation skills would mediate the relationship between self-compassion and the mental health outcomes of wellbeing, anxiety and depression. Evidence from the mediation regressions also provided evidence for the initial hypothesis that in older adults, self-compassion is significantly related with 1) wellbeing, 2) depression and, 3) anxiety. Specifically, the mediation models calculated self-compassion as the independent variable, emotion regulation skills as the mediating variable, with depressive symptoms, anxiety symptoms, or wellbeing being the dependent variable in each model. Hierarchical regression analysis was used for pre-screening and assessing the assumptions of mediation. Significant covariates were identified in prior screening and were included in each relevant mediation model.

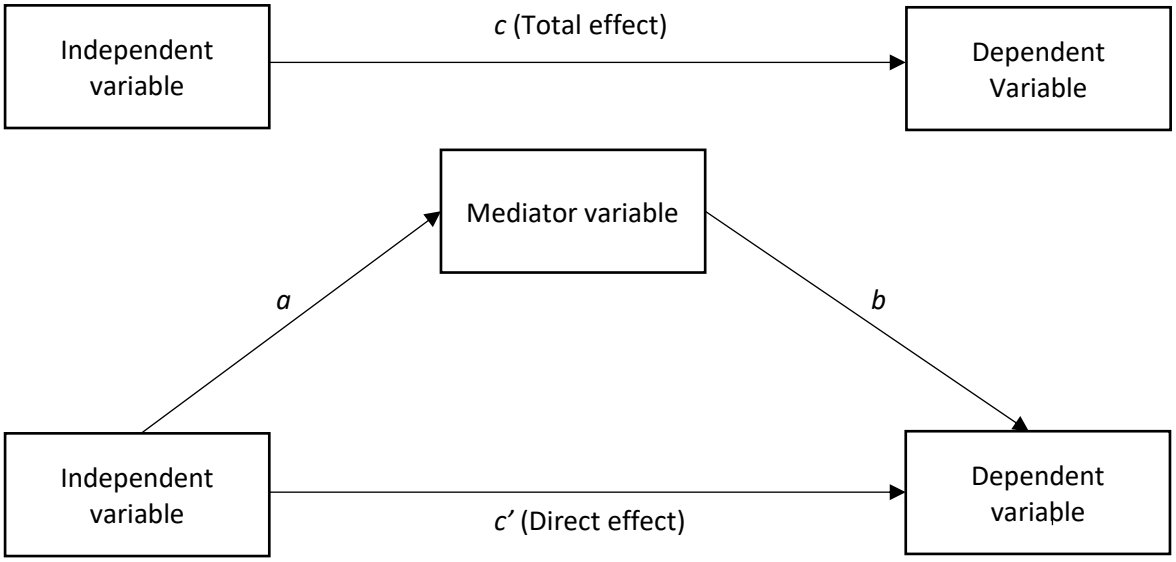
The two paths of influence, the direct and indirect effect, in each mediation model were calculated to assess mediation. The significance of the indirect effect and direct effects were estimated by generating confidence intervals using 5,000 percentile bootstrap sampling as is standard in PROCESS. Contemporary mediation analysis advocates for the use of bootstrapping as it does not require the assumption of normality and has higher power than the previously used Sobel z-test (Hayes & Scharkow, 2013; Preacher & Hayes, 2008). Effects were considered significant if zero was not included in the bootstrap confidence intervals (Preacher & Hayes, 2008). As recommended by Hayes (2022) the mediation effect size was interpreted and reported by using unstandardised and completely standardised coefficients of the indirect effect.

As advocated by Hayes (2022), this research adopts a contemporary view of mediation theory and focuses on the indirect effect to infer mediation. Mediation theory (Baron & Kenny, 1986) proposes that the total effect of the IV on the DV (path *c*) can be divided into the direct (*c'*) and indirect effect (*ab*) effect. This general mediation model is illustrated by figure 1. The indirect effect resembles the effect of the IV on the DV through the mediator. The indirect effect is the product of the path *a* (the relationship between the Independent variables and mediator) and path *b* (the relationship between the mediator and the dependent variable). The direct effect on the other hand (path *c'*) resembles the influence of the independent variable on dependent variable when the mediator is controlled for. Mediation was traditionally theorised to occur when both the indirect effect was significant and the direct effect (the relationship of the independent on the dependent variable when the mediator is entered into the model) was reduced in strength in comparison to the original total effect (Baron & Kenny, 1986). However this conceptualisation of mediation which attempts to 'accounting for an effect' is not recommended and even argued as obsolete (Meule, 2019). Contemporary views of mediation rather focus on the significance of the indirect effect to infer mediation (Hayes, 2022; Meule, 2019). Unlike the traditional approach developed by Baron and Kenny (1986) this perspective does not require a weaker direct effect relative to total effect, or the other preliminary criteria to infer mediation such as the significance of the path *c*, *a* and *b* (Hayes,

2022). While not required to infer mediation, the significance of path *a* is reviewed in this research in regards to hypothesis four, path *b* significance is also reported as supplementary information. Path *c* (total effect) is also reported to evaluate the hypothesis one two and three.

Figure 1

Visual Representation of a Mediation Path Model



Chapter Four: Results

Initial Data Screening and Exploratory Analysis

Power Analysis

A priori power analysis using G*Power version 3.1 (Faul et al., 2009) was conducted to estimate the required sample size for a medium effect size (Cohen, 1992) in a regression model with 11 predictors (independent, mediator and covariates). Assuming an α of .05, a target power of .80, and an effect size of .15, a total sample of 123 was required. This research obtained and utilised a sample size of n = 132, meeting the sample size required for sufficient power.

Missing Data and Imputation

The initial data set consisted of 140 participants. Cases missing more than half of their data on core subscales were determined unusable for analysis and therefore excluded, this resulted in a data set of 134 participants. The degree of missing data on primary measure items ranged from 0 to 3.7%. Within the control variables missing data ranged from 0 to 1.5% with the exception of age which had 6.7% missing data. Irrespective of the amount of missing data, to confirm there was no systematic bias in the missingness of data, Little's Missing Completely at Random was conducted. The control variable of age was also included in this analysis given older adults are the population of interest. The Missing Completely at Random result was non-significant, ($\chi 2$ = 2484.24, df = 2432, p = 0.226) suggesting that the data was missing completely at random and did not have systematic bias. Given that only relatively few data points were missing, and that the pattern of missing data was random, the missing values posed limited risk to analysis and it was assumed that methods for imputing missing data would provide similar results (Tabachnick, 2019). Listwise deletion was not appropriate, given the significant reduction of the sample size that would result (n = 92). Therefore, missing data was replaced with the mean of that particular participants responses for each corresponding scale and subscale. Substituting the mean for missing values is a conservative approach resulting in less variance in a variable and as such reducing its correlation with other variables (Tabachnick, 2019). To confirm that missing values did not impact subsequent analysis, the

imputed data and non-imputed data were both analysed and compared. There was no significant differences in correlations for imputed and non-imputed data. Therefore, unless stated otherwise, the imputed data set was used to report the following mediation and bivariate correlations analysis.

Descriptive Statistics and Data Screening Continued

Normality of variables was initially assessed via histograms and Shapiro-Wilk statistics. All core variables, with the exception of SCS-SF (W = .98, p =.052), reflected non-normal distributions. ERSQ and MHC-SF displayed slight negative skew whereas GDS-15 and GAI-SF displayed significant positive skew. While the distributions of the GDS-15 and to lesser extent GAI-SF appears initially of concern, these observations are not unexpected given the phenomena of interest as well as how the measures are scored. In line with the Central Limit Theorem, the skewness and risks associated with non-normality was deemed of limited concern given the sample size of this research is greater than 100 (Tabachnick, 2019). The central limit theorem proposes that regardless of how the sample data appears distributed, as the sample sizes increases beyond 30, the distribution will increasingly approach a normal distribution (Field, 2018). Slight negative (ERSQ, SCS-SF) and positive kurtosis (GAI-SF, MHC-SF) was observed in all measures with notable positive kurtosis for GDS-15 (5.04, SE = .42). The negative impact that kurtosis can have on potentially biasing results was also deemed negligible given the sample size was over 100 (Tabachnick, 2019).

Preliminary screening for univariate outliers was conducted using boxplots, histograms and Z-scores. Z-scores greater than 3.29 were considered of concern (Tabachnick, 2019). Five potential outliers were identified within GDS-15. Outliers were assessed on a case by case basis and given that there was no reason to believe these participants did not represent the population of interest, or displayed bias in responding to survey items, these cases were not excluded from analysis.

In light of the skewed data and outliers, data transformation was attempted. However log and square root transformations did not result in significant improvements to the data and in some cases increased kurtosis. It was deemed more appropriate to keep data untransformed until further residual analysis to avoid any of the negative effects on interpreting analysis that results from

transformations (Tabachnick, 2019). Therefore, to reduce the influence of outliers, rather than transform the data raw outlier scores were changed to one above the next most extreme, non-outlier value on the distribution (Tabachnick, 2019). Identified GDS-15 outlier scores were altered to a maximum of 9. Final analyses were conducted with and without outlier alterations to assess influence. A nonsignificant reduction in effect size was observed in using reduced raw scores. In taking a conservative approach, subsequent analyses reported the altered outlier GDS-15 data.

Bivariate scatterplots between principle variables were conducted to initially screen for core statistical assumptions of linearity and homoscedasticity. When self-compassion or ERSQ was plotted on the x axis and health outcomes (GAI-SF, GDS-15, MHC-SF) on the y axis, a straight line could be fitted to all data and a linear relationship was apparent. The spread of data points across these relationships also appeared random and there was no pattern to suggest the presence of heteroscedasticity.

Visual inspection of scatterplots highlighted potential multivariate outliers. These inspections were conducted with and without previous univariate outlier alterations. Univariate outlier alteration visually reduced the multivariate outlier impact observed in self-compassion with GDS-15 plots, which displayed high leverage and low discrepancy. Further, potential outliers over and above the univariate outliers were apparent among ERSQ with GDS-15 plots (low leverage and high discrepancy), as well as ERSQ with MHC-SF plots (high leverage and discrepancy). These multivariate outliers have the potential to influence the regression coefficient of future analysis, and therefore particular attention was given to outliers in the subsequent regression residual analysis. Descriptive statistics for the cores measures were conducted and these are detailed in Table 2.

Table 2

Descriptive Statistics of Core Variables

Variable	N	Min	Max	Mean	SD	α
ERSQ	132	1.71	4.00	3.11	.62	.96

Variable	N	Min	Max	Mean	SD	α
SCS-SF	125	1.92	4.92	3.67	.71	.87
GDS-15	120	.00	12.00	1.94	2.72	.84
GAI-SF	128	.00	5.00	1.15	1.47	.73
MHC-SF	125	17.5	70.0	54.17	11.24	.91

Note. Non-imputed, listwise deleted data is represented and rounded to 2dp.

Min and max represent range of data, *N* (listwise sample) *SD* (standard deviation) and α (Cronbach Alpha).

Pearson's correlation coefficients for the core variables can been seen in Table 3. All correlations of core variables were significant at the alpha level of .001. Based on guidelines from Cohen (1992), self-compassion displayed a strong positive correlation with wellbeing, as well as a strong negative correlation with depression and anxiety. Hypotheses one, two and, three are supported by these initial bivariate results, indicating that older adult's mental health is significantly related to self-compassion. The coefficient of determination was also calculated by squaring Pearson correlations (Pallant, 2020), this indicated that self-compassion explained 33.6% of the variance in wellbeing and anxiety as well as 30% of variance in depression. As expected in hypothesis four, self-compassion also had a strong positive relationship with emotion regulation skills. ERSQ had a moderate negative correlation with depression and anxiety, as well as a notably strong positive correlation with wellbeing. When the coefficient of determination was calculated, ERSQ explained 51.8% of the variance in the MHC-SF, 20.2% of GDS-15 and 21.2% of GAI-SF. Multicollinearity was checked for all variables, this was determined by using the suggested threshold of .8 and above as an indication that investigation of multicollinearity is warranted (Tabachnick, 2019). None of the core variables indicated multicollinearity however, two of the control variables (relationship status and living situation) indicated multicollinearity with correlation of .94. Given the high correlation and the fact neither had a significant relationship with core variables, both control variables were excluded in mediation analyses.

Table 3

Bivariate Pearson's Correlates of Core Variables

Variable	SCS-SF	ERSQ	MHC-SF	GDS-15.	GAI-SF
SCS-SF	1				
ERSQ	.53**	1			
MHC-SF	.58**	.72**	1		
GDS-15	-.55**	-.45**	-.69**	1	
GAI-SF	-.58**	-.46**	-.56**	.54**	1

Note. ** p <.001

Control variables were assessed for their relevance to future analysis and corresponding correlations can be seen in Table 4. Control variables that were identified as having a significant relationship with the independent, mediator, or dependent variables were included in corresponding mediation models. Categorical control variables were dichotomised as required for regression analysis (Tabachnick, 2019). Given the sample was predominantly (94.8%) New Zealand European ethnicity was therefore coded as New Zealand European or not-New Zealand European. Employment was categorised into employed (unpaid, self-employed, part-time or full time) or retired. Education was coded as tertiary education or no tertiary education. Relationship status and living situation were respectively coded as partnered or not partnered and living with partner/others or living alone. Gender remained grouped as female and male. Material standard of living, age and physical health were considered continuous variables for future analysis.

Table 4

Bivariate Correlations of Covariates

Covariate	SCS-SF	ERSQ	MHC-SF	GDS-15	GAI-SF
PH	.30**	.29**	-.32**	-.47**	-.27**
MSL	-.5	.22*	-.14	-.13	.09
ES	-.02	.19*	.12	.07	.01

Covariate	SCS-SF	ERSQ	MHC-SF	GDS-15	GAI-SF
ED	-.02	-.06	.07	.04	.05
Ethn	-.00	.05	.09	-.05	-.17*
Gen	-.02	-.03	-.05	.05	-.17
LS	.13	.12	.12	.06	-.07
RS	.11	.13	.11	.04	-.07
Age	.03	.00	.02	-.09	-.14

Note. PH (physical health), MSL (material standard of living), ES (employment status), ED (Education), Ethn (ethnicity), Gen (gender), LS (Living Situation), RS (relationship status)

* p <.01. ** p <.001

Mediation Analysis Assumptions

The PROCESS macro does not produce the necessary statistical output to assess mediation analysis assumptions. Mediation resembles a series of regression analyses and as such the assumptions for mediation can be examined by conducting a series of regression analyses (Hayes, 2022). Hierarchical regression was conducted for each pathway in the three hypothesised mediation models.

Linearity & Homoscedasticity

A scatterplot of standardised residuals against standardized predicted values of the models was conducted to assess the assumption of linearity and homoscedasticity. No violations of the assumption of linearity or homoscedasticity were observed. Data points appeared randomly scattered with no systematic patterns being present and as such there was no indication of heteroscedasticity or non-linearity

Independence of Error Terms

The Durbin-Watson statistic was used to assess the independence of the errors. A conservative threshold was used with scores less than .1 and above .3 being deemed of concern

(Tabachnick, 2019). All results closely approximately a score of two (ranging from 1.5 to 1.9 for all models) and as such there was no indication of the independence of error terms being violated.

Multicollinearity

Tolerance and Variance Inflation Factors were used to assess multicollinearity. Pallant (2020) suggests that Variance Inflation Factor statistics more than 10 and/or tolerance scores of less than 0.1 indicates possible issues of multicollinearity. No data surpassed these recommend cut-off scores and as such no violations of multicollinearity were evident.

Outliers

Outliers were also further identified through visual inspection of standardised residual and standardised predicted scatterplots. Two outliers were identified and excluded to reduce undue bias. Prior analyses utilised the data set with these cases omitted. Investigation of these outliers determined they did not likely reflect natural variations in the data given the reporting pattern of answers and extent of missing data in these case. Additionally, standardised residual scores that were greater than 3 or less than -3 were also used to further screen for further potential outliers. To determine whether these potential outliers had undue influence, Mahalanobis distance and Cooks distance were calculated. A conservative threshold recommended by Tabachnick (2019) was utilised and data was considered to have problematic influence if Mahalanobis exceeded the corresponding alpha value of .001 on the critical chi-squared values and/or exceeding a cooks distance of 1. No data exceeded these threshold and as such no further potential outliers were excluded.

Normality

Histograms, scatterplots and p-p plots of standardised residuals were used to examine normality. Scatter plots of residuals indicated minor concerns. Histograms indicated deviations from normality in the form of skewness, with negative skew being evident in the case of MHC-SF and positive skew for GAI-SF and GDS-15. Similar P-P plots reflected violations, with the most concerning deviations being seen in the case of SCS-SF and MHC-SF. However, these violation were determined to be minor. Regression is robust to minor violations of normality (Field, 2018; Hayes, 2022). True

threats of trustworthiness from non-normal residual distributions are more relevant to small samples and the assumption of normality becomes less important with greater sample sizes (Williams et al., 2013). Therefore, in light of the robust nature of regression and the sample size in this research as well as the subsequent use of bootstrapping in mediation analyses, the deviations from normality were not deemed of concern and subsequently data transformations were not deemed necessary.

Mediation Analysis

Mediation Model One: Wellbeing

Hypothesis 1: Self-Compassion Will Have a Significant, Positive Relationship With Wellbeing. Within Mediation model one, The total effect (*c* = 8.4, *SE* = 1.1) estimates that one more unit of self-compassion is associated with 8.4 more units of wellbeing. This positive effect was statistically significant as indicated by the bootstrap confidence interval not including zero, 95% *CI* [6.12, 10.67]. In addition to previous bivariate results, these findings support the hypothesis that self-compassion has a significant positive relationship with wellbeing.

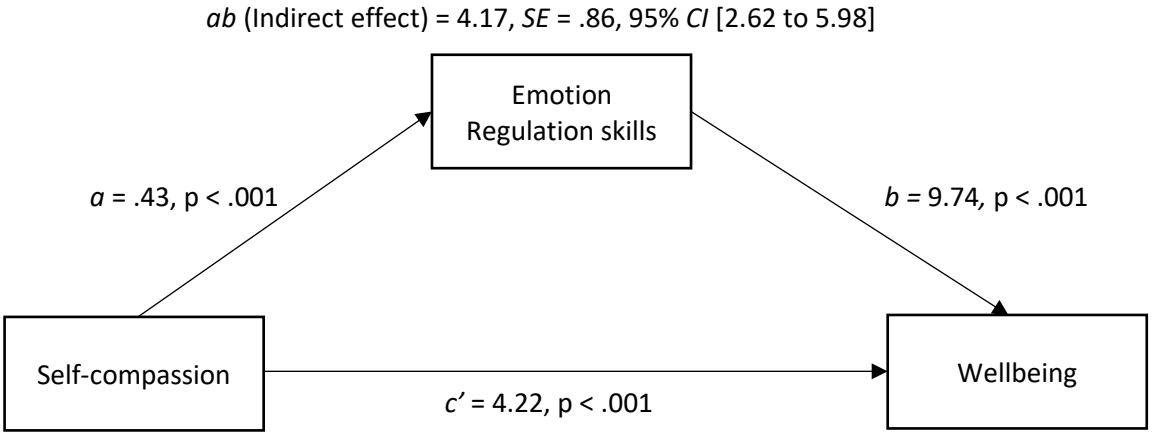
Hypothesis 5: Self-Compassion's Relationship With Wellbeing Will be Significantly Mediated by Emotion Regulation Skills. The fit of the mediation model was significant ($F(5, 126) = 33.66$, $p < .001$). Both the predictors of self-compassion and emotion regulation skills, along with the covariates of physical health, material standard of living and employment status, accounted for 57% of the variance in wellbeing ($R^2 = .57$). The simple mediation analysis indicated that self-compassion indirectly influenced wellbeing through emotion regulation skills. As displayed in figure 2, self-compassion was associated with higher emotion regulation skills ($a = .43$, $t(127) = 6.65$, $p < .001$) and these emotion regulation skills in turn were associated with higher wellbeing ($b = 9.74$, $t(126) = 7.39$, $p < .001$). It is of note that PROCESS produces unstandardised beta coefficients that are scale bound, and quantified in the metric of the Y variable (Hayes, 2022). The indirect effect (4.17, *SE* = .86) indicates that individuals who have one more unit of self-compassion are estimated to experience 4.17 more units of wellbeing as a result of self-compassion's influence through emotion

regulation skills. This indirect effect was statistically significant as indicated by the bootstrap confidence interval not including zero, 95% *CI* [2.62 to 5.98]. The results from the indirect effect infers a statistically significant mediation and supports the hypothesis that self-compassion's influence on wellbeing is significantly mediated by emotion regulation skills. It is also notable that there was evidence that self-compassion positively influenced wellbeing independent of its influence on emotion regulation skills (*c'* = 4.22, *t*(126) = 3.78, *p* < .001*).* In line with contemporary views of mediation the significance of this relationship however does not invalidate the mediating role of emotion regulation skills, as indicated by the indirect effect (Hayes, 2022).

Hypothesis 4 Self-Compassion Will Have a Significant Positive Relationship With Emotion Regulation Skills. As previously referenced in the results from path *a* in mediation model One (*a* = .43, *t*(127) = 6.65, *p* < .001), a significant positive relationship between self-compassion and emotion regulation skills was observed, whereby one unit increase self-compassion was positively associated with .43 units increase in emotion regulation skills. This result, in addition to previous bivariate analysis, support the hypothesis that self-compassion has a significant positive relationship with emotion regulation skills.

Figure 2

Mediation model One: Emotion Regulation Skills as the Mediator in the Relationship Between Self-Compassion and Wellbeing.



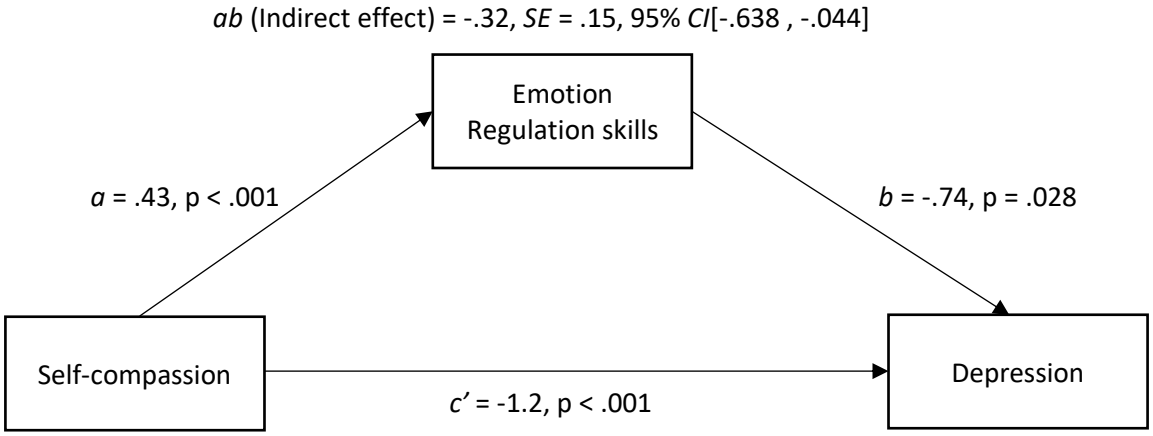
Mediation Model Two: Depression

Hypothesis 2: Self-Compassion Will Have a Significant, Negative Relationship With Depression. The total effect (*c* = -1.5*, SE = .25)* estimates that one more unit in self-compassion is associated with 1.5 less units of depression. This negative effect was statistically significant, as indicated by the bootstrap confidence interval not including zero, 95% *CI* [-1.036, -.442]. This result supports the hypothesis that self-compassion has a significant negative relationship with depression.

Hypothesis 6: Self-Compassion's Relationship With Depression Will be Significantly Mediated by Emotion Regulation Skills. The fit of this model was significant ($F(5, 126) = 19.32$, $p < .001$). Both the predictors of self-compassion and emotion regulation skills, along with the covariates of physical health, material standard of living and employment status accounted for 43% of the variance in depression ($R^2 = .43$). A simple mediation analysis indicated that self-compassion indirectly influenced depression through its effect on emotion regulation skills. As displayed in figure 3, self-compassion was associated with higher emotion regulation skills ($a = .43$, $t(127) = 6.6$, $p < .001$) and emotion regulation skills, in turn were associated with less depression ($b = -.74$, $t(126) = -2.22$, $p = .028$). The indirect effect ($ab = -.32$, *SE* = .15) indicates that individuals who experience one more unit of self-compassion are estimated to experience 0.3 units less of depression a result of self-compassion's influence through emotion regulation skills. This indirect effect was statistically significant as indicated by the bootstrap confidence interval not including zero, 95% *CI* [-.638 , -.044]. Consequently, the results from the indirect effect infers a statistically significant mediation, and as such support the hypothesis that self-compassion's influence on depression is significantly mediated by emotion regulation skills. There was also evidence that self-compassion negatively influenced depression independent of its influence on emotion regulation skills ($c' = -1.2$, $t(126) = -4.3$, $p < .001$). As previously stated this does not invalidate the significance of the mediation.

Figure 3

Mediation model two: Emotion Regulation Skills as the Mediator in the Relationship Between Self-Compassion and Depression



Mediation Model Three: Anxiety

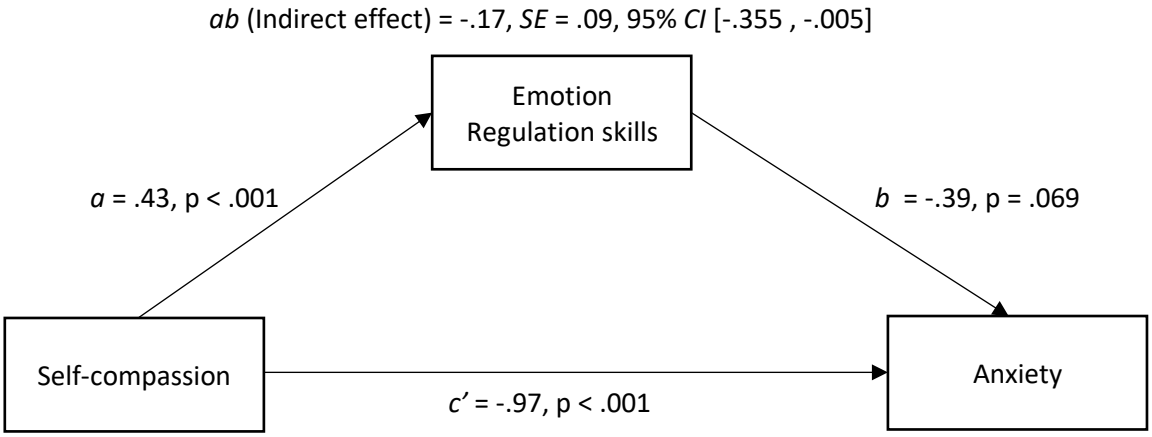
Hypothesis 3: Self-Compassion Will Have a significant, Negative Relationship With Anxiety. The total effect (*c = -1.13, SE = .16)* suggests one more unit of self-compassion is associated with 1.13 less units of anxiety. This negative relationship was statistically significant as indicated by the bootstrap confidence interval not including zero, 95% *CI* [-.824, -538]. This supports the hypothesis that self-compassion has a significant negative relationship with anxiety.

Hypothesis 7: Self-Compassion's Relationship With Anxiety Will be Significantly Mediated by Emotion Regulation Skills. The fit of this model was significant ($F(6, 124) = 13.2$, $p < 0.001$). Both the predictors of self-compassion and emotion regulation skills, along with the covariates (physical health, material standard of living and employment status, ethnicity) accounted for 39% of the variance in anxiety ($R^2 = .39$) A simple mediation analysis indicated that self-compassion indirectly influenced anxiety through its effect on emotion regulation skills. As displayed in figure 4, self-compassion was associated with higher emotion regulation skills ($a = .43$, $t(125) = 6.58$, $p < .001$) and emotion regulation skills in turn were associated with less anxiety ($b = -.39$, $t(124) = -1.835$, $p = .069$). The indirect effect ($ab = -.17$, $SE = .09$) indicates that individuals who experience one more unit of self-compassion, are estimated to experience 0.17 units less anxiety as a result of self-compassion's

influence through emotion regulation skills. This indirect effect was statistically significant as indicated by the bootstrap confidence interval not including zero, 95% *CI* [-.355 , -.005]. The results from the indirect effect infers a statistically significant mediation and as such supports the hypothesis that self-compassion's influence on anxiety is significantly mediated by emotion regulation skills. There was also evidence that self-compassion negatively influenced anxiety independent of its influence on emotion regulation skills (*c'* = -.97 , *t*(124) = -5.36, *p* < .001*).* As previously stated this does not invalidate the mediation.

Figure 4

Mediation model Three: Emotion Regulation skills as the Mediator in the Relationship Between Self-Compassion and Anxiety



Mediation Covariates

Mediation model one, two and three all controlled for the covariates of physical health, material standard of living and employment status. Model three also included ethnicity. Ethnicity was significant at the .05 alpha level (-1.18, p = .018) in the indirect model, and this was evaluated in light of the homogenous nature of the sample. Physical health was only significant in Model 2 (.92, p < .001). A significant relationship was found in regards to Employment status (.32, p = .004) and material standard of living (.18, p = .005) in regards to path *a* (emotion regulation skills as DV) in all models. The mediation models did not control for the alternative mental health outcomes assessed

in the other models. For example, model 3 with anxiety as a dependent variable, did not control for depression or wellbeing. In light of the underlying assumption of emotional disorders, controlling for depression in the case of anxiety, (and vice versa) would introduce bias and inappropriately attenuate correlations. Similarly, wellbeing was not controlled in mediation models where anxiety or depression was an outcome (and vice versa). Wellbeing and psychopathology have a bidirectional relationship (Lamers et al., 2015) and as such it was identified that controlling for the alternative mental health variables in each respective mediation model would inappropriately introduce colliders bias (Tönnies et al., 2022).

Mediation Effect Size

At present there is no consensus as to whether any statistical methods appropriately quantify effect size in mediation analysis and provide a universal, comparable measure of the indirect effect (Lachowicz et al., 2018). There is continual development to overcome this issue, however at present researcher recommend exercising extreme caution (Lachowicz et al., 2018) with prominent researchers not recommending the use of any statistical techniques to capture effect size (Hayes, 2022). Statistical tests that were previously commonplace have been discontinued in PROCESS given evidence of their problematic nature, such as Kappa-squared, R-Squared, and the ratio of the indirect to total or direct effect (Hayes, 2022). In sum there is no quantification as to whether the indirect effect is large, small or the degree of mediation occurring in a practical or theoretical sense. Hayes (2022) recommends the investigating researcher is be best equipped to interpret the mediation output in light of their in-depth knowledge of the measures and phenomenon of interest.

The mediation effect size in this research is inferred from the unstandardised coefficients for the indirect effect that have been previously reported within each mediation model. Unstandardised coefficients in mediation are scale bound and quantified in the metric of the *Y* variable, therefore interpreting their meaning requires the context and understanding of the measures used in each model. To understand the meaning portrayed by one unit of anxiety, depression or wellbeing, the

reader is encouraged to review the methods section. Additional attention has been given to provide contextual information to support interpretation such as the how the scale is scored in addition to recommended cut of scores indicative of significant anxiety or depression. To support interpretations of effect size the 'index of mediation' (Preacher & Hayes, 2008) or standardised indirect effects were also calculated. This assists in comparing the research with other findings that use alternative measures and provides context to those unfamiliar with the scales of this research (Field, 2018). The completely standardised indirect effects reflects the estimated difference in standard deviations of *Y* between two individuals who differ by one *SD* on *X* (Hayes, 2022). The standardised coefficients and percentile bootstrap confidence intervals for each model are displayed in Table 5 along with the original unstandardised coefficients. As seen in table 5, individuals who differ by one *SD* of self-compassion were estimated to differ by .27 *SD* in wellbeing, as well as .09 and .8 *SD* in respect to depression and anxiety.

Table 5

Standardised and Unstandardised Indirect Effects for Each Mediation Model

Mediation Model	Unstandardized Coefficient	SE	95% CI	Standardized Coefficient	SE	95% CI
1 (Wellbeing)	4.17	.86	2.62, 5.98	.27	.05	.175, .363
2 (Depression)	-.32	.15	-.638 , -.044	-.09	.04	-.178, -.013
3 (Anxiety)	-.17	.09	-.355 , -.005	-.08	.04	-.170, - .002

Note. SE (standard error), CI (percentile bootstrap confidence interval).

Chapter Five: Discussion

The first aim of this research was to examine the relationship that self-compassion had with mental health in older New Zealand adults (*n* = 132). A complete approach to mental health was adopted whereby depression and anxiety were assessed as negative indicators of mental health, and wellbeing as an indicator of the positive dimension of mental health. In addition, this research aimed to develop our understanding of how self-compassion may influence mental health. As such, emotion regulation skills were assessed as a potential process, or underlying mechanism, through which self-compassion may be associated with mental health. Three cross-sectional mediation analysis was conducted to examine the relationship that self-compassion has with mental health (wellbeing, depression and anxiety) and emotion regulation skills, as well as whether the relationship that self-compassion has with mental health would be mediated by emotion regulation skills. Results provided support for all hypotheses; self-compassion was associated with (4) emotion regulation, as well as with the mental health outcomes of (1) wellbeing, (2) depression and (3) anxiety in older adults. Further, emotion regulation acted as significant mediator in the relationship that self-compassion had with (5) wellbeing, (6) depression and (7) anxiety. The following discussion will interpret these research findings and their implications in line with the original hypotheses and the limited, but developing literature in the field. Thereafter, the methodological strengths and limitations of this research, as well as a summary of recommendations for future research is reviewed.

Self-Compassion and Mental Health

The results of this research supported all three hypotheses regarding self-compassion's relationship with mental health in older adults. Specifically, the results confirmed the hypotheses that self-compassion had a significant positive association with wellbeing, and a significant negative association with depression, as well as anxiety. This suggests that older adults with higher self-compassion are more likely to experience higher wellbeing, and less likely to experience anxiety and depression. These findings were expected considering they replicate the well-established

correlational literature in younger cohorts regarding self-compassion's relationship with wellbeing, depression and anxiety (Macbeth & Gumley, 2012; Zessin et al., 2015). These findings, however, are novel in that they corroborate and further explore the small, but growing research examining self-compassion and mental health in older adult cohorts (Brown et al., 2019). Overall, the strong correlation between self-compassion with wellbeing, anxiety and depression in this research is similar to previous reports in older cohorts (Allen et al., 2012; Harrison et al., 2017; Homan, 2016). Building on the small research base in older adults and verifying self-compassion's relationship with mental health is useful as it provides evidence for the potential application of self-compassion to older cohorts. Given this research is cross-sectional, causation cannot be inferred from these findings. However, when interpreted in line with previous longitudinal and intervention research (i.e., Ferrari et al., 2019; Kirby et al., 2017), the results suggest that self-compassion may be an adaptive factor for older adults with regards to reducing anxiety and depressive symptoms as well as to promoting wellbeing. Ultimately these findings highlight self-compassion as a potential factor that could be targeted to address the mental health needs of the growing older adult population of New Zealand.

Given the undeveloped nature of research on self-compassion in older cohorts, attention to interesting covariate findings is warranted. Consistent with previous research in older adults (i.e., Allen et al., 2012; Homan, 2016), self-rated physical health was correlated with all mental health outcomes as well as self-compassion and emotion regulation. Previous research has indicated that poor physical health is a risk factor for low mental health in older adults, and that self-compassion moderates this negative influence (Allen et al., 2012; Homan, 2016). In line with previous research, this research found that self-compassion's relationship with mental health in older adults remained significant when controlling for physical health (Smith, 2015).

In contrast to reports across the lifespan (Tóth-Király & Neff, 2021), age did not significantly correlate with self-compassion or any variables in this research. This is interesting in that it does not support the proposal by Tóth-Király and Neff (2021) that older adults might increasingly benefit from

self-compassion as they age. This result is not unique as previous research has presented null or mixed findings when age is exclusively examined among older cohorts (i.e., Bratt & Fagerström, 2020; Homan, 2016). Despite this relationship not being a focus of this research, when interpreted in light of the wider literature our research highlights the possibility that while self-compassion may generally increase with age across the lifespan (Tóth-Király & Neff, 2021), the relationship may be more complex in the older years of life. Evidently, further research is needed to explore this relationship and expand on the current proposal of an inverted U-shaped relationship between self-compassion and age in older adulthood (Lee et al., 2021).

Self-Compassion and Emotion Regulation

The results of this research support the hypothesis that self-compassion has a significant, positive association with emotion regulation skills. These results are consistent with empirical studies indicating that self-compassion is associated with higher adaptative emotion regulation skills (Diedrich et al., 2017), experiencing fewer difficulties with emotion regulation (Inwood & Ferrari, 2018; Prentice et al., 2021; Scoglio et al., 2015; Shenaar-Golan et al., 2023; Vettese et al., 2011) and having an increased tendency over time to use more adaptive emotion regulation strategies (Paucsik et al., 2023). This evidence contributes to the developing literature and verifies self-compassion's association with emotion regulation (Inwood & Ferrari, 2018), extending these findings for the first time in older adults. This research indicates that older adults who have higher self-compassion tend to experience higher adaptative emotion regulation skills.

Again, while causality cannot be inferred from this research, the correlations are valuable as they are consistent with previous theoretical rationale linking self-compassion and emotion regulation. For example, the results algin with Neff's (2003b) original proposal that self-compassion and emotion regulation are closely related, as well as more recent models that propose self-compassion is a core emotion regulation process itself, which facilities and acts to improve a number of other emotion regulation skills (Berking & Whitley, 2014; Finlay-Jones, 2017).

Self-compassion, Emotion Regulation and Mental Health

Three separate mediation analyses revealed a significant indirect effect between self-compassion and mental health (depression, anxiety as well as wellbeing), through emotion regulation. As hypothesised, this indicates that emotion regulation operates as a significant mediator in each relationship that self-compassion has with wellbeing, depression and anxiety. Collectively this suggests that emotion regulation plays a core role in self-compassion's relationship with mental health in older adults.

Emotional Distress

Regression models showed that self-compassion and emotion regulation, along with the relevant covariates, accounted, for 43% of the variance in depression and 39% of the variance in anxiety in older adults. The significant mediation between self-compassion and anxiety as well as depression is consistent with the limited available literature (Inwood & Ferrari, 2018). For example, similar cross-sectional research has shown that emotion regulation is a significant mediator in self-compassion's relationship with depression (Diedrich et al., 2017), anxiety (Neyestani et al., 2023) and general distress measures that represented both constructs (Carona et al., 2022; Finlay-Jones et al., 2015; Prentice et al., 2021). This research substantiates this small literature base and further builds on it by being the first study to demonstrate that this relationships holds within a New Zealand population of older adults.

The findings of this research suggest that emotion regulation may be a possible process by which self-compassion is associated with emotional disorders in older adults. These results also strengthen the evidence for an emotion regulation theory of self-compassion, aligning with the theory that self-compassion reduces anxiety and depression in part through its ability to influence other emotion regulation skills (Berking & Whitley, 2014; Finlay-Jones, 2017; Germer, 2023). It is important to note that this theory assumes causal relationships. Given that our data is cross-sectional, casual inference cannot be made. Therefore the results of this research can only be viewed as tentative, correlational evidence in support of this theory. A more thorough discussion on

casualty and the inferential limits of this research is essential given the assumptions underlying mediation analysis, and this will reviewed in a subsequent section.

Wellbeing

This research found that self-compassion and emotion regulation, along with the relevant covariates, accounted for 57% of the variance of wellbeing. The mediation analysis also showed a significant indirect effect between self-compassion and wellbeing, via emotion regulation skills. In support of the hypothesis, this indicates that emotion regulation operates as a significant mediator between self-compassion and wellbeing. This result is consistent with the previously mentioned theoretical rationale and evidence surrounding self-compassion's link with emotion regulation (i.e., Berking & Whitley, 2014), and emotion regulation's link with wellbeing (Kraiss et al., 2020). However, these results are novel as, along with Carona et al. (2022), this research is only the second investigation to confirm the existence of a significant mediation relationship.

Compared to distress outcomes, the understanding of how self-compassion influences wellbeing is greatly neglected (Finlay-Jones, 2023). As such, only three published studies have explored emotion regulation as a mediator and potential explanator for this relationship. In contrast to the findings of this research, and Carona et al. (2022), which confirmed the presence of a significant mediation relationship, the only other available research has reported null findings. Prentice et al. (2021) did not find a significant mediation in a sample of adolescents with chronic health conditions. Similarly, Shenaar-Golan et al. (2023) did not find a significant mediation in a sample of parents whose children were receiving inpatient mental health care.

As mentioned in the literature review, the null findings within this line of research are unexpected considering the rationale for the role of emotion regulation in wellbeing, and it likely that methodological factors contributed to these null findings. Firstly, it was speculated that the null findings in the literature may have occurred due to differences in sample characteristics. Specifically, that the null findings may reflect errors in detection or even true differences in the self-compassion, emotion regulation and wellbeing relationship across populations. For example, Prentice et al.

(2021) remarked that the uniquely distressed nature of their sample may have limited their ability to detect an effect. As reviewed in the strengths section of this discussion, the current research was informed by these previous limitations within the literature and attempted to reduce errors in detection by using an optimal, well population to assess this mediation. However, given that the sample in this research has not been examined before, it also remains possible that the null findings within the literature may reflect true difference in this relationship across populations.

As previously speculated, it is also possible that the difference in findings of this research, compared to the null findings within the literature, are the product of differences in wellbeing theory and measurement. This research utilises the MHC-SF (Keyes et al., 2008) which is a broad, composite measure that includes emotional, psychological and social wellbeing. In contrast, prior research that reported null findings used different measures and underlying theories of wellbeing. Compared to the MHC-SF, these measures focus on specific aspects of wellbeing such as life satisfaction and positive affect. These aspects appear to share similarities with the emotional wellbeing dimension of the MHC-SF, and as such appear to represent a more narrow view of wellbeing as opposed to the MHC-SF. Interestingly, Carona et al. (2022), and now this research, both confirmed a significant mediation relationship using the MHC-SF (Keyes et al., 2008). As such, this research suggests that previous measures of wellbeing may have been too narrow, and/or adds support to the possibility that variations in results may reflect differences in construct definition and measurement.

Nevertheless, this research has been one of the first attempts to confirm this mediation relationship using a comprehensive and broad measure of wellbeing. Taken together this suggests that at least at a broad level, emotion regulation may play a role in self-compassion's influence on wellbeing. This is a valuable contribution given the very limited understanding in the literature as to how self-compassion influences wellbeing (Finlay-Jones, 2023; Zessin et al., 2015). Alongside Carona et al. (2022), the findings of this research provide proof of concept and highlight emotion regulation as a promising potential avenue for further research. This groundwork opens new, more nuanced

questions regarding emotion regulation's role. For example, is the relationship consistent across all wellbeing dimensions, such as emotional, psychological and social dimension of wellbeing? Similar to the core role that the emotion regulation skill of tolerating negative emotions plays in depressive disorders (Diedrich et al., 2017), are there unique emotion regulation skills that play a more prominent role in mediating self-compassion's relationship with wellbeing? A supplementary contribution from this mediation analysis is the validation of the ACE emotion regulation model in respect to more broad wellbeing outcomes. To date the ACE model has only been investigated in relation to positive affect (Berking, Orth, et al., 2008; Berking, Wupperman, et al., 2008), which reflects only an aspect of Keyes' (2005) emotional wellbeing construct.

In summary, this research found that emotion regulation skills significantly mediated self-compassion's association with overall mental health in older adults. This included both the positive mental health dimension of wellbeing as well as the negative dimension represented by anxiety and depression. These significant mediation results ultimately provide support for the general emotion regulation theory of self-compassion, while also extending its application to the concept of wellbeing.

In the context of the growing older adult population, the present research also indicates that older adults who are more self-compassionate experience better mental health. This is possibly the result of self-compassion's ability to facilitate core emotion regulation skills that in turn improve mental health. According to Berking and Whitley (2014), self-compassionate older adults would be more adept at stabilising their mood in response to moments of perceived suffering or failure. This maintenance of mood at appropriate levels in the face of negative emotions, would enables the use of essential (although emotionally intensive) emotion regulation skills, that otherwise would be too distressing to employ. Therefore, rather than having to rely on regulation attempts that focus on short term relief, which are ultimately maladaptive long term, Berking and Whitely suggest that the stabilisation of mood allows emotions to be adaptively regulated over time. This is suggested to lead

to long term emotional relief and growth, which manifests in higher levels of wellbeing as well as lower depression and anxiety symptoms.

Acknowledging that the evidence is initial and tentative, the findings of this research remain of interest to the growing population of older adults in New Zealand. The results highlight that self-compassion may be a useful skill and/or intervention target for improving overall mental health. Second, this research integrated self-compassion within an emotion regulation framework and as such it directly highlights the potential promise of self-compassion in older adults as there is a large body of research that supports emotion regulation with the development and maintenance of emotional disorders (Finlay-Jones, 2017). Finally, this study enhances the understanding of how self-compassion may operate and, therefore, will assist in refining and improving self-compassion interventions for older adults, as well the wider community (Germer, 2023).

Strengths and Limitations

Several strengths and limitations need to be considered in order to appropriately qualify and interpret the support that this research provides for the role of emotion regulation in self-compassion's influence on mental health. The primary methodological consideration of this research relates to issues of casual inference and general limits of contemporary mediation research. The strengths and limitations of this research are also reviewed in relation to the sociodemographic characteristics of the sample as well as the survey methods and construct measures used.

First and foremost, the limits of this research to infer causation need to be highlighted particularly on account of the use of mediation analysis. Despite cross-sectional mediation analysis being commonplace in psychology literature, it has been criticised for making strong assumptions of causality (Rohrer et al., 2022). Mediation analysis inherently assumes the variables within a mediation model have a causal relationship, and therefore mediation is often used to either implicitly or explicitly provide a causal explanation about how variables relate to one another (Hayes, 2022). With respect to the variables in this research, there is background theory and evidence to suggest this assumption is reasonable, and that the associations between self-

compassion, emotion regulation and mental health may resemble casual relationships. For example, in the case of depression, self-compassion has been reported to predict depressive symptoms across treatment, but not vice versa (Krieger et al., 2016). Self-compassion has also been found to longitudinally predict global emotion regulation skills and strategy use (Paucsik et al., 2023) and emotion regulation skills have been reported to predict changes in depressive symptoms and not vice versa (Radkovsky et al., 2014). Emotion regulation has also been associated with the development and maintenance of depression more generally (Aldao et al., 2016). This background literature however, is not infallible and despite it being promising, caution is warranted in accepting this assumption definitively (Finlay-Jones, 2017). In addition, the fact that this mediation research is cross-sectional, it is not possible to gain information about the temporal order or direction of influence, and it is not possible to rule out whether any third, unaccounted for variable is confounding the relationships (Homan, 2016; Mackinnon et al., 2000; Rohrer et al., 2022). Consequently, this research adopts a more strict approach to inferring causation than may be implied or held by other researchers in the mediation literature (Hayes, 2022). It is recommended that no casual inferences be made from the findings of this research. The results of this research should be interpreted as provisional, correlational information that suggests emotion regulation may be a possible process by which self-compassion is associated with mental health. A further caveat of this research is that, in line with the contemporary views of mediation, no statistical effect size was reported. As recommended by Hayes (2022), the effect size of our results was inferred and compared with other research, using unstandardised and standardised coefficients. This is in contrast to previous research in this area in which effect size statistics of the indirect to total effect ratio have been reported (i.e., Diedrich et al., 2017; Prentice et al., 2021). It has been argued that this creates a challenge in comparing the results of research to existing studies (Lachowicz et al., 2018). However, not reporting these statistics is actually a strength of this research given that evidence has recently identified that mediation effect size statistics are inaccurate, and at best dubious even when the recommended conditions are met (Hayes, 2022). With this caveat in mind,

this research was unable to even tentatively report the ratio of indirect to total effect in line with prior research, as it could not meet the condition of a large sample size (n > 500) that is required for a reliable statistic (Mackinnon et al., 1995).

Another consideration of this research is the homogenous sociodemographic characteristics of the sample. This limits the ability to generalise the findings to all New Zealand older adults. In contrast to the marked heterogeneity and diversity that characterises older adulthood (Kohn et al., 2023), this sample was predominantly female with the vast majority being New Zealand European, having good to excellent physical health, having a tertiary education and, experiencing a moderate to good material standard of living. It is probable that the sample also had higher than average levels of wellbeing compared to other older adults. Despite the fact that no comparable research is available for New Zealand population norms, it is plausible that this sample had higher wellbeing on account of the sociodemographic characteristics of the sample being commonly associated with higher wellbeing. For example, high levels of education, physical health and material standard of living are all generally associated with high wellbeing (Allen et al., 2012; Keyes, 2007; Yeung & Breheny, 2016).

Furthermore, it is probable that older adults with high wellbeing were directly recruited as the University of the Third Age (U3A) was a major source of participants for this research. The U3A is a community organisation that strives to bring older adults together to engage in active learning about topics they are passionate about. The ethos of the U3A is to recognise the inherent resources, skills and knowledge of older adults and use these to encourage further active learning, personal growth, and social engagement (U3ANZ, 2015). The objective of the U3A clearly resonates with concepts of wellbeing, and it is possible that engagement in this organisation, may attract individuals with high levels of wellbeing. Consequently, the findings of this research may not be representative of the general New Zealand older adult population because of the sample's sociodemographic composition and levels of wellbeing. Caution is therefore warranted in generalising the findings of this research beyond the characteristics of this sample.

Despite the high levels of wellbeing in this sample representing an important caveat for generalisation, the sample in this research complements the existing literature. The sample provides the best case scenario to test emotion regulation's role as a mediator in the relationship that self-compassion has with wellbeing. To date only populations at risk of, or in significant distress have been investigated. Based on the bidirectional nature of wellbeing and psychopathology (Lamers et al., 2015) it is to be expected that high distress samples would report generally low wellbeing. Previous researchers have also speculated that this may have reduced their ability to detect an effect resulting in their null findings (Prentice et al., 2021). Also when compared to research in this area, such as Carona et al. (2022), the sample in this research had higher levels of average wellbeing. Therefore, this research develops on the limitations of existing research by offering an optimal sample to assess the hypothesised mediation.

It is also important to acknowledge the strengths and limitations of the assessment methods used in this research. The reliance on self-report survey methods, although being accessible, practical and commonly used in this line of research, is not without its shortfalls. Namely they rely on individuals being able to identify their own cognitions, emotions and behaviours and are open to bias such as question misinterpretation, response style, social desirability or recall biases (Balsamo, Cataldi, Carlucci, Padulo, et al., 2018; Bucher et al., 2020). In addition to these more self-evident methodological limits of survey research, survey research has notable limits in assessing emotion regulation, and emotional disorders in older adults. Emotion regulation is a dynamic, situation specific and ultimately complex process that is difficult for any measure to capture in its entirety (Aldao et al., 2016; Nauphal et al., 2023). Despite the use of a skills based measure in this research being a commendable movement away from the atheoretical use of individual strategies in the past, survey research alone is limited in its ability to capture the complexity or dynamic nature of emotion regulation (Nauphal et al., 2023). Therefore, it is important to be mindful that the results of this research are limited in that they represent retrospective, dispositional and trait level information regarding emotion regulation.

There are also unique challenges in assessing the factors that characterise emotional disorders in older adults (Balsamo, Cataldi, Carlucci, Padulo, et al., 2018). One strength of this research was the use of specifically designed geriatric measures to overcome these challenges. For example, the geriatric measures used in this research omit physical symptoms and assess broad, rather than disorder specific symptoms, to appropriately capture the reporting tendencies and heterogenous presentation of emotional disorders in older adults (Pachana et al., 2007; Yesavage et al., 1982). Also in line with best practice, the short form for all measures was used to reduce the assessment burden on older adults (Brown et al., 2019). Despite the relative strengths of measures used for this research, the findings still require critical interpretation. Given the use of surveys, it needs to be acknowledged that the results are limited to providing screening indications of emotional distress.

The utility of our evidence should be interpreted in light of the fact mental health in older adults, as well as measures for each subcomponent of wellbeing, anxiety and depression, were broadly conceptualised in this research. The broad assessment of our core variables is a strength of this research on account of the exploratory nature of the mediation hypotheses. This is especially the case for wellbeing where the three existing studies used various theoretical definitions of wellbeing. Comparing and contrasting wellbeing definitions is a universal challenge (Lindert et al., 2015), and the use of the MHC-SF was beneficial in that it enabled a direct comparison with the only existing research to have confirmed this relationship. The use of broad measures of emotional disorders also generated clinically relevant information for older adults, on account that emotional disorders are the most common infestation of psychopathology in this population.

Further with respect to emotion regulation, the use of the ACE model is a unique strength of this research on account that it actively integrates self-compassion within the wider emotion regulation process, providing a more robust theoretical rationale for self-compassion's relationship within emotion regulation.

Future Directions and Recommendations

The findings and limitations of research suggest several courses of action for future research. Firstly, on account of the cross-sectional nature of this research, a natural progression of these results would be to gather casual evidence for the mediation relationships. Longitudinal research or randomised control trials of a self-compassion interventions that includes periodic measures of self-compassion, emotion regulation and mental health outcomes could provide more robust casual inferences given that manipulation and/or temporal order could be assessed. Secondly, considering this research has provided evidence for the existence of mediation relationships utilising broad, composite measures of mental health outcomes, future research should focus on investigating these mediation relationships with greater specificity. This is especially the case for wellbeing. As previously mentioned, a number of new questions arise from the confirmation of the wellbeing mediation results of this research. One possible next step should be to individually assess this mediation in relation to emotional, psychological and social wellbeing dimensions. This would provide a more nuanced understanding of how self-compassion may operate through emotion regulation for specific dimensions of wellbeing. Additionally, there is a possibility that wellbeing measures may influence the significance of mediation results, and as such, future research should be mindful and explicitly detail their assumptions regarding wellbeing theory and measures to support the comparison of results with the existing literature. It is recommended that future research assess each dimension of Keyes' (2005) wellbeing model. This would specifically build on the positive findings in the literature and enable findings to be more easily compared with the wider literature as each wellbeing dimension was designed to cover the three major approaches to defining wellbeing in psychological literature (Keyes, 2005).

Thirdly, the sample in this research was homogenous and largely New Zealand European, female, well, in good physical health as well as having a high level of education and standard of living. Therefore, future research should aim to recruit a more representative sample to improve the generalisability of these results to older adults across New Zealand. Fourth, the survey methods in

this research are limited in their assessment of the complexity of emotion regulation as well as the unique nature of emotional disorders in older cohorts. To assess for the dynamic nature of emotion regulation, future research could utilise more contemporary and novel methods such as Ecological Momentary Assessment (Nauphal et al., 2023). (Mey et al., 2023). Ecological Momentary Assessment records within person variances and intricacies of emotion regulation across both time and in response to naturally occurring every day events (Mey et al., 2023; Nauphal et al., 2023). To develop a more accurate and robust picture of emotional disorders in older adults, future research should alternatively include additional assessments such as semi-structured interviews conducted by clinicians with geriatric assessment expertise. Overall, considering the infancy of the literature surrounding the emotion regulation theory of self-compassion there is a need for further general evidence that provides proof of concept (Murfield et al., 2020). As such, any future attempts to expand or replicate the relationships in this research and develop our understanding of the mechanisms underlying self-compassion are recommended.

Chapter Six: Conclusion

Promoting the complete mental health of older adults is a growing imperative worldwide. Self-compassion is a promising factor for older adults (Brown et al., 2019) and as such the first aim of this research was to examine the relationship that self-compassion had with mental health in a community sample of older New Zealand adults (*n* = 132). Despite the promise of self-compassion, little is known within the literature about how self-compassion may influence mental health. Therefore, a secondary aim of this research was to examine emotion regulation skills as a potential process, or underlying mechanism, through which self-compassion may be associated with mental health. Prior research has supported emotion regulation's role in self-compassion relationship with mental health, however, this research base is preliminary and in need of support. Additionally, this relationship has almost exclusively been examined in regards to emotional distress outcomes and there is a explicit need to also assess the positive dimension of mental health (Finlay-Jones, 2023; Prentice et al., 2021). Therefore this research conducted a cross-sectional mediation analysis of survey data to explore self-compassion's relationship with global mental health outcomes (wellbeing, anxiety and depression) in older adults, as well as to examine whether emotion regulation mediated these relationships.

Self-compassion was found to have a significant positive association with emotion regulation skills. Further, self-compassion was observed to have a significant positive correlation with wellbeing, and a significant negative correlation with depression and anxiety. All three of these associations were significantly mediated by emotion regulation skills. This research acts on repeated calls for research to improve our understanding of how self-compassion operates (Bluth & Neff, 2018; Finlay-Jones, 2023; Inwood & Ferrari, 2018; Murfield et al., 2020). The results of this research suggest that emotion regulation may play a central role in self-compassion's relationship with mental health. These preliminary findings provide valuable contributions to the literature. Firstly, this research builds on the limited evidence of this relationship for emotional distress outcomes, verifying that these findings hold across the population of older adults and context of New Zealand.

Secondly, alongside Carona et al. (2022), this research is one of the first to demonstrate the viability of emotion regulation as a potential process by which self-compassion is associated with wellbeing. This addresses a distinct gap in the literature and lays the groundwork for future research to refine the understanding of how self-compassion may influence wellbeing through emotion regulation. Overall, this research provides proof of concept that emotion regulation is a possible process underlying self-compassion's influence on mental health (Neff, 2003b), not only in regards to the negative dimension of emotional distress but the neglected positive dimension of wellbeing. These findings are of interest to the increasingly ageing population as it improves the understanding of how self-compassion may operate in older New Zealand adults. Future research should continue to confirm self-compassion's utility as a psychological resource for older adults, as well as how it operates through emotion regulation, to refine and maximise the benefit that self-compassion interventions may have in addressing the mental health needs of older New Zealand adults. In conclusion, this research presents an exploration into the potential utility of self-compassion for older New Zealand adults. It provides a foundation towards understanding how self-compassion may operate to improve mental health, and offers practical recommendations for how future research may improve this understanding by further examining the role of emotion regulation skills.

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Appendix A – Survey and Information Sheet

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

School of Psychology

Information page

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

Does how you treat yourself affect your mental health? The relationship between self-compassion and mental health among a community sample of older adults.

Information Sheet

Who am I and why am I doing this research?

My name is Dominik Hamlin, from Auckland, New Zealand. I am conducting this research as part of the requirements for a Master in Science majoring in psychology at Massey University. My research is supervised by Prof Fiona Alpass, Professor of Psychology at the School of Psychology, Massey University.

The purpose of this research is to improve our understanding of factors that protect against mental illness in older adults. Currently, there is limited research focusing on factors, such as self-compassion, that may protect against anxiety and depression. It is my hope that your participation in this research will advance our knowledge of how self-compassion may protect against mental illness and inform future research as well as interventions for older adults.

What is this research about?

This research explores the relationships between self-compassion, or treating oneself with kindness and acceptance, and mental health, including wellbeing, anxiety and depression among a community sample of older adults. This research will also look at self-compassion's connection with how we manage our emotions to better understand the link between self-compassion and anxiety and depression.

Do you have to take part?

Your participation is entirely voluntary.

Who can take part?

You are eligible to participate in this research if you are:

- 65 years or older

What will participation involve?
You will be invited to complete an anonymous online survey that will take approximately 20 minutes to complete. The survey will involve questions about demographics, wellbeing, anxiety, depression and self-compassion as well questions relating to how you manage your emotions. Every question is close-ended and you'll be asked to select the answer that best fits your situation. You will be provided with detailed instructions on how to answer each section of the survey.

It is not expected that the questions in this survey will cause psychological distress. However, if you experience psychological distress from participating in this research you are encouraged to contact 0800 543 354 (Lifeline), 0800 111 757 (Depression Helpline), or for advice on navigating the healthcare system for further support, 0800 725 463 (Seniorline). All of these services are confidential and you do not need to provide your personal details to access support.

What about my privacy?
All of your responses in this survey will be anonymous. All data collected will only be used for research purposes and will stored securely. After a five year period it will be destroyed.

After completing the survey you will have the opportunity receive a summary of the research findings. As an expression of thanks, you will also be able to enter a prize draw to win one of five $50 gift vouchers. Your contact details for this prize draw and research findings are independent of the initial survey and therefore your anonymity will be protected. There is no link between the two data sets other than the time and date. It has been confirmed from previous survey research that contact details provided for a prize draw could not be linked to responses on the initial survey.

Completion and return of the questionnaire implies consent. You have the right to decline to answer any particular question.

Thank for your time and consideration.

Kindest regards,

Dominik Hamlin

Contact information

If you have any questions or queries regarding this project, please don't hesitate to contact the following:

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This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application SOB 22/10.
If you have any concerns about the conduct of this research, please contact Dr Gerald Harrison, Chair, Massey University Human Ethics Committee: Southern B, telephone 06 356 9099 x 83570, email humanethicsouthb@massey.ac.nz.

Consent

Respondent Consent

Thank you for participating in this questionnaire.
Your participation implies consent.
You have the right to decline to answer any particular question.

I have read and understood the information sheet for this study and consent to collection of my responses.
(Please click on the 'Yes' choice if you wish to proceed.)

- ○ Yes
- ○ No

Screening

Are you 65 years or older?

- ○ Yes
- ○ No

Demographics

Demographic questions

What is your age?
(In years)

[ ]

Which gender do you identify as?

- ○ Male
- ○ Female
- ○ [ ] Gender-diverse (please specify)

What is the highest level of education you have obtained?

- ○ Primary education, or no schooling
- ○ Secondary education, no qualification
- ○ Secondary education qualification
- ○ Trade/occupational certificate
- ○ Tertiary education

Which ethnic group(s) do you identify with?

- ☐ New Zealand European/ Pākehā
- ☐ New Zealand Māori
- ☐ Pacific Islander
- ☐ Asian
- ☐ _____ Other (please specify)

What best describes your current relationship status?

- ○ Married or Partnered
- ○ Unpartnered
- ○ Separated/divorced
- ○ Widowed

In general, would you say your physical health is:

- ○ Excellent
- ○ Very good
- ○ Good
- ○ Fair
- ○ Poor

What best describes your employment status?

- ○ Full time employed
- ○ Part time employed
- ○ Retired
- ○ Unpaid work
- ○ Unemployed and seeking work
- ○ Self-employed
- ○ Unable to work due to health or disability issue
- ○ _____ Other (Please specify)

In general, how would you rate your material standard of living?

- ○ High
- ○ Fairly high
- ○ Moderate
- ○ Fairly low
- ○ Low

What best describes your living situation?

- ○ Living alone
- ○ Living with partner
- ○ Living with partner and others
- ○ Living with others only

Self-Compassion Scale - Short Form (SCS)

Self-Compassion Scale - Short Form

Please read each statement carefully before answering. For each item, please indicate how often you behave in the stated manner, using the following scale:

Almost Never *Almost Always*

1 2 3 4 5

	Almost Never				Almost Always
	1	2	3	4	5
When I fail at something important to me I become consumed by feelings of inadequacy.	○	○	○	○	○
I try to be understanding and patient towards those aspects of my personality I don't like.	○	○	○	○	○
When something painful happens I try to take a balanced view of the situation.	○	○	○	○	○
	1	2	3	4	5
When I'm feeling down, I tend to feel like most other people are probably happier than I am.	○	○	○	○	○
I try to see my failings as part of the human condition.	○	○	○	○	○
When I'm going through a very hard time, I give myself the caring and tenderness I need.	○	○	○	○	○

Please read each statement carefully before answering. For each item, please indicate how often you behave in the stated manner, using the following scale:

Almost Never *Almost Always*

1 2 3 4 5

	Almost Never				Almost Always
	1	2	3	4	5
When something upsets me I try to keep my emotions in balance.	○	○	○	○	○
When I fail at something that's important to me, I tend to feel alone in my failure.	○	○	○	○	○
When I'm feeling down I tend to obsess and fixate on everything that's wrong.	○	○	○	○	○
	1	2	3	4	5
When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.	○	○	○	○	○
I'm disapproving and judgmental about my own flaws and inadequacies.	○	○	○	○	○
I'm intolerant and impatient towards those aspects of my personality I don't like.	○	○	○	○	○

Geriatric Anxiety Inventory – Short form (GAI)

Geriatric Anxiety Inventory – Short form

Please answer the items according to how you've felt in the **last week**.

- Check the column under **Agree** if you mostly agree that item describes you;
- Check the column under **Disagree** if you mostly agree that item describes you.

	Agree	Disagree
I worry a lot of the time	○	○
I often feel nervous	○	○
Little things bother me a lot	○	○
	Agree	Disagree
I think of myself as a worrier	○	○
My own thoughts often make me anxious	○	○

Geriatric Depression Scale – Short Form (GDS)

Geriatric Depression Scale – Short Form

Choose the best answer for how you have felt over the **past week**:

	Agree	Disagree
Are you basically satisfied with your life?	○	○
Have you dropped many of your activities and interests?	○	○
Do you feel that your life is empty?	○	○
Do you often get bored?	○	○
	Agree	Disagree
Are you in good spirits most of the time?	○	○
Are you afraid that something bad is going to happen to you?	○	○
Do you feel happy most of the time?	○	○
Do you often feel helpless?	○	○

Choose the best answer for how you have felt over the **past week**:

	Agree	Disagree
Do you prefer to stay at home, rather than going out and doing new things?	○	○
Do you feel you have more problems with memory than most?	○	○
Do you think it is wonderful to be alive now?	○	○
Do you feel pretty worthless the way you are now?	○	○
	Agree	Disagree
Do you feel full of energy?	○	○
Do you feel that your situation is hopeless?	○	○
Do you think that most people are better off than you are?	○	○

The Mental Health Continuum Short Form (MHC)

The Mental Health Continuum Short Form

Please indicate the response that best represents your experiences and feelings during the past month.

During the past month, how often did you feel . . .

	Never	Once or Twice	About once a week	2 or 3 times a week	Almost everyday	Every day
Happy	○	○	○	○	○	○
Interested in life	○	○	○	○	○	○
Satisfied with life	○	○	○	○	○	○
That you had something important to contribute to society or your community	○	○	○	○	○	○

	Never	Once or Twice	About once a week	2 or 3 times a week	Almost everyday	Every day
That you belonged to a community (like a social group, school, neighbourhood, etc.)	○	○	○	○	○	○
That you were helping to make your community (neighbourhood, workplace, school, etc.) a better place for more people	○	○	○	○	○	○
That you are accepting of other people, even those who are different from you	○	○	○	○	○	○

Please indicate the response that best represents your experiences and feelings during the past month.

During the past month, how often did you feel . . .

	Never	Once or Twice	About once a week	2 or 3 times a week	Almost everyday	Every day
That you could make sense of what going on in the world around you (in your community, you state, your country)	○	○	○	○	○	○
That you liked most parts of your personality	○	○	○	○	○	○
Good at managing the responsibilities of your daily life	○	○	○	○	○	○
That you had warm and trusting relationships with others	○	○	○	○	○	○

	Never	Once or Twice	About once a week	2 or 3 times a week	Almost everyday	Every day
That you had experiences that challenged you to grow and become a better person	○	○	○	○	○	○
Confident to think or express your own ideas and opinions	○	○	○	○	○	○
That your life has a sense of direction or meaning to it	○	○	○	○	○	○

Emotion Regulation Skills Questionnaire (ERSQ)

Emotion Regulation Skills Questionnaire

Below, are some statements about how you have dealt with emotions over the last week. Please indicate the answer that fits the best for you. Don't spend a lot of time on each question; the first answer that comes to your mind is probably the best.

In the last week ...

	Not at all	Rarely	Some-times	Often	Almost Always
… I was able to consciously pay attention to my feelings.	○	○	○	○	○
… I could consciously bring about positive feelings.	○	○	○	○	○
… I understood my emotional reactions.	○	○	○	○	○
… I could endure my negative feelings.	○	○	○	○	○
… I was able to accept my negative feelings.	○	○	○	○	○

	Not at all	Rarely	Some-times	Often	Almost Always
… I could have labelled my feelings.	○	○	○	○	○
… I had a clear physical perception of my feelings.	○	○	○	○	○
… I did what I wanted to do, even if I had to face negative feelings on the way.	○	○	○	○	○
… I tried to reassure myself during distressing situations.	○	○	○	○	○

Below, are some statements about how you have dealt with emotions over the last week. Please indicate the answer that fits the best for you. Don't spend a lot of time on each question; the first answer that comes to your mind is probably the best.

In the last week ...

	Not at all	Rarely	Some-times	Often	Almost Always
... I was able to influence my negative feelings.	○	○	○	○	○
... I knew what my feelings meant.	○	○	○	○	○
... I could focus on my negative emotions if necessary.	○	○	○	○	○
... I knew what emotions I was feeling in the moment.	○	○	○	○	○
... I consciously noticed when my body reacted towards emotionally charged situations in a particular way.	○	○	○	○	○

	Not at all	Rarely	Some-times	Often	Almost Always
... I tried to cheer myself up in emotionally distressing situations.	○	○	○	○	○
... I did what I intended to do despite my negative feelings.	○	○	○	○	○
... I was OK with my feelings, even if they were negative.	○	○	○	○	○
... I was certain that I would be able to tolerate even intense negative feelings.	○	○	○	○	○

Below, are some statements about how you have dealt with emotions over the last week. Please indicate the answer that fits the best for you. Don't spend a lot of time on each question; the first answer that comes to your mind is probably the best.

In the last week ...

	Not at all	Rarely	Some-times	Often	Almost Always
... I was able to experience my feelings consciously.	○	○	○	○	○
... I was aware of why I felt the way I felt.	○	○	○	○	○
... I knew that I was able to influence my feelings.	○	○	○	○	○
... I pursued goals that were important to me, even if I thought that doing so would trigger or intensify negative feelings.	○	○	○	○	○
... I was able to experience my negative feelings without immediately trying to fight them off.	○	○	○	○	○

	Not at all	Rarely	Some-times	Often	Almost Always
... my physical sensations were a good indication of how I was feeling.	○	○	○	○	○
... I was clear about what emotions I was experiencing.	○	○	○	○	○
... I could tolerate my negative feelings.	○	○	○	○	○
... I supported myself in emotionally distressing situations.	○	○	○	○	○

Support lines

Support Available

If you have experienced any distress from participating in this research you are encouraged to contact any of these support services below:

- 0800 543 354 (Lifeline).
- 0800 111 757 (Depression helpline).
- Or if you require advice navigating the healthcare system for further support contact, 0800 725 463 (Seniorline).

All of these services are confidential and you do not need to provide your personal details.

Prize draw

Entry for Gift Card Draw or Request a summary of results

As an appreciation for your participation, we are offering you the chance to win one of five $50 gift vouchers.
You may also request a summary of results at the completion of the analysis.

If you wish to enter the draw, or receive the results please select the 'Prize draw/Results' option below, before clicking on the '**Submit**' button to complete this survey and be transferred to a separate webpage to enter your contact details.

Your survey data will still remain anonymous. If you are a winner, we will contact you to arrange delivery of your prize.

- ○ Prize draw/Results
- ○ Exit

Appendix B – Formal Organization Request for Assistance

MASSEY UNIVERSITY
COLLEGE OF HUMANITIES
AND SOCIAL SCIENCES
TE KURA PŪKENGA TANGATA

University of the Third Age
New Zealand

24/07/2023

RE: Research Project - Assistance Request - Master of Science (Psychology)

Good day U3A

My name is Dominik Hamlin and I currently completing a Master of Science (Psychology) Degree at Massey University. I am contacting you to ask for your help in finding participants for my research project, titled: **Does how you treat yourself affect your mental health? The relationship between self-compassion and mental health among a community sample of older adults.** This research will be conducted under the supervision of Prof Fiona Alpass, Professor of Psychology at the School of Psychology, Massey University.

I am looking for adults who are 65 years or older to fill-out an anonymous online survey. This survey will take approximately 20 minutes to complete and will involve a few demographic questions, measures on wellbeing, anxiety, depression and self-compassion as well questions relating to how you manage your emotions. It is my hope that this survey's findings will help guide future attempts to improve the mental health of older New Zealanders.

I would grateful if you could consider contacting your networks/members to make them aware of the opportunity to participate in this research by sharing the advertising email attached. This advertising email can be shared with potential participants to enable them to find out more information about the research and engage in the survey.

To provide you with more information about this research, I have also attached an information sheet, however you are welcome to contact me if you have any questions or need any further information. Please let me know if you are interested and willing to help recruit participants.

Thank you for taking the time to consider my request, I look forward to hearing back from you.

Kindest regards,

Dominik Hamlin

Research contacts:

Dominik Hamlin – Researcher
E-mail: dominik.hamlin.1@uni.massey.ac.nz
Phone: [redacted]

Prof Fiona Alpass – Supervisor
E-mail: F.M.Alpass@massey.ac.nz
Phone: +64 69518062

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application SOB 22/10. If you have any concerns about the conduct of this research, please contact Dr Gerald Harrison, Chair, Massey University Human Ethics Committee: Southern B, telephone 06 356 9099 x 83570, email humanethicsouthb@massey.ac.nz.

Appendix C – Invitation to Participate Email

MASSEY UNIVERSITY
COLLEGE OF HUMANITIES
AND SOCIAL SCIENCES
TE KUBA PŪRENGA TANGATA

SUBJECT: Invitation for older adults (65+) to participate in Massey University Mental Health research

Kia Ora,

You are invited to participate in a brief 20 minute online survey on mental health and wellbeing of older New Zealanders (65 years and over). This survey is part of my Masters research project at Massey University (supervised by Prof Fiona Alpass): **Does how you treat yourself affect your mental health? The relationship between self-compassion and mental health among a community sample of older adults.**

Your participation is completely voluntary and anonymous. Your participation will help me to better understand how self-compassion may protect against anxiety and depression, and in turn inform future avenues to promote the mental health of older New Zealanders. After completing this survey, you can choose to go into the draw to win a $50 voucher.

To be eligible to participate in this study, you need to be:

- 65 years of age or older

If you want to consider taking part, please click on the following blue link to be directed to the participant information sheet and survey:

https://massey.au1.qualtrics.com/jfe/form/SV_6ngsrbJgKjc6v4i

Thank you for considering this invitation to participate in my research.

Kind regards,

Dominik Hamlin

If you have any questions regarding this research you are welcome to contact the researcher, Dominik Hamlin at dominik.hamlin.1@uni.massey.ac.nz, or the research supervisor, Prof Fiona Alpass at F.M.Alpass@massey.ac.nz.

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application SOB 22/10. If you have any concerns about the conduct of this research, please contact Dr Gerald Harrison, Chair, Massey University Human Ethics Committee: Southern B, telephone 06 356 9099 x 83570, email humanethicsouthb@massey.ac.nz.

Appendix D – Ethics Approval

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

13/07/2022

Dear: Dominik Hamlin

Re: Ethics Application - SOB 22/10 - Does how you treat yourself affect your mental health? The relationship between self-compassion and mental health among a community sample of older adults.

Thank you for the above application that was considered by the Massey University Human Ethics Committee:

at their meeting held on

On behalf of the Committee I am pleased to advise you that the ethics of your application are approved.

Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

Yours sincerely

Professor Craig Johnson
Chair, Human Ethics Chairs' Committee and Director (Research Ethics)

Research Ethics Office, Research and Enterprise
Massey University, Private Bag 11 222, Palmerston North, 4442, New Zealand T 06 951 6841; 06 95106840
E humanethics@massey.ac.nz; animalethics@massey.ac.nz; gtc@massey.ac.nz