Self-Compassion and Positive Solitude Experiences Enhance Well-being for Informal Caregivers of Older Adults, and Middle and Older Adults

Thesis submitted for the degree of Doctor of Philosophy

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September 2024

Acknowledgements

I am incredibly grateful to my supervisors Professors Aileen Ho and Netta Weinstein, who stuck with me and supported me throughout my PhD. They have been kind, understanding, and have led me to develop research skills I never thought I could achieve. In addition, they allowed me space to develop independence as a researcher, encouraging me to make decisions and develop my own ideas.

I would also like to thank my peers for their friendship and PhD discussions along the way. It was also a pleasure to collaborate with some of you for my later projects which helped extend my knowledge to aspects of well-being which I had not previously covered.

I am incredibly grateful to my family, and particularly my daughter and partner for their patience and understanding of the space and support I needed to complete my research.

If my grandmother was around today, I know she would have been incredibly proud of this achievement and would certainly have let everyone know about it!

Declaration of Original Authorship

I confirm that this is my own work and that use of materials from other sources has been properly and fully acknowledged.

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Abstract

Self-compassion has been found useful in supporting resilience and well-being when tested in general populations and can be especially useful during periods that are prone to rumination and isolation. Little is known about the nature and importance of self-compassion in informal caregivers of older adults. Yet informal caregivers often experience such psychological burdens when providing care for their loved one. Many are themselves older adults, and their time away from others' expectations – in solitude – is a potential resource for self-care. The work developed within this thesis aimed to build an understanding of self-compassion as a resource for caregivers (the first two empirical papers, Chapters 2 and 3), and during solitude moments in middle and older adults (the final empirical chapter, Chapter 4). Chapter 2 explores the definition and meaning of self-compassion for caregivers through interviews, providing a foundation for later research in this population. For these caregivers, the concept of self-compassion involved identifying one's own needs and prioritising them. Self-compassion was accessed through a mindset in which challenges were viewed with clarity and acceptance, and boundaries were maintained through protecting a separate identity. Feeling connected with other people was important to protect from 'aloneness'. However, barriers to self-compassion were experienced when compromises were necessary to fulfil recipients' needs and where demands on caregivers' resources were particularly high. This research highlighted that 'self-care' and 'self-kindness' were central to self-compassion. In Chapter 3, the utility of self-compassionate writing for caregivers was tested, with caregivers writing about difficult caregiving experiences with self-kindness, common humanity, and mindfulness (the three self-compassion components). Studies 2 and 3 showed self-kindness was particularly important for well-being in caregivers, and in Study 4 common humanity and self-kindness were most strongly linked with beneficial mood outcomes (*higher* serenity, *less* guilt, and *less* sadness).

Findings from this research, and from the literature, showed that caregivers of older adults were often middle and older adults themselves, caring for a spouse or an older parent. It was further highlighted that their solitude was a vulnerable time for rumination and isolation when individuals are in difficult circumstances, but also potentially as a time for great self-care with the right mindset. The final empirical chapter spanning Studies 5 and 6 highlighted that, of three self-compassion constructs (self-kindness, common humanity, and mindfulness), self-kindness was a particularly robust correlate of better mood (*higher* serenity; *less* sadness; Study 5). Findings from research with a young adult sample (Study 5) helped shape a targeted intervention for older adults in Study 6. Middle and older adult participants therefore engaged in planned solitude experiences targeted towards self-kindness, specifically (Study 6). Those who completed self-kindness activities in planned solitude experienced greater serenity and vitality. In all, self-kindness appeared to be an important facilitator for increasing self-compassion in young, middle, and older adults, and was also important for caregiving populations.

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Abbreviations

CBT – Cognitive Behavioural Therapy

CEAS - Compassionate Engagement and Action Scales

SCS – Self-Compassion Scale

SSCS – State Self-Compassion Scale

TA – Thematic Analysis

Appendices

Supplementary Materials

Previous Publications

Study 1: Includes work adapted from published work, with co-authors Netta Weinstein and Aileen Ho

Studies 2, 3, and 4: Includes work submitted and accepted for publication, with co-authors Aileen Ho and Netta Weinstein

Studies 5 and 6: Includes work submitted for publication, with co-authors Mark Adams, Netta Weinstein, and Aileen Ho

Chapter 1. Introduction

The Role of Self-Compassion in Supporting Well-Being

Self-compassion has been found useful in supporting resilience and well-being when tested in general populations and can be especially useful during periods that are prone to rumination and isolation. Such periods are frequent for informal caregivers, whose role can be rewarding, but also deeply demanding (for example, see Huo & Kim, 2022). Responsibilities of caring for an older adult may include supporting both the physical and mental well-being of the recipient (see Van Der Lee et al., 2014). Furthermore, the relationship between the caregiver and recipient should be considered when looking at how demands of caregiving can impact on well-being. For example, those who provide informal care could be family, friends, or neighbours (NHS England, 2014) who might help out of concern for the recipient or due to a shared emotional bond. In meeting caregiving demands whilst maintaining an informal relationship, caregivers may experience challenges to their own physical and mental well-being (Aggar et al., 2011; Lloyd et al., 2019).

This chapter first introduces the concept of self-compassion and looks at how it has been defined in the literature. The concepts presented here provide a foundation for discussion later in the chapter which focuses on self-compassion and well-being in informal caregivers and older adults. Understanding of these literatures is important for later empirical chapters in which experiences of self-compassion in caregivers are explored through both qualitative and quantitative research methods.

1.1 Conceptualising Self-Compassion

Self-compassion is a concept derived from Buddhist philosophy (Neff, 2003a). It involves awareness of personal limitations, inadequacies, and imperfections, as well as understanding and acceptance of these qualities (Neff, 2021). However, the study of how self-compassion should be defined on a deeper level has been less consistent, with disagreement over which are key components of the concept of self-compassion and how these should be measured (Kirby, 2017).

Neff (Neff, 2003a) separated the concept of self-compassion into three components: 1. *Self-kindness* involving a gentle, non-judgemental and understanding approach towards the self, versus *critical of self and one's perceived failures*; 2. *Common humanity* in which the individual can relate their own experiences to those of others rather than viewing them as *isolated* to themselves; 3. *Mindfulness* of one's own thoughts and feelings, being able to view these clearly without *overidentifying* with them. In other words, mindfulness involves taking a balanced view of thoughts and feeling without experiencing them as overwhelming (Neff, 2021).

Research applying the concept of Neff (2003a) relies on clear understanding of the components. For example, it was highlighted that the component of kindness could be defined in ways unrelated to alleviation of suffering (Strauss et al., 2016). Kindness may be used to describe other acts, such as the giving of gifts to others for example (Strauss et al., 2016). Neff et al. (2021) described how common humanity, the connectedness element of this component had sometimes been missed in research, instead being mistakenly interpreted as a social comparison with others (Neff et al., 2021). Historically, there has been disagreement on the definition of mindfulness, for instance, 33 variations of mindfulness were identified in a review (Nilsson & Kazemi, 2016).

Understanding of how the self-compassion components interrelate is also critical for research (Ferrari et al., 2022). Mindfulness has been identified as one of the key components of self-compassion, serving as a foundation for accessing the other components (Gilbert et al., 2017; Neff, 2003a; Neff, 2003b; Neff & Germer, 2013). This is because noticing difficult experiences with self-kindness and common humanity first requires taking a balanced view of these difficulties (Neff, 2003a). Furthermore, despite being measurable as separate components, the components interact within a system which is not uniform and differs from person to person (Ferrari et al., 2022; Neff et al., 2021).

Neff's research marks the earliest empirical work into self-compassion (Neff, 2003b). To enable research into self-compassion and evaluate its links with psychological well-being and constructs, including self-esteem, the Self-Compassion Scales (SCS) were developed (Neff, 2003b). The SCS included a set of three subscales designed to measure the three components of self-compassion (Neff, 2003a; Neff, 2003b). On each of the subscales, scores may fall towards a positive or negative pole, for example *self-kindness* is contrasted against being *critical of self and one's perceived* failures (Neff, 2003b). Findings suggest that self-compassion is made up of elements which interrelate to make up an overall construct (Neff et al., 2019).

Another prominent framework has drawn upon compassion as a holistic concept, which includes interpersonal relationships between individuals (Gilbert, 2015; Gilbert et al., 2017). The compassion framework includes 1. *Compassion for others*; 2. *Compassion for self*; 3. *Compassion from others towards the self* (Gilbert et al., 2017). These three 'flows of compassion' can support emotion regulation if interactions between individuals elicit a positive or supportive response (Gilbert, 2014). Compassion within this view encompasses motivation to engage with suffering in self or others and actions to alleviate this (Gilbert et al., 2017). This can be observed in instances such as motivation to console a distressed child by attending to needs including thirst, hunger, or discomfort (Gilbert et al., 2017). Within the compassion framework, individuals differ in their experiences, for instance they can experience greater compassion for others than they do for themselves (Gilbert et al., 2017).

The empirical study of compassion led to development of the Compassionate Engagement and Action Scales (CEAS) (Gilbert et al., 2017). The CEAS explored the individual's 'engagement' and 'action' for each flow of compassion (Gilbert et al., 2017). Focusing on the self-compassion subscale of the CEAS, a factor analysis showed two factors were present for the 'engagement' element (Gilbert et al., 2017). One factor included *emotional* sensitivity to and being *moved* by one's suffering (Gilbert et al., 2017). The second factor focused on *engagement* with suffering and *motivation* to alleviate one's suffering (Gilbert et al., 2017). A one factor solution was found for the 'action' element of the subscale. The 'engagement' and 'action' elements of the subscale loaded onto an overall factor for self-compassion. From these findings, it was suggested that the subscale could be used to measure self-compassion as one or two factors.

1.1.1 Interrelations Between Self-Compassion Components

As previously described, the SCS includes six subscales to assess how individuals score positively or negatively on the three elements of self-compassion (Neff, 2003b). Other research using this definition and the SCS has investigated the operation of a 'self-compassion' mindset (Dreisoerner et al., 2021; Ferrari et al., 2022; Neff, 2003a; Neff, 2003b; Phillips, 2021a).

The self-compassion mindset was investigated in both student and community samples (Phillips, 2021a). As predicted, those low in total self-compassion scored low on the positive subscales and high on the negative, and vice versa for participants high in total self-compassion (Phillips, 2021a). An unexpected finding for those with moderate total self-compassion scores was that scores were moderately elevated across all six subscales, both positive and negative (Phillips, 2021a). Additionally, common humanity was the same for both moderate and high self-compassion groups (Phillips, 2021a).

However, it has been suggested that the self-compassionate mindset consists of three positive and three negative components operating as a system, so they should not be conceptualised separately as ‘compassionate’ and ‘uncompassionate’ responding (Neff et al., 2021; Neff et al., 2019). Furthermore, the three facets of self-compassion (self-kindness, common humanity, and mindfulness) are not distinct, but overlap to form a healthy mindset for relating to oneself (Neff, 2003b).

Possible reasons for variation in self-compassion mindsets were explored (Ferrari et al., 2022). Ferrari et al. (2022) suggested when looking at self-compassion, one should consider the time frame within which it is measured, the circumstances, and individual differences. The influence of time frame on self-compassion scores is important when comparing state or trait measures (Ferrari et al., 2022). Specifically, results representative of compassionate versus uncompassionate mindsets are more likely to occur for measures of state where responses are focused on ‘in the moment’ experiences (Ferrari et al., 2022). When using trait measures, responses are based on reflection on life in general which allows greater variation across subscales (Ferrari et al., 2022). Individual circumstances could elicit tendency for uncompassionate or compassionate responses, varying from day to day depending on life demands (Ferrari et al., 2022). At the trait level, individual differences could create patterns in responses representative of individual tendencies (Ferrari et al., 2022).

However, although accounting for individual variations may allow more tailored interventions targeted towards specific components of self-compassion, complexity increases in studies of self-compassion which look at average group scores (Ferrari et al., 2022).

Looking to the research of Dreisoerner et al. (2021), spill-over effects between the separate self-compassion components were investigated over eight-weeks. Although the authors acknowledged that mindfulness was important for accessing self-kindness and common humanity (Neff, 2003a), the aim was to investigate whether engagement in one component influenced scores on others (Dreisoerner et al., 2021). Findings indicated that both mindfulness alone and common humanity alone increased global self-compassion scores (Dreisoerner et al., 2021). They also found scores increased for self-kindness and decreased for isolation for engagement in mindfulness alone, whereas over-identification decreased for engagement in common humanity alone. For engagement in self-kindness alone, no significant improvements were found.

The findings of Dreisoerner et al. (2021) demonstrate the complexity of self-compassion as a whole and why one might need to engage in all components to achieve an overall self-compassion mindset.

1.1.2 Links Between Compassion for Self and Others

In Buddhist thought, compassion for self and others are equally valued (Neff & Pommier, 2013). Furthermore, from this perspective one cannot have compassion for others and not for self since interconnectedness is perceived as essential to compassion overall (Neff & Pommier, 2013). However, until more recently, Western psychology focused more on compassion for others before turning attention to self-compassion as “a healthy way to respond to oneself” (Neff, 2003a).

Research looking at links between compassion and self-compassion is historically sparse (Neff & Pommier, 2013). Furthermore, there is lack of agreement on a single measure for compassion for others (Neff & Pommier, 2013). Use of the term ‘compassion’ has also varied (Neff & Pommier, 2013). For example, when referring to ‘compassion’, terms including sympathy and empathy have also been applied and used interchangeably to describe one’s concern for others (Neff & Pommier, 2013).

Recently, a scale to measure compassion for others was developed (Pommier et al., 2020). This scale was built upon the Buddhist definition of compassion which describes compassion as encompassing the individual’s wisdom and understanding of suffering in others (Pommier et al., 2020). A potentially promising property of this scale was that it was constructed in alignment with the self-compassion definition developed by Neff (Neff, 2003a; Neff, 2003b; Pommier et al., 2020). This research highlights some differences between compassion for self and for others, demonstrated by differing properties of components within the Pommier et al. (2020) scale.

Like the self-compassion scale, the compassion scale included mindfulness, common humanity, and kindness (Pommier et al., 2020). The focus of each component included similar but differing properties: mindfulness included engagement with and understanding of suffering in others without becoming overly involved; common humanity involved connecting with and recognising suffering in others as part of a shared human experience; kindness focused on the individual’s care, concern, and support for others (Pommier et al., 2020).

The opposing poles differed in Pommier et al.’s (2020) model compared with the self-compassion model of Neff (2003a). For Pommier et al. (2020), mindfulness opposed indifference to struggles in others rather than over-identification, common humanity was opposed to separation from others rather than isolation, and kindness countered disengagement as opposed to judgement (Neff, 2003a; Pommier et al., 2020). The authors identified a four-factor model for the scale over six studies, where factors represented all three positive components (mindfulness, common humanity, and kindness) and one negative indifference component (Pommier et al., 2020).

The findings of Neff and Pommier (2013) highlight the complexity of compassion and self-compassion. They also raise questions regarding similarities between compassionate and self-compassionate mindsets. From the perspective of Buddhist philosophy and Neff and Pommier (2013), self-compassion is the same as compassion for others “turned inwards.” However, findings indicate that both constructs are dependent on differing variables, including age and experience, and as such that self-compassion merits consideration as a distinct construct which may converge or deviate from compassion (Neff & Pommier, 2013).

Links between compassion and self-compassion differ with age and meditation experience (Neff & Pommier, 2013), although these differences are not clear cut. For example, undergraduate students high in compassion for others were sometimes found low in self-compassion (Neff & Pommier, 2013). These findings differed from a community and an experienced meditator sample in which compassion for self and others was related (Neff & Pommier, 2013). However, there were no differences in self-compassion between undergraduates and the community sample who were mostly older (Neff & Pommier, 2013).

1.2 Self-Compassion in Difficult Circumstances: Informal Caregivers and the Power of Self-Compassionate Solitude for Older Adults

As more people are living into older adulthood, the number of conditions requiring management may increase (NHS England, 2014). Responsibility to assist in managing these conditions often falls into the hands of family, friends, or neighbours (Ding et al., 2022). Caring for older adults can involve supporting both physical and mental well-being of the recipient (Van Der Lee et al., 2014). In working to meet these needs, informal caregivers may face challenges to their own physical and psychological well-being to fulfil these responsibilities (Aggar et al., 2011; Lloyd et al., 2019).

This section will explore some of the challenges faced by informal caregivers. Because caregiver well-being is the focus of this thesis, and more specifically how this may be achieved through self-compassion, challenges to self-compassion within this population will also be explored. Later, the experience of solitude time with consideration of its utilisation in fostering time for self-compassion and self-care will be explored. There is a specific focus on middle and older adults when looking to solitude for two main reasons: firstly, because solitude time increases with older age due to lifestyle changes, such as retirement or children leaving home (Cotterell et al., 2018); second due to their increasing age, older adults are more likely to care for an older adult informally, such as an ageing parent or spouse (Schulz et al., 2020).

1.2.1 Challenges of Caring for Older Adults

Caregiving for older adults can involve tasks which are challenging to incorporate into an informal caregiver’s regular schedule. Furthermore, these tasks can be physically and emotionally demanding (Schulz et al., 2020). Some of these challenges will be discussed here.

One of the most problematic tasks for informal caregivers identified from a qualitative analysis was toileting and continence management (Atoyebi et al., 2021). Due to some of the physical and cognitive difficulties faced by older adult care recipients, many will need ongoing assistance with toileting or continence management (Murphy et al., 2020). This is a particularly problematic to manage because it cannot be scheduled (Atoyebi et al., 2021). Furthermore, the need to assist with continence management at night could cause interrupted sleep for the caregiver, which in turn is linked with poor physical and mental well-being (Ravyts & Dzierzewski, 2024). Continence management has also been identified as one of the most unmet needs for recipients receiving care within the home (Beach & Schulz, 2017). This was suggested to be partially due to privacy concerns, where the recipient or caregiver felt uncomfortable with this task. Physical limitations were also identified as a barrier to supporting toileting needs, if the recipient required some element of lifting or physical support.

Limited mobility is also a common issue for older adults (Jaul & Barron, 2017; Maresova et al., 2023). Informal caregivers are often required to assist their loved one with daily tasks due to mobility limitations (Maresova et al., 2023). This includes tasks within the home, such as assistance with personal care and home maintenance, such as cleaning. Caregivers also assist with tasks outside the home, such as shopping or escorting the care recipient to appointments. As the recipient’s needs increase over time, informal caregivers can increasingly struggle to fulfil caregiving tasks (Beach & Schulz, 2017). Caregivers then feel increasingly burdened in their struggle to meet these needs (Yustisia et al., 2023). This can impact recipient well-being, since greater feelings of burden experienced by caregivers is associated with increased recipient mortality (Pristavec & Luth, 2020). This means that both the informal caregiver and the older adult recipient can suffer.

Caregivers of older adults are often required to meet multiple needs for recipients (Atoyebi et al., 2021). For example, older age is linked with both physical and mental health conditions which can require differing forms of assistance from caregivers (Atoyebi et al., 2021; Jaul & Barron, 2017). Furthermore, older adults are often under the care of multiple medical professionals to meet these multiple healthcare needs (McGilton et al., 2018). Managing scheduling of appointments with professionals can be challenging for informal caregivers, particularly if they accompany their loved one. In addition to meeting multiple demands, informal caregivers of older adults can struggle to coordinate their own schedule with the schedule of the recipient. This puts caregivers at risk of role strain, where they are faced with multiple and sometimes conflicting demands (Pearlin et al., 1990).

The link between ageing and cognitive decline is well established (Brito et al., 2023). For people who care informally for older adults with cognitive decline, multiple stressors put them at greater risk of poor mental health (Wiegelmann et al., 2021). Reasons for this include the emotional impact, with the perceived ‘loss’ of a loved one who may no longer respond to the caregiver in the way they once had (Lindeza et al., 2024). Furthermore, with progressing cognitive decline the care recipient may lose ability to recognise their caregiver, placing further strain on their relationship (McGee et al., 2024).

The emotional aspect of caring for older adults can also be impacted by behavioural and psychological symptoms in care recipients (Felstead et al., 2023). These behaviours have been clustered into three symptom categories: *hyperactivity*, *psychosis*, and *physical behaviours* (Kim et al., 2021). Hyperactivity includes behaviours such as irritability, agitation, or even aggression. Care recipients with this cluster of behaviours can experience disinhibition which can be difficult to manage. Psychosis symptoms include hallucinations and delusions. The recipient can also experience anxiety and depression with this cluster of symptoms. The physical cluster of behaviours includes abnormalities in eating behaviours due to appetite changes, abnormal or unpredictable movements due to difficulties with balance and coordination (Mc Ardle et al., 2021), and sleep patterns, with frequent night-time waking and activity. These symptom clusters can be demanding in terms of ensuring the recipient's safety. For example, unpredictable daytime and night-time movement around the home requires supervision to prevent accidents. Other demanding factors of behavioural symptoms include supporting mood changes, which can be distressing for both the recipient and caregiver, particularly when this results in outwardly expressed agitation or aggression.

Informal caregivers of older adults are often responsible for administering medications to manage conditions associated with advancing age (Look & Stone, 2018). However, informal caregivers often lack knowledge and experience in managing these conditions (Häikiö et al., 2020). Low 'health literacy', which refers here to lack of knowledge and experience in caring for the health of older adults, has been linked with greater burden in caregivers (Häikiö et al., 2020). Additionally, low health literacy in caregivers has been linked with poor health outcomes in care recipients (Yuen et al., 2018). Observing poor health outcomes in a care recipient has been identified as a potential source of guilt in caregivers who assume responsibility for their care (Romero-Moreno et al., 2022).

Informal caregiving for older adults specifically involves management of a range of complex needs within the context of an established relationship. It is therefore an important area of focus to promote the well-being of both caregivers and their care recipients.

1.2.2 Challenges for Older Adults who Provide Informal Care

The challenges of informal caregiving may be particularly difficult for caregivers of advanced age. This is because older caregivers can experience age related challenges to their own health, such as increased risk of chronic conditions, mobility issues, and physical or cognitive decline (Schulz et al., 2020). Moreover, the demands of caregiving for a relative restricts time for self-care (Sabo & Chin, 2021).

With the above challenges in mind, older adults can benefit from self-compassion due to its protective factors, such as greater resilience and coping (Ewert et al., 2021; Tavares et al., 2023). For instance, self-compassion is associated with greater acceptance of the ageing process (Brown et al., 2018). Additionally, in the compassion framework (Gilbert et al., 2017), self-compassion operates within a system of compassion for others and acceptance of compassion from others (Cha et al., 2023; Gilbert et al., 2017). However, since older caregivers are likely to live with the person they care for (such as a partner or spouse) (Schulz et al., 2020), the older caregiver may lose sight of their own well-being and find self-compassion difficult (Murfield et al., 2021). For these reasons, self-compassion may be a particularly beneficial skill for present caregivers and for preparedness of caregiving in the future (Hsiao, 2023).

1.3 Caregiving and Close Relationships

The nature of an informal care relationship poses additional challenges for caregivers. This is because informal caregiving is carried out in the context of an established relationship with the recipient (Mroz et al., 2023). Moreover, any existing bond carries previous shared experiences and established norms, such as when caregivers had been previously in the role of child or spouse (Bowlby, 1977; Shin & Gyeong, 2023). Informal caregivers are then challenged with the need to meet physical demands whilst being required to adapt to a new role within a long-established relationship (Shin & Gyeong, 2023).

Despite the challenges, the influence of emotional ties within the care relationship can be twofold. Firstly, the existence of a positive established relationship may serve to alleviate some of the challenges posed by additional demands and role change (Shin & Gyeong, 2023). For example, reciprocity within the care relationship has been linked with reduced burden (Reid et al., 2005) where the caregiver perceived a sense of balance in what they provided for the recipient and what the recipient was able to give in return. However, in comparison, in the absence of balanced reciprocity, and where the recipient has limited resources, or where the relationship lacks warmth, the caregiver can endure a less positive experience (Akhter-Khan et al., 2023). Furthermore, research into spouse relationships has indicated that the “biographical we” (Aasbø et al., 2016) in a relationship can become greatly challenged with progression of severe chronic illness in the care recipient (Aasbø et al., 2016).

1.3.1 Parent-Child Relationships

The concept of role strain describes the presence of overlapping roles (Goode, 1960), where ability to perform in one role impacts performance in another. Where caregivers provide for older adult parents, high demands on time for caregiving combined with job demands and time for their own children requires dividing attention between multiple roles (Lam et al., 2022; Lei et al., 2023; Pearlin et al., 1990). Furthermore, role conflicts pose additional challenge (Pearlin et al., 1990), for example where the caregiver is required to fulfil a work commitment at a time when their caring role requires them to fulfil other tasks (Lam et al., 2022; Lei et al., 2023; Pearlin et al., 1990).

Overlapping roles for child caregivers of older adult parents with dementia were found to be associated with outcomes including role strain, depressive symptoms, and poor health when their job demands were high (Wang et al., 2018). Furthermore, 50% of these caregivers reported having children under the age of 18 (Wang et al., 2018). This highlights the psychological and physical impact that fulfilling multiple roles can have for child caregivers of older adult parents.

Caring for a parent introduces the challenge of role reversal in a relationship in which they were once cared for by the parent (Luichies et al., 2021). Additionally, the child caregiver enters a new role which they have little prior knowledge or experience of (Phongtankuel et al., 2023). In situations where care is required for both parents, child caregivers may provide emotional support for a remaining parent in the event one dies (Luichies et al., 2021). This situation introduces further emotional challenges for the caregiver (Luichies et al., 2021).

Children caring for older adult parents can include conflict in attachment orientation (Bowlby, 1969). The study of attachment orientation stems from the work of Bowlby (1969), who focused on attachment between children and their primary caregivers (see Bowlby, 1969). Focusing on child-older parent dyads, the association between attachment orientation and burden was investigated using self-report measures (Romano et al., 2020). In this research, opposing attachment orientation style was associated with burden. This was suggested to be due to conflicts in the nature of the care relationship, where in an anxious-avoidant relationship, attachment from the recipient would elicit greater help seeking from them combined with distance from an avoidant caregiver. In the case of the recipient being avoidant and the caregiver being anxious, the caregiver may experience burden due to the recipient’s lack of acceptance for help.

1.3.2 Spouse and Partner Relationships

Family caregivers of an older adult spouse or partner tend to be older themselves (Potier et al., 2018). This is because a spouse or partner dyads are likely to be close in age (Potier et al., 2018). Risk of age-related health conditions is high for spouse caregivers which in turn may pose implications for ability to provide care (Potier et al., 2018). Indeed, a cross-sectional survey showed self-reported general health was significantly lower in a population of spouse caregivers compared with non-spouse caregivers (Johansson et al., 2021). Poor physical and psychological stress was also more often reported by spouse caregivers (Johansson et al., 2021).

A key difference in spouse caregiving is the sense of reciprocal commitment in an established long-term relationship (Wieselquist et al., 1999). Older adult same generation caregivers are more often driven by sense of obligation to care for their loved one (Schulz et al., 2020). Furthermore, sense of obligation to care is associated with negative outcomes, such as physical strain, emotional stress, and poor health (Shin et al., 2023). For example, research found caregivers aged over 50 years who perceived caring as an obligation were at greater risk of physical strain, emotional stress, and poor physical health (Schulz et al., 2012).

Furthermore, an investigation of expectations within older spouse relationships showed sense of commitment overrode difficulties within the relationship (Cash et al., 2019). This meant that, even when relationships were described as ‘unhappy,’ the spouse felt a sense of obligation to provide care and fulfil their perceived duty (Cash et al., 2019). Sense of duty was sometimes further impacted by expectations of other family members who were critical of their considerations for residential care (Cash et al., 2019).

1.3.3 Friend and Neighbour Relationships

Older adults who do not receive support from family members may rely on friends or neighbours within or near their home location (Lowers et al., 2023). This non-kin support could provide a lifeline to older adults who live alone in reducing loneliness or providing vital support with practical tasks such as shopping, for example (Aziz Marzuki et al., 2023). Assistance from friends, neighbours, or the surrounding community of the older adult may include physical or emotional support including illness management, ensuring adherence to medication regimes, or providing comfort at times of stress (Aziz Marzuki et al., 2023).

In absence of familial connection between non-kin caregivers and the care recipient, one may assume perceived burden of responsibilities would be absent or minimal. A retrospective qualitative study focused on experiences of non-kin caregivers countered this assumption (Kieninger et al., 2022; Pleschberger & Wosko, 2017). The study included data from fifteen participants collected for previous research (Pleschberger & Wosko, 2017) and from 8 additional interviews (Kieninger et al., 2022). The focus was on non-kin caregivers in Austria following the death of a lone living older adult recipient (Kieninger et al., 2022; Pleschberger & Wosko, 2017). Despite their non-kin connection, it was evident from the data that these caregivers experienced a sense of moral obligation and responsibility to protect the well-being of the recipient (Kieninger et al., 2022; Pleschberger & Wosko, 2017). Prominent findings from the research of Kieninger et al. (2022) and Pleschberger and Wosko (2017) included boundary management and increasing levels of perceived burden towards the end-of-life stage. Sometimes boundaries were challenged by recipient requests for responsibilities not already assumed by the caregiver to avoid reliance on professional support, such as requesting assistance with personal care. Conflicts also arose when the caregiver’s family disagreed with their efforts due the impact of caregiving on work, family, and the caregiver’s own well-being. Commitments beyond death of the recipient included making funeral arrangements and ending household payments when the recipient had no close contacts or when their family were reluctant to become involved.

From a positive standpoint, non-kin carecaregivers in the research of Kieninger et al. (2022) and Pleschberger and Wosko (2017) also described a sense of fulfilment and recognition of the positive impact they had on the recipient’s quality of life. The rewards expressed by caregivers seemed to counterbalance the level of perceived burden they experienced from providing care. Rewards such as those reported in the study of Kieninger et al. (2022) and Pleschberger and Wosko (2017) could be important for motivating non-kin caregivers to provide care. Indeed, personal satisfaction is one reward which brings meaning to caregiving in these circumstances (Zarzycki, Seddon, et al., 2023).

Whilst research into informal care of older adults has most often focused on family caregivers (Pleschberger & Wosko, 2017), it is important to note that non-kin caregiving also plays an important (and in some cases vital) role in maintaining quality of life for lone living older adults. Furthermore, it is clear from the research described above that non-kin caregivers experience many of the challenges experienced by family caregivers. However, providing informal care can also be a fulfilling experience (Kieninger et al., 2022; Pleschberger & Wosko, 2017; Zarzycki, Seddon, et al., 2023).

1.4 Compassion Fatigue in Informal Caregivers

There is lack of agreement around the definition of ‘compassion fatigue’ (Watson et al., 2023). In the context of caregiving, it denotes a point of apathy and reduced empathy which is reached through providing for another individual (Ceylantekin et al., 2023; Garcia-Uribe & Pinto-Bustamante, 2024). At the other extreme, some authors have used the term ‘compassion satisfaction’ to describe pleasure derived through providing this care (Garcia-Uribe & Pinto-Bustamante, 2024). It was proposed that compassion itself sits in the middle ground of these two extremes (Garcia-Uribe & Pinto-Bustamante, 2024). Garcia-Uribe and Pinto-Bustamante (2024) suggest the terms ‘compassion fatigue’ and ‘compassion satisfaction’ are less well-suited for describing caregiving outcomes since one can lose sight of the essence of what compassion means; the terms ‘compassion fatigue’ and ‘compassion satisfaction’ shift meaning towards the suffering or pleasurable outcome of the caregiver (Garcia-Uribe & Pinto-Bustamante, 2024). However, the term ‘compassion fatigue’ is discussed in the caregiving literature so I will focus now on its application.

The term ‘compassion fatigue’ was first applied in the context of healthcare and nursing, where it was defined as a “loss of ability to nurture” (Joinson, 1992, as cited in Coetzee and Klopper, 2010). Compassion fatigue was described as synonymous with secondary post-traumatic stress experienced through caring for someone who had been exposed to a traumatic event (Figley, 2013; Sinclair et al., 2017). Although this description was noted as being far removed from the original definition (Coetzee & Klopper, 2010). Compassion fatigue is reached when a person reaches an acute state of physical and emotional difficulty, with decreased compassion for others (Sinclair et al., 2017). With exposure to ongoing stress, an individual can reach a point of exhaustion which threatens health and psychological well-being (for example, see Leo et al., 2023; Slimmen et al., 2022; Taşdemir et al., 2023).

The relationship between compassion fatigue and compassion is not clear (Sinclair et al., 2017). However, ongoing exposure to physical and emotional stress in informal caregiving may be considered by focusing on the definition of compassion as a 'motivation and action to alleviate suffering' Gilbert et al. (2017). Returning also to Neff's (2003a) conceptualisation of self-compassion as treating oneself with kindness, viewing challenges as part of a shared human experience, and taking a balanced perspective of difficulties may counter the effects of ongoing stress. Furthermore, when focusing on caregiver well-being, self-compassion may be important for maintaining balance in compassion within the relationship (Lathren et al., 2021; Sahdra et al., 2023).

Compassion fatigue is an important area of consideration when investigating well-being in informal caregivers of older adults. For informal caregivers, exposure to stress is often prolonged and continuous with lack of clear boundaries for responsibilities (Andréasson et al., 2023). Furthermore, relationship quality can be an additional source of caregiver stress (Huo & Kim, 2022). For example, negative relationship quality can increase perception of ongoing stress (Huo & Kim, 2022), and impact caregiver well-being (Quinn et al., 2009). This highlights the need for an intervention which encourages caregivers to reframe relationship stressors, protecting them from a state of compassion fatigue (Figley, 2013; Sinclair et al., 2017).

Compassion fatigue in the context of the informal care relationship includes an emotional connection (Ceylantekin et al., 2023). This connection drives concern for the recipient and increases motivation to alleviate their suffering (Day & Anderson, 2011). However, this connection also elicits ongoing anxiety, stress, and worry in caregivers about their loved one (Yustisia et al., 2023). Other ways in which emotional bonds can impact caregivers is feeling high sense of responsibility for the recipient, and sometimes depression (Yustisia et al., 2023).

Interventions for informal caregivers of older adults should target all potential on going stressors which are part of the care experience, whether physical or emotional. By encouraging caregivers to value their efforts, manage challenges of caring, whilst also observing their own needs these interventions could reduce the risk of negative outcomes and prevent compassion fatigue (Palacio G et al., 2020).

1.5 Coping with Challenges

Coping with challenges of caregiving may depend on many factors. One consideration in the way caregivers experience challenges is their *perception* of the level of support they receive (Brodaty & Donkin, 2009) – this may not match the level of support that they actually receive.

Coping strategies in carers have been described as *emotion focused* and *problem focused* (Lazarus & Folkman, 1984). Emotion focused coping refers to regulation of emotions triggered in response to an event, whereas problem focused coping is specifically targeted towards managing environmental factors associated with the distress (Lazarus & Folkman, 1984).

Some examples of emotion focused coping include avoidance by not focusing on the event or looking for positive aspects of a difficult situation (Lazarus & Folkman, 1984). Another example of emotion focused coping described by Lazarus and Folkman (1984) was when interpretation or meaning of events altered, so the events were perceived in a way which may (or may not) have represented the reality of that event.

In contrast, problem focused strategies are restricted by what is accessible to the individual, since these are dependent on environmental factors (Lazarus & Folkman, 1984). In the context of caregiving, a problem focused strategy may rely on knowledge of the caregiver (Wen et al., 2023). For example, a caregiver may feel better equipped to attend to the recipient’s needs if they have prior knowledge or experience to draw upon (Merrilees et al., 2020). Another challenge to problem focused coping for informal caregivers is lack of time due to the necessity to incorporate other life demands, such as work or family (Keita Fakeye et al., 2023).

In reference to emotion focused coping in caregivers of older adults, self-compassion can facilitate emotion regulation and reduce psychological distress (Murfield, Moyle, O’Donovan, et al., 2020) For effective problem focused coping, caregivers are better equipped with understanding of the recipient’s condition and knowledge of how to care for them (Phongtankuel et al., 2023).

1.6 Solitude Challenges and Benefits for Middle and Older Adults

With the time constraints experienced in meeting multiple demands (Keita Fakeye et al., 2023), informal caregivers can also struggle to access quality time alone (Klinedinst et al., 2023). Yet time alone for caregivers can lead to negative experiences including loneliness, particularly if time alone not perceived to be accessed through choice (Bonin-Guillaume et al., 2022).

When looking at middle and older-aged adults, the experience of time alone can differ depending on life stage and circumstance (Lay et al., 2020a). Middle and older-aged adults confront challenges in differing contexts, where middle age can be particularly difficult if combining work commitments with caring for a loved one (Klinedinst et al., 2023). The strain of managing multiple demands can leave an individual feeling overwhelmed by trying to fulfil these responsibilities (Pearlin et al., 1990). Middle adults also face conflict where demands of one role prevents them from meeting demands of another, for example a care recipient may need attention during work hours (Pearlin et al., 1990).

Time alone, in solitude has been the focus of research in reference to negative outcomes, such as loneliness or isolation (for example, see Barjaková et al., 2023; Wang et al., 2023). Recognising the potential impacts of these outcomes, social isolation (or lack of social connection) and loneliness have been linked with greater risk of poor physical and mental health outcomes (Donovan & Blazer, 2020). For example, loneliness and social isolation are associated with risk of dementia (Sutin et al., 2018), cardiovascular disease, and stroke (Valtorta et al., 2016). With notable increase in time spent alone in older adults (Donovan & Blazer, 2020), interventions which account for this life stage and circumstances of older adults is then paramount in protecting physical and mental well-being.

Looking at demographic variables associated with social isolation in older adults, a study showed greatest risks to include being male, unmarried, with lower educational attainment, and lower income (Cudjoe et al., 2018). Moreover, this risk increased for participants aged over 80 years. Furthermore, it has been reported that social isolation is a risk factor for increased feelings of loneliness in some individuals (Fakoya et al., 2020). Although interventions have been developed to target social isolation and loneliness in older adults, there is still a requirement for something adaptable for individuals with varying experiences of these challenges (Fakoya et al., 2020). Self-compassion may offer new perspective on solitude time, so middle and older adults can engage in activity during these times with a healthier mindset (Neff, 2009).

Self-compassion has been linked with less loneliness across the lifespan (Lee et al., 2021). Focusing on caregivers of older adults, increased self-compassion was found to significantly reduce loneliness also (Tkatch et al., 2017). These findings are important since informal caregivers are particularly at risk of loneliness (Vasileiou et al., 2017). Risk factors include caregivers' decreased opportunities for social interaction due to lack of time (Vasileiou et al., 2017). Informal caregivers of older adults can experience loss of a close relationship with the care recipient, for example if the recipient has dementia which compromises communication (Crawley et al., 2023; Vasileiou et al., 2017). Informal caregivers can also feel disconnected if they are unable to observe others experiencing similar challenges (Vasileiou et al., 2017).

A self-compassionate mindset may serve to buffer against feelings of loneliness in informal caregivers of older adults, allowing them to view challenges with clarity, without becoming overwhelmed (Neff, 2003a). This clarity could further allow caregivers to recognise the experiences and challenges of others, even if different from their own, helping alleviate feelings of disconnection (Neff, 2003a).

Solitude has also been linked with positive outcomes, particularly in the case of older adults (Zambrano Garza et al., 2024). Positive solitude is described as involving lack of negative thoughts and emotions with the presence of pleasant, calm, or relaxed feelings (Chen & Liu, 2023).

A systematic review focused on middle and older adults over the age of 50 identified seventeen articles exploring the connection between solitude and well-being (Chen & Liu, 2023). The review focused on this connection with consideration of within person experience (intra-personal), experience of relating to others (inter-personal), and cultural influences on attitudes, beliefs, and values (Chen & Liu, 2023). The authors described individual differences in the experience of solitude based on these factors.

Looking to intra-personal (or within person) factors, it was noted that age and motivation for solitude were influences of interest in research focused on the connection between solitude and well-being (Chen & Liu, 2023). In a 10 day study including individuals between the ages of 50 to 85 years-old, participants indicated a preference for solitude (Lay et al., 2020a). Results indicated that participants in the age range of 50 to 67 years demonstrated a dip in positive affect when preference for solitude was present. Furthermore, no location preferences for solitude were described for participants in this age range. In comparison, older adults in this sample aged between 68 and 85 years showed no decline in positive affect with solitude seeking. Contradictory to the findings with middle-aged adults, older adults mostly indicated that solitude activity occurred within the home. The older adults more often sought solitude at home whereas those in the middle-adult age range showed no specific location preference. The authors suggested this may have been due to differences in work obligations across age groups, since older adults are more often retired (Lay et al., 2020a).

For interpersonal (between person) experiences of solitude, other research found differences in *social disconnection* according to living arrangements (Barrenetxea et al., 2022). Social disconnection has been defined as a deficiency in social, emotional, or physical engagement with others (Barrenetxea et al., 2022). In a cohort study involving 16,943 Singapore-based Chinese adults aged 61 to 96, details of living arrangements were collected (Barrenetxea et al., 2022). Findings indicated that 85.6% of participants who experienced social disconnection were living with others. Furthermore, 92% of these individuals were living with family. These findings demonstrate that social disconnection occurs regardless of whether an older adult resides with other people (Barrenetxea et al., 2022). Although, the authors acknowledged that some solo-living adults could have been socially engaged outside of their homes.

Drawing on the aforementioned findings, one could look to socially disconnected individuals in the context of relationships with family they resided with. In a European demographic study looking at living arrangements of 2,266 individuals aged over 60, it was found that living with a spouse was linked to greater positive affect in solitude compared with those who lived with other family (de Jong Gierveld et al., 2012). Additionally, the quality of the relationship between spouses did not appear to influence these effects – older adults experienced positive affect in solitude regardless of whether the relationship was perceived as difficult (de Jong Gierveld et al., 2012). More notable though was that those with older adult children were more likely provide support for them rather than receive it (de Jong Gierveld et al., 2012). The findings may be reflective of expectations and values within relationships more than co-residence. For example, a parenting role is likely to include expectations to care for and protect one’s child regardless of their age (de Jong Gierveld et al., 2012).

Returning to intra-personal influences, skills related to social engagement, including social self-efficacy, self-reflection, self-rumination tendencies, and individual personality, were found to influence solitude experience (Chen & Liu, 2023). Social self-efficacy included confidence in social skills; self-reflection included level of enjoyment in engaging with one's internal world; self-rumination was described as the individual's tendency to dwell on one's difficult experiences (Chen & Liu, 2023).

Focusing on social self-efficacy, a study by Lay et al. (2019) investigated solitude experiences of 100 middle and older adults aged 50 to 85 years and students aged 18 to 28 years. They found social self-efficacy was an important predictor of positive solitude experience; as defined by calmness, relaxation, present moment appreciation, and absence of negative emotion (Lay et al., 2019). The authors identified two distinct solitude clusters: the first was *positive* solitude, which was inclusive of positive thoughts and affect when in solitude; the second was *negative* solitude which, expectedly, was linked with rumination (Lay et al., 2019). Unexpectedly, self-reflection was also associated with negative solitude in this study (Lay et al., 2019). Self-reflection is more often regarded as positive since it opens opportunity for self-growth through deeper engagement with one's thoughts and feelings (Lay et al., 2019). The authors suggested that time alone may have exposed the individual to self-criticism (Chen & Liu, 2023; Lay et al., 2019). These findings demonstrate that positive reframing of thoughts and feelings plays a vital role in positive experiences of solitude.

Lay et al. (2019) highlighted the variability of ethnic background in older adult participants included in their sample. They noted more than half of these participants were of East Asian ethnic origin - a culture identified to value self-reflection more highly compared with Western cultures (Lay et al., 2019). However, no differences were found when solitude experiences were compared between cultures in their sample (Lay et al., 2019). Taken together, the findings supported presence of positive and negative solitude experiences which were dependent on skills and experiences residing within the individual (Lay et al., 2019). No conclusions were drawn regarding cultural differences in this research.

Research focused on cultural influences on solitude experience in adults aged 51 to 85 years in Vancouver, Canada and Hong Kong, China did find differences (Lay et al., 2020b). Lay et al. (2020b) predicted that participants in their Hong Kong sample would experience less loneliness in solitude due to the tendency to foster solitude-seeking for self-reflection and calmness within their East Asian culture. Instead, the researchers found participants in their Vancouver sample spent more time in solitude which they experienced more positively. Across samples, participants who had immigrated to a culture they were less accustomed to experienced greater loneliness (Lay et al., 2020b). These findings suggest that living amongst others and having a sense of belongingness and shared understanding of the local culture can protect against loneliness (Lay et al., 2020b). Furthermore, where sense of belonging exists, the individual may be open to positive solitude experience.

In the above findings of Lay et al. (2020b), one could interpret sense of belonging by looking to the common humanity component of self-compassion (Neff, 2003a). In tackling loneliness through targeting common humanity, one may create social space for connecting and sharing experiences with others (Zhai et al., 2023). This approach was found successful for improving anxiety and depression symptoms, and for increasing coping skills in informal caregivers in a systematic review of digitally delivered interventions (Zhai et al., 2023). In this way, positive solitude experiences may be more readily accessible when self-compassion, and specifically common humanity, are part of this experience (Neff, 2003a).

1.6.1 Solitude as a Route to Self-Compassion

The above research demonstrates that solitude can include loneliness, isolation, and rumination (e.g., Barjaková et al., 2023; Lay et al., 2019; Wang et al., 2023). However, solitude also offers space for self-connection and well-being (Thomas, 2023). In solitude, one is free to focus on and engage in activities of choice, in absence of distraction from others (Burger, 1995). The opportunity for solitude is therefore important but also complex in the instance of informal caregivers of older adults (Viens et al., 2024).

Being an informal caregiver imposes great demands on resources and time (Mroz et al., 2023), thus reducing opportunity for solitude. For example, informal caregiving requires constant focus on well-being of the recipient whilst continuing to manage demands of paid employment (Pearlin et al., 1981). This in turn can impact the caregiver’s income, thus restricting financial resources (Pearlin et al., 1981). Furthermore, the caregiver’s identity is impacted because they are unable to focus wholly (or adequately) on their own career development (Pearlin et al., 1990).

In the instance of informal caregivers of older adults, one should also recognise the potential downside of solitude. For example, solitude provides space for self-focus which could take the form of rumination rather than enjoyable activity (Lian et al., 2023). Caregivers who tend to employ dysfunctional coping styles, such as avoidance or denial, may be prone to anxiety in solitude with increased opportunity to ruminate (Muñoz-Cruz et al., 2023). Because of these complexities, creating space for planned self-selected solitude activities which are enjoyable to the individual may guide individuals towards more beneficial outcomes (Ren et al., 2024).

1.7 Summary of Chapter 1

In summary, there is disagreement in how self-compassion should be defined (Kirby, 2017). The dominant model of Neff (2003a) proposes three components of self-compassion - namely self-kindness, common humanity, and mindfulness. These operate within a system which includes three negative opposing poles - self-judgement, isolation, and overidentification (Neff, 2003a). Another dominant view takes a broader holistic approach by considering three flows of compassion – compassion for self, from others, and for others (Gilbert, 2015; Gilbert et al., 2017). Each of these models have their place in the study of self-compassion and interventions to increase this.

The second part of this chapter focused more specifically on well-being in informal caregivers of older adults. The focus was on relationships between caregivers and care recipients and some of the complexities involved. For example, caring for parents introduces a role reversal (Luichies et al., 2021), whereas caring for a spouse threatens balance of mutual care within the relationship (Wieselquist et al., 1999). The importance of friend caregivers who experienced some of the same challenges as family caregivers was highlighted (Kieninger et al., 2022).

The potential impact of compassion fatigue, and how this could result from providing ongoing care for a loved one was explored (Ceylantekin et al., 2023; Garcia-Uribe & Pinto-Bustamante, 2024). Sources of ongoing stress include physical and psychological demands, but relationship quality is also a vital consideration for informal caregivers (Palacio G et al., 2020; Sinclair et al., 2017). The emotional connection caregivers have with their loved one (Ceylantekin et al., 2023), and sense of responsibility can impact psychological well-being (Yustisia et al., 2023).

Positive and negative experiences of solitude for well-being in middle and older adults were later explored, since these age ranges often care for someone informally (Chen & Liu, 2023; de Jong Gierveld et al., 2012; Lay et al., 2020b; Lay et al., 2019). From this discussion it was clear that the common humanity component of self-compassion (Neff, 2003a), which included sense of belonging was most often associated with positive solitude experiences for middle and older adults (Lay et al., 2020b; Zhai et al., 2023).

Chapter 2 will focus on the qualitative methods used for Study 1, before moving on to the knowledge gleaned from this research.

Chapter 2

The following chapter includes published research which can be accessed through the following link: https://doi.org/10.1016/j.ssaho.2024.100938. A pre-print link can be accessed here: https://doi.org/10.22541/au.169063382.29104237/v1.

A Qualitative Approach to Investigating Self-Compassion in Caregivers of Older Adults

2.1 Caregiver Experiences of Self-Compassion

Study 1 involved a qualitative investigation of caregivers' understanding and experiences of self-compassion within their everyday lives. This approach was used to explore the very meaning of self-compassion, its importance, and to understand how caregivers were able to (or not) incorporate it into the context of the challenges they faced.

This chapter will outline the methods used in Study 1 before presenting the full report.

2.2 Thematic Analysis

A qualitative approach was chosen for Study 1 due to the lack of previous research into self-compassion in informal caregivers (Murfield, Moyle, Jones, et al., 2020). Research exploring informal caregivers' understanding of what self-compassion looked like in their everyday lives and interventions to increase this was sparse and needed (Murfield, Moyle, Jones, et al., 2020).

Thematic analysis (TA) was used to provide an overall picture of the experience of self-compassion in caregiving in the recruited sample. An *inductive* approach was used to identify common themes in participants' responses (Braun & Clarke, 2006). A *deductive* method was also applied, drawing on existing theories in constructing interviews and for the analysis (Braun & Clarke, 2006). Through reflecting on my own experiences and interpretations, I maintained awareness of how these could influence the findings (Braun & Clarke, 2019).

From the literature on qualitative research, there was no general agreement to determine sample size or when enough data is sourced (Lakens, 2022). However, the literature suggests looking to the researcher’s end goals and practicalities, such as available resources, in deciding when the required sample size will be met (Lakens, 2022).

Despite the lack of agreement for determining sample size (Lakens, 2022), it is often necessary to predetermine how many participants will be recruited before the study commences. For example, research proposals often require a predetermined sample size before a study is carried out (Cheek, 2000, as cited in Guest et al, 2006). Indeed, a predetermined estimate for sample size was necessary for the current research to gain ethical approval and for practicalities including available time and access to participants.

To ensure information gleaned from qualitative interviews reaches a point where no new information is accessed, it is necessary to review findings at regular intervals (Braun & Clarke, 2006). However, how one should report the point at which ‘data saturation’ (no new information identified) was reached in the qualitative study is less clear (Braun & Clarke, 2021b; Guest et al., 2006; Malterud et al., 2016).

To provide clarity in identifying saturation in qualitative research, data collected from over 60 interviews was investigated (Guest et al., 2006). Findings indicated that saturation was reached after the first twelve interviews, although basic elements for meta-themes (themes representing cross-cultural meanings) were found after six interviews (Guest et al., 2006). However, Guest et al. (2006) noted caution in application of these findings since their sample was purposive and homogenous and may differ from more varied samples.

An alternative approach redefined the concept of data saturation, suggesting that researchers should instead focus on the amount of information gleaned from samples rather than drawing on benchmarks for the number of interviews conducted (Malterud et al., 2016). This concept, defined as ‘information power,’ focused on the content of responses to determine the quantity and richness of obtainable data (Malterud et al., 2016). The concept of information power suggests researchers should rely more on content in deciding when data collection should cease (Malterud et al., 2016).

The suggestion of reaching a point where no further information can be found has been described as unhelpful since new information can always be found (Braun & Clarke, 2021b). However, the concept of information power is important since this stresses that meaning from data should be central in deciding when data collection should cease (Braun & Clarke, 2021b). To overcome conflicts and lack of clarity around sample size, it has been advised that researchers should provide a rational for participant numbers, define their own interpretation of data saturation, or provide their own theory for sample size (Braun & Clarke, 2021b).

With the above in mind, although a sample size was estimated at the start of the current research, the richness and meaning within the data was used to guide judgment of when data collection should cease.

2.2.1 Reflexivity in the Current Study

The subjective nature of TA meant that I needed to account for my own potential influence on interpretation of the interview data. As previously noted, one should take a *reflexive* approach when using qualitative methods (Braun & Clarke, 2019).

Linking the topic of self-compassion in carers of older adults with my personal experiences, I was aware of my time living and growing up with my grandmother. At the time of my arrival, I was seven years of age. However, I observed the nature of the care relationship between my grandmother and her own mother, who she lived with and cared for at the time. Although I was young, I remember the determination and resilience my grandmother demonstrated in ensuring her mother was well cared for. However, as time went by, I also observed the frustration when she was unable to help her mother who frequently fell over in the home.

When her mother eventually moved into residential care, my grandmother no longer needed to call for help if her mother fell. Instead, she experienced much less control in the care her mother received. When her mother became sick and eventually died, I could see she felt frustrated that she did not receive help sooner. The distance between them from living separately meant that, although caregiving tasks were no longer stressful, lack of involvement in her mother's care brought a new type of stress to the situation.

My experiences have provided me with understanding of the difficulties faced by informal caregivers of older adults. Although, it was important for me to recognise the different experiences of the caregivers included in my research. Each of these caregivers brought differing levels of resilience with different strategies for coping with the situation. It was important for me to step back and recognise the similarities and differences across interviews and the data gleaned from these.

Involving more than one researcher in discussions of the data helped me to gain an open perspective during my analysis.

2.2.2 Reliability in Qualitative Research

Use of reliability measures in qualitative research has been controversial (O’Connor & Joffe, 2020). Some researchers do not support the use of reliability measures due to the interpretative nature of qualitative methods (Clarke & Braun, 2013). Indeed, it has been noted that two people can learn to interpret data in the same way, but this does not eliminate subjectivity in the interpretation, it merely demonstrates agreement between the researchers’ interpretations (Yardley, 2000). However, for qualitative research to have practical use for informing health practices and policies, measures of research quality are essential (Rana et al., 2023).

One aim of the qualitative research included in this thesis was to inform well-being interventions for informal caregivers of older adults. For this reason, a measure of reliability was included for the qualitative research, to add clinical value to the findings.

2.2.3 Reliability Measures and the Current Study

Studies including measures for reliability have employed different methods (O’Connor & Joffe, 2020). One method involves inclusion of multiple coders for transcripts (Cofie et al., 2022). With this approach, agreement would be discussed between coders and the codes reviewed (Cofie et al., 2022). However, including multiple coders may not be practical in terms of time and resources. Another accepted method is for one coder to code the data on multiple occasions, making revisions where necessary (Cofie et al., 2022).

For Study 1, the latter of these approaches was used, meaning codes were generated and reviewed on multiple occasions (Cofie et al., 2022). This is the method recommended by Braun and Clarke (2006). Additionally, these findings were discussed and revised on multiple occasions between the author and co-authors for this study.

Another consideration for reliability in coding interview data is *reflexivity* (Braun & Clarke, 2019). This includes the interviewer's awareness of their intentions, actions, and assumptions they have which may influence their interpretations of the data (Braun & Clarke, 2019; Yardley, 2000). Moreover, social interaction is inevitably part of the interview process, and so meanings are constructed during the interview process (Yardley, 2000). For this reason, the interviewer is in the best position to code the data, with their deeper understanding of the interview context and meanings within data (Yardley, 2000).

For additional rigour, two external coders were involved in final refinements of the themes through completing reliability checks and discussing their understanding of the data. This approach is in keeping with the approach to include more than one coder in the process (Cofie et al., 2022).

2.3 Study 1:

Self-Compassion in Informal Caregivers of Older Adults: A Qualitative Investigation

Abstract

Objectives

Little is known about the nature and role of self-compassion in informal caregivers of older adults. The study aimed to explore carers' understanding and experiences of self-compassion within their everyday lives.

Methods

This study involved thematic analysis of semi-structured qualitative interviews with 17 British caregivers of older adults.

Results

Six themes were identified: In *Self-compassion means connected self is prioritised*, caregivers identified self-compassion to involve self-kindness, common humanity, and the self as priority; *Compromise and conflict* reflected stressors within the caring context and surrounding relationships; *Resource depletion* described how stressors increased physical or psychological strain, highlighting the need for self-compassion; *Connection with others* described how caregivers experienced self-compassion when they felt connected, but aloneness was experienced more often than not*; Coping mindset* involved reframing and acceptance of challenges to foster self-compassion, and in *Setting boundaries* participants described maintaining a separate identity or role.

Conclusions

This study described key aspects of self-compassion experiences of caregivers in their everyday lives. It also identified facilitators and barriers to self-compassion which may inform possible interventions. Overall, self-compassion depended on mindset, clarity and understanding of the situation, and ability to maintain separation between 'self' and

‘caregiver’. These qualities were offset against barriers such as demands and compromises between lived experience and ideal recipient relationship, that made achieving self-compassion in these ways difficult.

Introduction

Informal caregiving refers to care provided due to necessity or concern for an individual, such as caring for a relative or friend. Informal caregiving may offer rewards, particularly where a positive relationship exists between the caregiver and recipient (Pendergrass et al., 2019). However, caregiving can also be physically and mentally demanding (Eifert et al., 2015; Schulz & Sherwood, 2008), and demands can be high on time and space for personal activities, such as for socialising with others (Andréasson et al., 2018). Shifting relationship roles could create additional challenges. For example, caregivers may experience reversal of roles when caring for a parent, and spouses can shift from an equal to imbalanced dynamic (Egilstrod et al., 2019; Eifert et al., 2015). An informal caregiving relationship may then increase responsibilities for the caregiver, not only in supporting the well-being of the recipient, but also in maintaining a positive relationship with the recipient while managing demands of the situation. These aspects of caregiving can undermine mental and physical health of caregivers, but certain characteristics or mindsets of carers may make them resilient to these challenges (Aggar et al., 2011; Lloyd et al., 2019). A self-compassionate mindset may be one important form of resilience because it helps to reaffirm the self in an otherwise demanding and self-depleting situation (Neff, 2023). This study was designed to explore the nature and context for this promising protective factor – the role of self-compassion – in caregivers’ well-being and ability to respond with resilience to the stressors of caregiving.

To examine self-compassion in caregivers one needs to have a working definition of it. Multiple approaches have been used to define and apply self-compassion outside of the caregiving context; two prominent perspectives informed our research questions at the outset.

A first model by Gilbert et al. (2017), takes a holistic approach to compassion and identifies *Action* and *Engagement* in overall compassion. Taking an evolutionary perspective, Gilbert et al. (2017) noted that compassion encompassed ‘sensitivity to suffering’ (engagement) and ‘action to alleviate it’ (action). These two characteristics of compassion are thought to be an evolutionary drive to protect the well-being of others and self, such as a parent providing food for a hungry child. From this work, Gilbert et al. (2017) identified three flows of compassion: 1. *Compassion for others*; 2. *Compassion from others*; 3. *Compassion for self.*

One should note all flows of compassion support emotion regulation since interactions observed between self and others, or thoughts and feelings within self, can elicit a response (Gilbert, 2014). However, self-compassion is particularly important for coping with stress (Ewert et al., 2021). Indeed, there is some evidence to support better coping and reduced burden in carers of older adults with interventions which include a self-compassion component (Murfield, Moyle, Jones, et al., 2020). The nature of the care relationship can also pose challenges for compassion between others, particularly when the recipient exhibits challenging behaviours (Allen et al., 2020).

From research focused on fears of compassion, it was noted that fears of compassion from others and for self had the strongest impact on poor mental outcomes including self-criticism and depression (Gilbert et al., 2011). For the current research, self-compassion was proposed to be the most accessible and controllable component within the three flows of compassion for caregivers. For these reasons, the primary focus was on self-compassion specifically in caregivers of older adults.

Taking an approach focused specifically on self-compassion, a prominent view (Neff, 2003a) suggests the construct includes three positive components, each with opposing negative poles. These include: 1) *Self-kindness* in which individuals treat themselves with gentleness and understanding when faced with difficulties or failures versus *self-criticism*; 2) *Common humanity* where human experience is recognised as shared, and the individual does not feel they are the only one experiencing challenges or struggles versus *isolation*; 3) *Mindfulness* where awareness of difficult thoughts and feelings is achieved with acceptance rather than engagement versus *over-identification* with thoughts and feelings.

The Role of Self-Compassion in Caregiving

Caregiving may confer challenges including a sense of imbalance in the contribution to the relationship, feeling entrapped in the role, and shame related to perceived inadequacies in meeting expectations (Martin et al., 2006; Reid et al., 2005). Furthermore, with increasing dependency of the recipient, 'engulfment' in the caregiving role may threaten identity as time for activities important to the individual may decline (Eifert et al., 2015; Miller et al., 2008).

Self-compassion may offer a way of reframing caregivers' experiences. For example, caregivers may engage in self-compassion at difficult times and focus on a more positive outlook. Indeed psychological distress was found to be lower when self-compassion was greater from a cross-sectional survey of informal caregivers of older adults (Murfield, Moyle, O'Donovan, et al., 2020). Furthermore, self-compassion can provide a healthy way to relate to oneself when faced with challenges and stress (Neff, 2023). From the standpoint of Neff (2003a), a self-compassionate mindset in caring would include adopting greater tolerance of one's own limitations whilst being gentle and non-judgmental towards oneself when unable to fulfil caring demands.

Looking to self-compassion experiences in different caregiver populations, young informal caregivers are challenged to carve out their own enjoyment time and, while they are compassionate for their loved one, they can lack self-compassion (Berardini et al., 2021). For example, mothers of children with Autism spectrum disorder recognised benefits of self-compassion, including self-care and self-kindness, but also identified barriers, including self-judgement and lack of time (Bohadana et al., 2021).

Current Research

There is insufficient research exploring the role of self-compassion in informal caregivers of older adults (Murfield, Moyle, Jones, et al., 2020). Yet there is reason to believe it is an important and potentially beneficial resource in this population because caregivers tend to focus heavily on providing compassion for the recipient, but as a result opportunities for self-focus and self-compassion are likely to be challenged. The current study was designed to address this gap in our knowledge and to explore caregiver understanding and experience of self-compassion. This question was approached using a qualitative method to allow in-depth exploration of individual experiences informed by, but not restricted to, existing researcher reviews on what self-compassion entails.

Two approaches informed the interviews conducted. First, for Gilbert et al. (2017), self-compassion operated in conjunction with compassion for others and from others. This model provided a useful representation of compassion exchanges within an informal caregiving relationship. The self-compassion components proposed by Neff (2003a) also guided the study. Self-compassion in caregivers was explored within the context of the informal care relationship by drawing on these two models.

This approach balanced existing models with receptiveness to new information provided by the caregivers themselves, allowing me to explore three research questions:

1. How do caregivers understand self-compassion and its role in their lives?
2. What challenges do caregivers face with engaging in self-compassion within the caregiving context?
3. What facilitates self-compassion for caregivers in their everyday lives?

Methods

Participants

The study gained ethical approval from the University Research Ethics Committee. Participants were recruited through relevant organisations/charities, email contacts, snowballing through study participants, and researcher contacts.

Inclusion criteria for the study were that participants: 1. Were aged over 18 years; 2. Provided emotional and/or physical care for an older adult recipient who relied on them at least once weekly; 3. Cared for someone over 65 years; 5. Spoke English fluently (for communication). Flexibility was allowed where a care recipient was close to age 65 or had moved recently into residential care. In these latter cases, recipients had moved to residential care from 3 weeks to 19 months before interview.

All interviewed participants were retained, with none choosing to withdraw from the study. One person expressed interest in participating but was later unable to take part due to passing of the care recipient.

One non-binary, five men, and eleven women participants were interviewed for the study (Table 1). Participants' age ranged from 27 to 87 years (*M* = 54.71 years, *SD* = 14.38), with recipients ranging from 59 to 90 years (*M* = 82.01 years, *SD* =

8.95). Time spent caring ranged from one year to over 26 years (*M* = 6.71 years, *SD* = 6.56).

Individuals received a £10 voucher following participation. Debriefing information was forwarded to participants to ensure they were aware of how their information may be used.

Table 1

Study 1: Participant characteristics and caregiving conditions

Characteristic	Participant
Age (%)	-
27 – 40	2 (11.76)
41 - 53	9 (52.94)
54 - 69	4 (23.53)
80 - 89	2 (11.76)
Gender (%)	-
Non-binary	1 (5.88)
Men	5 (29.41)
Women	11 (64.71)
Ethnicity (%)	-
White	15 (88.24)
Mixed	1 (5.88)
Other	1 (5.88)
Recipient relationship (%)	-
Father	3 (17.65)
Mother	7 (41.17)
Father and mother	1 (5.88)
Spouse	3 (17.76)
Grandfather	1 (5.88)
Mother-in-law	1 (5.88)
Friend	1 (5.88)
Caring time/living arrangement (%)	-
1 – 2 years	4 (23.53)
3 – 5 years	7 (41.17)
7 – 12 years	4 (23.53)
16 years+	2 (11.76)
Lived with recipient	5 (29.41)
Care provided/diagnosis (%)	
Emotional	3 (17.76)
Companionship	6 (35.29)
Mental health	1 (5.88)
Everyday living	13 (76.47)
Mobility	3 (17.76)
Vision or sight	3 (17.76)
Chronic health condition	7 (41.17)
Stroke	1 (5.88)
Memory	5 (29.41)
Dementia	8 (47.06)
Alzheimer’s	3 (17.76)
Parkinson’s	1 (5.88)
Multiple Sclerosis	1 (5.88)
Additional work demands (%)	-
Employed or self-employed	11 (64.71)
Retired	4 (23.53)
Student	1 (5.88)

Notes: N = 17.

Data Collection

Informed consent was obtained from participants and interviews conducted by FW between May 2021 and January 2022. All participants were previously unknown to the interviewer, apart from two who were previous acquaintances.

Participants were initially asked about their caregiving context to determine suitability for the study. This involved discussion to gain understanding of the participant's situation, for example exploring the relationship between caregiver and recipient and the nature of care provided.

A semi-structured interview schedule was used. The interview schedule (Appendix A) was designed based on previous research (Pauley & McPherson, 2010), including the Neff (2003a) components of self-compassion, and the self-compassion component of the Compassionate Engagement and Action Scale (CEAS) (Gilbert et al., 2017). To gain understanding of self-compassion from the caregivers' perspectives, a definition was not provided to participants, but instead they were asked to define what self-compassion meant to them. After each question, prompts were used to encourage participants to describe experiences in greater depth.

Interview duration ranged from 37 minutes to 1 hour 34 minutes (*M* = 58.71 minutes, *SD* = 17.00). Two participants requested telephone interviews because of internet connectivity issues and all other interviews were conducted online using Microsoft Teams. Automatically generated initial transcripts recorded using Microsoft Teams were then promptly corrected and pseudonyms were created to replace real names. Microsoft Teams was used to record all interviews, regardless of whether interviews were by telephone. All other identifiable data was also removed.

Data Analysis

Thematic analysis (TA) was used to analyse the data. This approach was used to allow in depth exploration using an existing framework of self-compassion whilst maintaining flexibility to identify patterns of experiences specific to a caregiver population. To build an illustration of self-compassion based on experiences of caregivers within this sample, an inductive approach was applied with a focus on latent assumptions within the data (Braun & Clarke, 2006). This meant all aspects of caregivers' reported experiences were able to be considered as they became apparent throughout the interview process. Deductive methods, drawing on existing theories, informed the interviews and analysis.

The interviewer recorded her own thoughts experienced during interviews to consider during analysis. This reflexive approach is important in TA since themes derived from interviews include meanings based on the researcher's subjective experience of the process (Braun & Clarke, 2019). Reporting on potential influences of past experiences, the interviewer had previously spent time living with older relatives. This deepened her understanding of the importance of keeping a loved one at home for the well-being of both individuals.

For the current project, Nvivo Pro 12 (QSR International Pty Ltd, released 2018) was used to code the data; codes were then sorted into themes. Codes included quotes related to self-compassion; themes represented overall descriptions of codes based on shared underlying meanings. Codes were identified with a focus on participants' experiences and beliefs about self-compassion, with some codes being applied across participants. Where participants supplied information which did not fit with previous comments, a new code was added.

The TA method suggested by Braun and Clarke (2006) guided the process of transcription, coding, and analysis, where patterns are identified within the data (Braun &

Clarke, 2006). Interviews were read repeatedly following transcription and before coding quotes. After completing this process for the first five interviews, the findings were discussed between the first author and co-authors, and it was noted that meaningful patterns were not evident at this stage. After seventeen interviews the first author and co-authors were satisfied that saturation had been reached. At this point, codes with shared meanings were merged and those identified as irrelevant were eliminated. Through further discussion, final revisions were made.

For rigor, reliability within themes was tested by two researchers external to the study. Whilst this positivist approach has not been advocated for use with TA (Braun & Clarke, 2019, 2021a), reliability was tested to check alignment of themes against existing theories drawn upon in this research and for greater generalisability. This was important for since an aim of the study was to inform future interventions.

Each researcher testing reliability coded 25% of the data at theme level using the theme descriptions (Table 2). From this process, three themes showed less reliability (Theme 1: 31.08%; Theme 5: 47.62%; Theme 6: 53.33%). The first author discussed these themes with the external researchers to clarify differences in understanding. The external researchers coded further data for these themes. Two of these themes showed increased reliability (Theme 5: 74.19%; Theme 6: 80.65%). Theme 1 increased slightly (41.46%). However, from discussion between contributing authors, it was noted this theme was broad with less defined boundaries to separate information within it. Remaining themes had reliability of > 60% (Theme 2: 63.27; Theme 3: 60.71%; Theme 4: 74.58%). There has been no universally agreed threshold for reliability for qualitative data (O'Connor, 2017). Therefore, after reviewing how independent coding decisions were made, the themes were selected to be as sufficiently reliable as they could be at this point.

Table 2

Study 1: Themes and theme descriptions representing carers' experiences of self-compassion

Theme	**Description**
Theme 1: Self-compassion means connected self is prioritised	*Beliefs around what self-compassion means. Ways in which carers do or could achieve self-compassion. Carers described ways they could or were able to make the caring role easier. Connection with one's needs and prioritising them facilitated engagement in self-compassion.*
Theme 2: Compromise and conflict	*Tolerating challenges of caring and associated difficulties. Challenges included external demands including those within the care role and demands of others. Conflict was also identified in self where carers were critical or judgemental of themselves or their ability to care.*
Theme 3: Resource depletion	*Emotional and physical strains of being a carer are a barrier to self-compassion. Carers often described lack of time or resources to prevent them becoming physically or emotionally overwhelmed. They also described restrictions on time for self.*
Theme 4: Connection with others	*Self-compassion is facilitated through connection with others. This theme represents the common humanity component of self-compassion, where connection and recognition of similar experiences and shared understanding with others helps prevent sense of aloneness. Where the opposite of this experience occurred, caregivers described feelings of isolation and disconnection from others.*
Theme 5: Coping mindset	*Recognising and understanding the challenges of the situation. Mindfulness is demonstrated in this theme, where carers demonstrated openness to observing challenges and emotions tied to the situation without becoming overwhelmed. For some carers this allowed clarity and acceptance. Carers were also able to reflect on the extent of their difficulties, recognising that the situation could be worse.*
Theme 6: Setting boundaries	*Setting boundaries to preserve well-being and needs. Carers actively expressed needs and limits to what they could provide. They also preserved their interests and separate roles from caring for the recipient.*

Results

Overview

Six themes were generated through analysis (Table 2). Theme 1 represented caregivers' overall experiences including beliefs, actions, and facilitators for self-compassion; Themes 2 and 3 represented barriers for self-compassion; Themes 4, 5, and 6 included facilitators for self-compassion described by caregivers in the sample.

There was an even spread of codes across themes, with a maximum of four codes. Theme 1 included one code because this was a broader theme. Participants contributed to all themes, with the minimum of eleven participants contributing to one of the themes. Together these themes described beliefs, actions, barriers, and facilitators for self-compassion in the context of participants' everyday experiences.

Themes are described in detail below. Additional example quotes can also be found in Appendix B.

Self-Compassion Means Connected Self is Prioritised

This theme provided an overarching description of what self-compassion involved and how it was achieved. Furthermore, participants demonstrated 'connection' with their needs through understanding of what these were and how to meet them. Needs included activities, thoughts, and actions which caregivers perceived as self-compassion.

In this theme, caregivers described activities and conditions which allowed them to achieve self-compassion within the caregiving context. This was demonstrated by Anna, who sometimes lived with her mother aged 80, but often care was by distance since her mother lived abroad. Anna's mother experienced a number of health conditions, including osteoporosis and heart problems. She required help remembering to take medications and to keep up with medical appointments. Anna spoke regularly with her mother and kept on top of care arrangements in her absence. Anna also worked full-time and met demands of a busy job. She identified when she needed self-compassion and how spa visits provided relaxation. However, these visits were only possible for her when she was able to find time:

> *"I do go to the spa as often as I can, when I can get the time and that's always lovely and relaxing."*

In this quote, Anna identified self-nurture as her self-compassion, where she prioritised time for herself when she was able.

Caregivers described how they utilised available time for enjoyable activities. For example, Julie no longer worked but instead cared for her father, aged 85, who had vascular dementia, hypertension, deafness, and was blind. She described how writing poetry was outlet and form of enjoyment. Julie additionally cared for her brother who had learning disabilities. Julie's other brother helped sometimes but was often unavailable. Although Julie had considered larger writing assignments, poetry seemed more manageable with less demand on her time:

> *"And that feels like something that I could try and fit in. Because it's writing poetry, it's not it's not studying. I don't have to research and read books."*

Julie also identified engagement in chosen over obligatory activities as self-compassionate:

> *"They're not have to things, they're nice to things."*

Self-kindness, involving being gentle with yourself when facing difficulties, was described by Grace who was retired and cared for her husband, aged 90. Grace struggled with the situation as she was unaware of her husband's dementia diagnosis until he moved into residential care. Grace was also challenged with her own health, such as high blood pressure and physical pain. Throughout her interview, she described worries that she was less kind because of her emotional struggles. She identified kindness towards yourself as self-compassion:

> *"Self-compassion is loving yourself, forgiving yourself because you know you're not perfect."*

Self-compassion in caregiving also involved thinking of oneself as a priority, with needs independent of the recipient. Anna recognised the importance of self-care and how this could impact her ability to care:

> *"Making sure you look after yourself er and keep yourself in as good, both mental and physical health so that you can help the others. So not not forgetting yourself in the process basically."*

Lauren shared caring responsibilities for her grandfather, aged 90, with her mother. Lauren was a student and worked part-time. Her grandfather had diabetes and dementia requiring daily support. She recognised the importance of providing the care she wanted without compromising her own health:

> *"Not doing something too strenuous just because you need to or just because you want to help the person you're caring for."*

In summary, 'connected self' within this theme was demonstrated through self-focus and awareness of one's needs. This awareness allowed caregivers to engage in activities, thoughts, or actions which they identified as self-compassionate.

Compromise and Conflict

This theme included conflict within self, such as self-criticism and emotional challenges. It described challenges blocking self-compassion, including managing demands of others such as family members and the care recipient. Caregivers described barriers to self-compassion including role conflicts, demands of others (such as other family members), and self-judgement. In this theme caregivers described compromising their own needs to meet the needs or expectations of the recipient.

Role conflict was illustrated in Mark’s experience in caring for his wife, aged 71, who had been diagnosed with Multiple Sclerosis and needed ongoing physical and practical assistance. He cherished his relationship with his wife, but this had changed due to the need for constant monitoring and care. He described a sense of loss for the relationship they once had. Mark was retired but engaged in activities he enjoyed, such as volunteering, but this was sometimes interrupted by problems at home. Despite these challenges, Mark commented his love for her remained strong:

> *“I still love my wife as much as I ever did. It’s just very very different. She’s so much now more my patient rather than my wife, but I try and ignore that.”*

Role conflict was experienced by Alex who worked and cared for their mother, aged 84, who was diagnosed with dementia. She was also unaware of Alex’s non-binary identity, which Alex described as the “*challenges of actually being me,”* and commented *“it’s almost like I’m living two separate lives.”* This meant Alex was unable to be their true self or focus on their own needs in meeting their mother’s expectations.

Another challenge to self-compassion was perceived obligation to tolerate or please others, including the care recipient and other family members. Sophie, who also worked described challenges she faced with her father’s (aged 89) behaviour and mood when she visited. Sophie’s father had vascular dementia and Parkinson’s, and she described how she often experienced a display of emotions from her father because of his difficulties. Sophie put her feelings aside and tolerated these behaviours since she knew her father needed her:

> *“A lot of the time you know his erm, you know his erm he can fly off the handle, he seems quite childish.”*

Grace illustrated her struggle to treat herself with compassion and kindness and perceived her actions in a negative light:

> *"I hate what I'm doing at times when I get angry, and that that will take a long time to go after. I feel I totally let him down when he needed me the most, I was the most horrible."*

Grace's quote illustrates conflict between care she wanted to provide and sense of failure to contain difficult emotions. This meant that rather than noticing her struggles, she focused on the impact of her actions on her husband. Grace also illustrated how her struggles prevented self-compassion:

> *"Every morning, I would get up and say, "please God, just make me nice, that's all," and every day I wasn't. And how can you feel compassionate for yourself? You can't, I can't."*

These quotes highlighted difficulties caregivers faced with self-focus and ability to meet their own needs. Sometimes these difficulties were in the form of self-judgement and conflict between meeting their own needs and those of the recipient. In the last quote from Grace for example, it was evident that she was torn between the care she wanted to provide and the care she was able to provide. Conflict of roles for Mark, Alex, and Sophie meant these participants often needed to put their own needs on hold in meeting the needs of their relative.

Resource Depletion

Self-compassion was impacted by the volume of demands encountered leaving little time for self, emotionally and physically. Caregivers sometimes felt overwhelmed and, where other people were unable to assist, caregivers often appeared frustrated.

Ability to balance individual demands was challenging for caregivers. Individual demands, such as caring for children and work, meant time was often split between roles. Lily described the necessity to plan work and family time around caring:

> *"Then something else would go, you know something would happen in the week. You you trying to fit that in with everything else, that that's when it was hard."*

Lily received assistance in caring for her mother, age 83, but not consistently. Lily's mother used a wheelchair and struggled with mobility and hearing. Lily noted that she had two brothers who did not help which left her feeling let down. She also had children and needed to include them in planning; combining their needs with trips to her mother's home put a strain on her time.

Emotional depletion was demonstrated in Sophie's experience of meeting caring needs:

> *"It doesn't matter how much time you give to someone in their sort of end-of-life period, it's never enough. You can never meet their needs because it it's it's like a great big hole."*

Time for self-compassion was a challenge for Ted, who was retired, described difficulties in planning time away for himself due to demands for care of his mother, aged 89, who needed help with mobility and his father, aged 87, who had dementia, heart, and sight problems. It was evident that if he went away, he would need to remain available for his parents in an emergency:

> *"Just thinking of going away on holiday for that week. You know I've put things in place but (pause) will I be able to detach myself from what's going on at home? No because I'll still be expecting a call."*

Being the only person able to provide certain care was a challenge for self-compassion. Anna described how her presence was essential at appointments to interpret conversation into another language:

> *"If my mum doesn't understand something, there is nobody there who can interpret it for her, and then it's going to be just a waste of everybody's time, so we rescheduled the appointment for early October."*

Greater demand was then placed on Anna’s time as she was unable to depend on others for this type of support.

In summary, demands on time and space as well as emotional strains of caring left caregivers depleted of these resources. Self-compassion was impacted by attention being directed towards demands and away from the caregivers’ own needs.

Connection with Others

Caregivers described self-compassion as facilitated through connecting with others in this theme. Caregivers who felt connected were able to recognise and understand their experiences as similar to those of other caregivers. This was evident if caregivers shared their experiences with others or if care responsibilities were shared with other family members. In contrast, caregivers sometimes demonstrated aloneness and disconnection, for example when they felt like the only person in their position or were unsure how to help the recipient.

Anna demonstrated a sense of release in connecting with others:

> *“Sometimes a shoulder to cry on erm and kind of gets all the frus…sort of the tension out of you.”*

Connectedness was demonstrated by Grace through recognition of potential struggles of other caregivers, but without seeing or hearing of these struggles she felt uncertain whether these struggles occurred:

> *“If you saw other carers getting cross and angry then you wouldn’t be so hard on yourself, but you don’t, and they’re probably all feeling* resentful and hard at times.”

Connectedness was challenged for Rachael who moved away from work and home to provide care for her mother, aged 89, who was diagnosed with dementia and needed physical help for some time due to a broken arm. Although Rachael attempted to counter this disconnection through support groups, she still felt alone in her experience:

> *"I did feel like I was the only person, and I was really the only person I knew who was had cared in the same way as I'm caring, you know, living at home and it all being on me."*

Julie recognised others experienced similar, but felt very alone:

> *"I absolutely think there are other people out there. But I'm also aware that sometimes, I feel extremely alone. Actually, a lot of the time I feel extremely alone. I feel like I've been left with the burden of this."*

This sense of acknowledging common humanity but still feeling alone was echoed in Ted's interview:

> *"Even though I know it's not a fact, I do feel that I'm the only person at times, yes."*

Connecting with others provided comfort where caregivers felt able to express their struggles and feel understood. In this way, they were able to accept compassion from others. Challenges arose when caregivers experienced difficulty in sharing their experiences or when they were unable to identify similar experiences in others. It was evident that feeling burdened with challenges of caring created a barrier to connectedness.

Coping Mindset

This theme involved recognition and understanding of challenges with acceptance and clarity. Caregivers demonstrated openness to face challenges and difficult feelings in this theme. Tendency to not dwell on difficulties prevented caregivers from becoming overwhelmed, allowing reflection. Openness also allowed caregivers to recognise their emotional and physical limits within the situation. They were then able to maintain perspective of challenges they faced.

One example of coping mindset was demonstrated by Eva. Eva worked and cared for her mother, aged 59, who needed emotional support and had experienced ongoing conditions, including fibromyalgia. Eva recognised and accepted that she did not always have control in situations and that worrying was unhelpful:

> *"There's no point dwelling, 'cause it's not it's not going to change anything, it's not going to make me feel any better, and there's no point in worrying because I can't I have literally zero control."*

Lauren demonstrated understanding and acceptance of herself as a caregiver for her grandfather. However, she also had professional experience of caring which required her to reflect on her actions and experiences. She brought these skills to the informal care setting, allowing her to recognise and accept her feelings and responses to situations:

> "*I don't judge myself or anyone for acting or feeling a certain way if they're in a time of distress, difficulty or emergency."*

A non-judgemental mindset was echoed by Anna:

> *"I'm not judging myself thinking or, you know, I should be stronger, I should be this, I should be this should be that whatever. Erm, yeah, I think I'm quite OK, with myself."*

Incorporating a self-kindness mindset was then helpful for both Lauren and Anna.

Participants reminded themselves of the extent of their challenges by taking note of difficulties faced by others. For example, William, who was looking for work, cared for his father, aged 81, who had Alzheimer's and vascular dementia but reflected on his situation with a positive perspective in noting that the challenges could have been greater:

> *"By looking at other people's situations that are a lot worse than mine erm and his own health could be a lot worse erm, so we take, we take that as a positive and that's why."*

A coping mindset allowed participants to reflect on and maintain perspective of their situation. Self-compassion was facilitated by stepping back and looking at the bigger picture.

In this way, caregivers were able to recognise the extent of their abilities and to understand the level of control they had in the situation.

Setting Boundaries

Setting boundaries facilitated self-compassion through caregivers' recognition and expression of their limits. In this theme, caregivers were able to maintain other roles and priorities outside of the care relationship. By setting boundaries, caregivers were able to maintain separate interests and needs. Boundaries between caregiving and time away allowed caregivers to preserve an individual identity. It also allowed them time for self-focus and time to focus on others who were important to them, such as other family members.

This theme was demonstrated when caregivers described times when they asserted their need for space. One example was from Mel whose mother-in-law, aged 85 and diagnosed with Alzheimer's, was dependent on her making it difficult to focus on her own needs. She described how she asserted her need for space to her husband when she became overwhelmed:

> *"At the time, all I would do is I would just say to James, I would just go that's it, you're on duty, I just need to, you know erm, take myself away from it."*

There were times when caregivers asserted their need for time alone directly to the recipient. Julie described how she spent more time at her father's home than her own because he was dependent on her care. She managed this problem by scheduling time for zoom classes to set boundaries around her time. Scheduled times provided her with a reason to be away:

> "*He's not always happy, but I can say to him I'm going upstairs for an hour, so you need to tell me now if you want anything because I'm not available for an hour."*

Eva described the natural boundary between caring for her mother and her own mothering role. She also noted that being a mother was a role which was naturally separated from caring because they both resided in different homes:

> *"So, when I come back to my my own home, I'm not the informal unpaid carer that I am there."*

Mel also recognised how her job provided natural boundaries to caregiving:

> *"I think erm (pause) I think I almost would have felt worse if I didn't have a job and something else to fill to give me another identity."*

Taken together, boundary setting was achieved through actions of the caregiver but sometimes occurred naturally due to caregiver circumstances. Maintaining some form of separation facilitated fulfilment of individual needs.

Discussion

This study investigated understanding and experiences of self-compassion in the everyday lives of informal caregivers of older adults. Another aim was to understand challenges caregivers faced engaging in self-compassion within the caregiving context. Facilitators for self-compassion as they were identified by caregivers were also explored. We were informed by the Gilbert et al. (2017) focus on action and engagement in compassion for self, others, and from others and Neff's (2003a) conceptualisation of self-compassion. Other than an eye towards these models, this research started with the knowledge that conceptualisation of self-compassion had varied within the literature and indeed the very definition of the construct was explored. It was assumed, stemming from previous research, that self-compassion may play an important role in well-being of informal caregivers. With this assumption in mind, how caregivers felt they could practice self-compassion and kindness towards themselves and what conditions made this possible were observed.

All six themes identified from the interviews aligned with self-compassion as defined in previous research and models of self-compassion (Gilbert et al., 2017; Neff, 2003a), demonstrating that self-compassion is indeed relevant in an informal caregiving context and can be broadly understood through these models.

Across interviews, participants described what self-compassion involved for them, and how they were able to achieve self-compassion (if at all). This overarching theme included activities for enjoyment, but also activities for coping and allowing space for oneself. The essence of this theme was self-connection and recognition of one's needs and how to fulfil them. Sometimes this involved actions, such as engagement in self-care behaviours, and sometimes this involved being gentle with oneself at times of difficulty. This theme aligned with the *self-kindness* component of self-compassion (Neff, 2003a), but some element of the *mindfulness* component was evident, since connection with one's needs was necessary to meet them. In the model of Gilbert et al. (2017), action and engagement in self-compassion was then facilitated through self-connection.

The perception of engagement in self-care behaviours to fulfil caregivers needs somewhat aligns with loving-kindness meditation. This practice includes a self-care approach where feelings of kindness are directed towards oneself (Reilly & Stuyvenberg, 2023). Furthermore, a meta-analysis has shown a loving-kindness approach can increase overall self-compassion (Reilly & Stuyvenberg, 2023). These findings highlight the importance of engagement in self-focused activities identified by caregivers in the current study.

Recognising barriers to self-compassion also provides valuable insight into supporting engagement in self-compassion within the caregiving context. Furthermore, Gilbert et al. (2011) noted we need more than to recognise facilitators for self-compassion, such as openness to difficulties and identifying one's needs. One should also understand the barriers and how to tackle these to access a self-compassionate mindset.

In two themes, participants described barriers to self-compassion, largely from conflicts, stresses, and compromises they made during caregiving. These barriers interfered with self-compassion by shifting participants into a caring role, often involuntarily. Furthermore, they made compromises by holding back on activities important or enjoyable to them, instead prioritising the care recipient's needs. Sometimes conflicts occurred in the form of participants' harsh judgement towards themselves when they felt they had not provided the best care. Additionally, demands on time for caring and other responsibilities (such as work or family) combined with inability to take time away from the situation meant that caregivers were often required to manage multiple demands leaving little time for themselves.

The barriers experienced by caregivers in the current sample are not dissimilar to those experienced by young caregivers, who struggled to find time for themselves and instead prioritised the care recipient (Berardini et al., 2021). Or the lack of time which was highlighted by mothers of children with Autism spectrum disorder (Bohadana et al., 2021).

'Connection' demonstrated how the *common humanity* aspect of caregivers' understanding of self-compassion facilitated but sometimes hindered a self-compassionate mindset (Gilbert et al., 2017; Neff, 2003a). Participants who were able to share their experiences with others, or recognise similar experiences in others, were able to find comfort and maintain a sense of social connection with other people and caregivers. Through connection, caregivers also may be in a position to receive compassion from others; another important facet in the flows of compassion (Gilbert et al., 2017). However, caregivers could feel alone in their experiences when connection was absent. Aloneness was amplified by reflecting on one's own actions in comparison with actions observed in others. Although there was recognition that opportunity to observe other caregivers' experiences may have facilitated sense of connection.

Although mindfulness was not directly discussed by caregivers, it may have been reflected, in a somewhat different form, in discussions of viewing the caring situation without becoming overwhelmed. This was observed as a ‘coping mindset’, in which caregivers demonstrated understanding and acceptance of their situation.

Participants recognised limits that facilitated boundaries around what they could provide. From the perspective of Gilbert et al. (2017), acceptance was evident where participants engaged with difficult emotions arising from challenges demonstrating ability to reflect, reason, and act to remain within these limits (Gilbert et al., 2017).

Broader Context within Caregiving

The current study highlighted the intense strain that caregivers experienced, both physically and emotionally. Looking to the care relationship, a prominent finding was the emotional demands of adapting to a changing relationship, which was particularly noticeable when the recipient was experiencing dementia symptoms. When faced with these demands, it was evident that caregivers often felt overwhelmed. What helped in these situations was ability of caregivers to maintain perspective of the situation and their role in it. This can be described within the context of *mindfulness*, which Neff (Neff, 2003a) defined as a precondition for other self-compassion components.

It should be noted that benefits of mindfulness could depend on mindset. Influence of mindset may be explained through research focused on self-reported burden in caregivers of people with dementia (Lloyd et al., 2019). Burden can be defined as perceived physical or psychological stresses, consequent of caregiving. In reference to psychological stress, measured burden was lower when emotion-focused strategies (such as acceptance or humour) were applied (Lloyd et al., 2019).

In the context of the current research, mindset was a strategy which caregivers utilised to reduce negative perceptions of their situation. From a negative standpoint in the study of Lloyd et al. (2019), caregiver burden and dysfunctional coping strategies (such as disengagement or denial) were most often reported by caregivers with lower self-compassion. The findings from Lloyd et al. (2019) and the current study suggest self-compassion may be facilitated through a mindset in which caregivers could notice difficulties they faced with greater tolerance and understanding of their own limitations.

Looking to research demonstrating relationship context, caregiver burden was reported to be lower where reciprocity within the care relationship was greater (Reid et al., 2005). Additionally, role engulfment has been identified as occurring in care relationships where the caregiver lost their individual identity as time for activities once important to them started to diminish (Eifert et al., 2015; Miller et al., 2008). Caregiver perception of identity preservation has also been linked with burden in caregivers. For example, perceived change in identity was linked with greater burden in dementia caregivers (Enright et al., 2020).

Focusing on the current study, caregivers managed challenges of caring and maintaining an individual identity by separating their different roles. Some achieved this by building physical distance from their caregiving relationship, for example when the caregiver lived at a different location, whereas sometimes this occurred through their assertion of need for time or space.

Although connection with others facilitated self-compassion, loneliness was also described in discussions of aloneness and isolation. Loneliness has been defined in various ways (Fakoya et al., 2020), but here it was discussed as a ‘perception’ of being alone or disconnected from others whereas ‘social isolation’ included lack of social connection with others, including friends, family, or wider social network (Fakoya et al., 2020). Perception of aloneness therefore created a barrier to self-compassion for participants who felt disconnected, whereas self-compassion was facilitated for those who experienced sense of connection.

Overall, caregivers defined self-compassion in terms of enjoyed activities and conditions which made these possible. Caregivers were also aware of strategies to lighten demands where possible. However, it was apparent that awareness of what self-compassion involved was not sufficient for its application in everyday life without a coping mindset and caregivers struggled when faced with self-judgement, conflicts, and strains such as lack of time. Whilst connecting with others allowed caregivers to share experiences or reduce feelings of isolation, there were caregivers who described sense of aloneness and disconnection from others. This study demonstrated that self-compassion in informal caregivers was reliant on the framing of experiences but understood in terms of conditions and activities. Despite the presence of barriers to self-compassion, this was achievable with clarity of the situation and through setting boundaries to separate roles.

Strengths and Limitations

By focusing on how participants understood self-compassion in their own lives, this research highlighted caregivers' needs within the context of the care relationship. Furthermore, the findings provided understanding of a mindset which facilitated self-compassion for these caregivers which could inform future interventions.

A limitation of the study was that only diagnoses for care recipients were explored. Although some participants did describe problems with their own health, this was not explored further and caregivers were not asked if they had received medical or psychological diagnoses themselves. It would have been informative to gain understanding of health challenges these caregivers may have been experiencing and how they managed these within the caregiving context.

It should also be recognised that experiences of females make up much of the sample included in this study. It would have been insightful to have accessed a more gender balanced sample.

Lastly, there were some adjustments to the inclusion criteria which meant some recipients were close to, but not quite, 65 years of age. Some care recipients had also moved into residential care. Limitations of stepping out of these criteria include some potentially differing caregiver experiences for caregivers. For example, for those caring for someone slightly younger than 65, these caregivers may be slightly younger themselves if caring for a family member, such as a parent or spouse. However, the sample did already include caregivers from a range of age groups so including slightly younger recipients was unlikely to influence the findings significantly. For those participants who previously cared for recipients who had moved into a care home, it is possible that findings may have differed due to difficulties with accurate recall, or memories may have been influenced by more recent experiences. A benefit for extending the inclusion criteria was to gain access to a larger sample size. Another benefit was that those who no longer cared for the recipient may have gained greater clarity from reflecting on the experience with an outside perspective.

Despite the knowledge gained through this research, one should acknowledge that qualitative approaches inevitably involve interpretation by the researcher. However, the findings provide valuable insight which may not be easily accessed through quantitative methods, including caregiver definitions and their understanding of self-compassion.

Future Directions and Conclusions

It would be fascinating to explore caregivers’ views on self-compassion interventions that would be useful and accessible to caregivers within their schedules. This would likely involve discussion of self-compassion and how this might be applied in caregiving.

Caregivers may consider their own barriers to self-compassion and what might help them overcome these. Methods of delivery should be discussed, for example caregivers may not be able to travel to sessions whereas others may prefer to meet away from the care setting. An approach which is adaptable to a range of scenarios would be most beneficial and perhaps more appealing to caregivers.

The study focused on self-compassion in informal caregivers of older adults, informed by models outlined in Neff (2003a) and Gilbert et al. (2017), but receptive to the lived experiences of caregiver participants. Caregivers described self-kindness to be a particularly important quality of self-compassion, but a difficult one: they found it difficult to prioritise themselves over their roles, to avoid self-judgment, and to create the space for self-care. The caregiving relationship itself contributed to these difficulties, leaving many feeling isolated and lonely, depleted and drained. Yet caregivers identified strategies that helped them, including creating physical distance where possible, having a broader, receptive perspective, and recognising others also experience similar challenges. Overall, self-compassion was intensely important, but also very difficult, in this population.

Data availability

The raw data are not publicly available to protect participant privacy.

2.4 Additional Findings from Study 1

Although not explicitly studied, lack of time and need for alone time was frequently described during interviews with caregivers in Study 1. For this reason, the next section will focus on these findings. This exploration cements the link between Study 1 and later chapters. It also demonstrates the narrative of research described in this thesis and how decisions for later studies were informed.

2.4.1 Perceptions of Solitude for Well-being in Caregivers of Older Adults

Solitude (time for self) was perceived as an important resource to recharge and gain clarity of the situation by caregivers interviewed in Study 1. Caregivers described how time away from the care recipient for self-focus to access clarity of the situation helped them to cope with difficulties. However, it was often difficult to find time and space to be alone. Planning time and space was identified as one way to overcome this obstacle.

Accessing space for self-focused time away from the care recipient allowed participants to recuperate from the everyday stresses of caregiving. Alex described feeling refreshed after taking some time away from caregiving:

> *Alex: "Being able to have a couple of days away every so often is a massive, massive boost. That really does help, and I come back, and I feel refreshed."*

It was also important to make space for time alone to ensure it was accessible. Julie described how she intended to eventually create space for herself within her father's home to ensure she was able to access time for herself:

> *Julie: "The aim would be to try and carve that space out in Dad's house eventually. But to be able to have you know, place where you close the door and it is a sanctuary. That is important."*

Time and space to focus on thoughts and feelings provided opportunity to gain clarity of the situation. Mel reflected on her time caring, which she was able to look back on after the care recipient had moved into residential care:

> *Mel: "If I had the time and the erm, the clarity to be able to figure out what I felt, why I felt the way I felt it, forgive myself for it, and also the whole giving myself time and mindfulness, time and all of those things. Had I known all of that at the time, I think maybe I would have had a different experience for those for that period of time"*

Mel’s comment demonstrates that having access to self-focus, to gain clarity, was vital for recognising her own feelings and needs. She was unable to access this time and space when she was caring for her mother-in-law, which meant she was never able to reflect or recognise that she could be gentle and forgiving towards herself.

Opportunity for self-focus could also be accessed by speaking with someone outside of the care situation. For example, Julie described the value of describing her thoughts and feelings to someone and receiving feedback in return:

> *Julie: “Having spaces where you can say I feel awful, I think I'm failing, I think I'm doing a bad job. And having someone else who can say you know what, you're not. A lot of carers feel like that and actually look at all the...let's list all the things that you've achieved.”*

The quotes described here demonstrate that, whilst self-compassion is important for caregivers of older adults, time and space is also important. These findings provide insight into how caregivers could consciously plan time and space for self-focus and self-compassion to fit into their restricted schedules. The quotes also demonstrate that it is vitally important to plan time and space in order to make this self-focused time away or alone possible.

Reflecting on caregivers’ understanding and experiences of self-compassion brought out in the six themes for Study 1, solitude provided a route of access for self-compassion experiences where they could engage in self-nurturing activities. It also provided space to gain clarity of the situation and allowed caregivers to notice how their own needs could be met.

2.5 Summary of Chapter 2

The reviewed literature showed that self-compassion was a useful tool for increasing resilience and for managing stress (Aggar et al., 2011; Ewert et al., 2021; Lloyd et al., 2019). However, little research had focused on self-compassion interventions for informal caregivers of older adults, despite the potential benefits these could have had (Murfield, Moyle, Jones, et al., 2020).

With the aim to understand self-compassion in the everyday lives of informal caregivers of older adults, perception and experience of self-compassion was explored in this population. This research was guided by two prominent definitions of self-compassion – the definitions of Neff (Neff, 2003a) and Gilbert et al. (Gilbert et al., 2017).

This qualitative research showed that self-compassion was not something caregivers had considered in their circumstances, where their focus was very much on the care recipient. Caregivers in the sample described self-compassion in a way which incorporated self-care behaviours, but also self-kindness and being gentle with themselves when faced with challenges. These caregivers also identified barriers and facilitators for self-compassion.

An additional finding from the research data was the importance of time and space for oneself. Time alone or for oneself provided important opportunities for recuperation, self-focus, and clarity. However, the schedules and daily lives of caregivers left little time or space for these opportunities. Forward planning both time and space for oneself, or to focus on oneself, was identified as a potential way to access these opportunities.

The knowledge gained from this research is highly informative and will assist in development of future interventions which benefit informal caregivers of older adults.

Chapter 3

The following chapter includes research accepted for publication with JMIR Formative Research (https://formative.jmir.org). A preprint version is available through this link: http://doi.org/10.2196/preprints.52883.

3.1 Caring for Older Adults

In the previous chapter, the focus was on caregivers' understanding and experiences of self-compassion in their everyday lives. From this research, it was found that self-compassion was very important for caregivers, although this was also very challenging within the caregiving context.

In the current chapter, knowledge gained from the research in Chapter 2 is extended, with a focus on methods for enhancing self-compassion experiences. The self-compassion mindset and potential methods for fostering this are explored.

Essentially, this chapter will focus on caregiver well-being and how this may be bolstered with self-compassion.

3.2 Introduction to Studies 2, 3, and 4: The Importance of a Self-compassion Intervention for Caregivers

Extending on my previous study of caregiver experiences (Wiita et al., 2024), a different study focused on dementia caregivers (Murfield et al., 2022) found the concept of self-compassion to be largely unknown from interviews with both informal caregivers and professionals with expertise in ageing and dementia. Findings gleaned from this research suggested future targets for interventions should be to tackle fears and resistance to self-compassion, self-criticism, shame, and guilt (Murfield et al., 2022). Focusing on the negative self-judgement component of self-compassion (Neff, 2003a), the findings of Murfield et al.

(2022) highlight the need to focus on the self-compassion mindset of caregivers during times of difficulty.

3.2.2 Supporting Caregivers by Teaching Self-Compassion

Difficulties for both ageing older adults and their caregivers requires intervention to reduce burden and enhance well-being (Murfield, Moyle, Jones, et al., 2020). By supporting caregiver well-being, one may increase their readiness to care for recipients (Maggio et al., 2024). For example, in a qualitative study in which informal dementia caregivers were interviewed, caregivers reported a perceived link between their own quality of life and care they were able to provide for their loved ones (Hazzan et al., 2022). Additionally, a systematic review found self-regulation of health-behaviours improved following engagement in interventions to target self-compassion (Biber & Ellis, 2019). These findings suggest an intervention which includes self-compassion may protect the mental and physical health of caregivers, making them better able to support their loved one.

Self-compassion is a powerful skill which can be learnt (Neff, 2023), and writing is one way to practice this skill (for example, see Leary et al., 2007; Neff et al., 2021; Shapira & Mongrain, 2010). The studies discussed in this chapter were designed to test a self-compassionate writing intervention in family caregivers of older adults who I recruited through an online panel.

3.2.3 Investigating the Self-Compassion Components in Caregivers

In the following three studies, engagement in the self-compassion components (Neff, 2003a) was investigated, both separately and in different combinations, to understand their benefits in a caregiver population specifically. This builds on the qualitative research for Study 1, allowing greater understanding of the operation of components following periods of self-compassionate writing focused on difficult caregiving events.

3.3 Studies 2 to 4: Web-Based Intervention Using Self-Compassionate Writing to Induce Positive Mood in Informal Caregivers of Older Adults: Quantitative Study

Abstract

Background

Caregiver burden can impact on the mental health of informal caregivers, but self-compassion may help reduce this impact. Brief self-compassion interventions have been shown to be useful but have not been tested in this population.

Objectives

This research was designed to test the effects of a brief self-compassion intervention and its components (self-kindness, common humanity, and mindfulness) on state mental health when reflecting on difficult informal caregiving experiences.

Methods

British caregivers were recruited through an online panel. Three experimental studies manipulated the self-compassion intervention. In Study 2 (N = 206) and Study 3 (N = 224) participants wrote about a difficult caregiving experience focusing on one self-compassion component (self-kindness, common humanity, or mindfulness). In Study 4 (N = 222) participants focused on all components. State self-compassion, serenity, guilt, and sadness were measured.

Results

In Studies 2 and 3, condition effects showed mindfulness unexpectedly lowered mood. Inconsistent and modest benefits to affect were achieved by engagement in self-kindness and common humanity in Study 2 (lowered guilt P = .02 and sadness P = .04; non-significantly higher serenity P = .20) and also in Study 3 (non-significant but lowered sadness P = .23 and guilt P = .26; higher serenity P = .33); significant benefits for self-compassion and mood were found in Study 4 (higher serenity *P* = .01, kindness *P* = .003, common humanity *P* = < .001; *lower* guilt *P* = .001, and sadness: *P* = < .001). More intensive efforts should be made to promote self-compassion in caregivers of older adults, with care placed when relying on mindfulness approaches.

Conclusions

Self-compassionate writing may be beneficial for informal caregivers, but more intensive interventions are needed. Further research is needed to determine the optimal dosage and content for achieving the greatest effects.

Introduction

Individuals may experience optimum health in older age, but for those experiencing age related health challenges, the need to receive practical and at times extensive support from others can increase (Jaul & Barron, 2017); the responsibility often falls on family members (Wolff et al., 2016). The current research explores an intervention to support positive mood for those family members who experience challenges, including psychological distress, which may result from stresses of caregiving (Gallego-Alberto et al., 2022; Muñoz-Cruz et al., 2023).

Caregiver 'role strain' has been defined within a stress process model as engagement in multiple demands which can lead to the individual to become overloaded with commitments (Goode, 1960; Pearlin et al., 1981; Pearlin et al., 1990). This is because provision of informal care places demands on others who may be in paid employment in addition to this role (Schulz et al., 2020). Furthermore, informal caregivers of older adults are often older adults caring for a parent, partner, or spouse (Schulz et al., 2020) who are also at risk of age-related difficulties and could face their own physical and psychological challenges (Aggar et al., 2011; Lloyd et al., 2019). Informal caregiving also carries the risk of financial burden where work hours may be reduced to meet caring demands (Schulz et al., 2020). Caregivers may refuse opportunities and work performance may be impacted by demands of managing multiple roles.

Recognising the needs of people who care informally for older adults, interventions are needed to improve their wellbeing (Murfield, Moyle, Jones, et al., 2020). Studies have shown that self-compassion interventions can improve wellbeing of individuals in terms of outcomes such as depression and rumination (Ferrari, 2019; Murfield, Moyle, Jones, et al., 2020; Murfield, Moyle, & O'Donovan, 2020). However, to date little research has focused on the needs of caregivers of older adults (Murfield, Moyle, Jones, et al., 2020; Murfield, Moyle, & O'Donovan, 2020). The focus of the current research was to evaluate brief self-compassion writing interventions in carers of older adults over the age of 65, integrating these two lines of research.

Self-Compassion

Self-compassion has been defined in multiple ways in the empirical literature. Early empirical work was rooted in Buddhism, where compassion was broadly defined as sensitivity to suffering in self and others (Gilbert et al., 2017; Neff, 2003a). In Western psychology, definition of the concept has been investigated, notably with compassion for self, for others, and from others being studied by Gilbert et al. (2017) and self-compassion being studied as a separate entity in the work of Neff (Gilbert et al., 2017; Neff, 2003a). This paper will focus on self-compassion as defined by Neff (2003a); this definition understands self-compassion to be comprised of three components: self-kindness; common humanity; and mindfulness (Neff, 2003a; Neff, 2003b). Although other approaches to self-compassion have been used to measure self-compassion (for example, see Gilbert et al., 2017), the Self-Compassion Scale

(SCS) has been commonly used in research (Ferrari, 2019; Neff, 2003a) and found to be particularly informative for work with caregivers in an earlier study (Wiita et al., 2024).

The first component of self-compassion, self-kindness, involves responding to oneself with gentleness and understanding - allowing ourself to confront difficulties, inadequacies, and failings with acceptance and kindness (Neff, 2003a). The second, common humanity component involves reflecting on difficulties as part of a shared experience, recognising that all humans suffer, are vulnerable and have imperfections and that these difficulties are also endured by others (Neff, 2003a).

Focusing on mindfulness, this is an essential component of self-compassion that facilitates self-kindness and common humanity (Dreisoerner et al., 2021; Neff, 2003a; Neff, 2003b; Neff & Germer, 2013), which involves open awareness and acceptance of difficult thoughts and feelings (Neff, 2003a). With this awareness, individuals identify the source of their suffering and approaches their feelings in a gentle and soothing way (termed, self-kindness). Additionally, they better recognise and link their experience to those of others and identify experiences as part of the shared human experience (termed, common humanity).

Self-Compassion Interventions for Caregivers

Qualitative interviews with caregivers and professionals with expertise in the field of ageing and dementia highlighted a tendency for caregivers to focus outwards onto the needs of the recipient (Murfield et al., 2022). This work also showed that a lack of self-compassion can lead to caregivers feeling overwhelmed, guilty, and ashamed. Furthermore, a cross-sectional study focused on informal caregivers of older adults demonstrated self-compassion and dispositional mindfulness to act as buffers for psychological distress (Murfield, Moyle, O’Donovan, et al., 2020); in recent qualitative work, participants expressed that caregivers’ compassion to others should be extended to themselves (Shapira & Mongrain, 2010).

Outside the context of caregiving, previous intervention research focused on self-compassion has found promising improvements on outcomes including rumination and depression for those who receive self-compassion interventions (Ferrari, 2019). However, there has been little research into application of these or other interventions targeting self-compassion for informal caregivers of older adults (Murfield, Moyle, Jones, et al., 2020; Murfield, Moyle, & O'Donovan, 2020) despite the need of this population for such an intervention. An integrative review of the literature identified only four studies focused on interventions for self-compassion in informal caregivers of older adults, none of which were statistically evaluated (Murfield, Moyle, Jones, et al., 2020). Of the four studies identified, one was a descriptive cross-sectional survey, one was qualitative, and the remaining two were randomised control trials measuring self-compassion as an outcome, with no preceding education or intervention for self-compassion specifically. Despite lack of focus in this area, the authors noted that self-compassion could reduce burden since it may promote emotion regulation to aid management of stress (Murfield, Moyle, & O'Donovan, 2020).

Writing Interventions for Self-Compassion

Outside the context of caregiving, writing interventions have been useful for investigating induction of mind state, including self-compassion. These interventions have been carried out over extended periods with the use of diary keeping, and over shorter periods in the form of focused writing tasks, for example. From these interventions, improvements have been noted when targeting areas including; 1. General self-compassion wherein participants write to themselves in a caring, supportive tone (Shapira & Mongrain, 2010); 2. Writing with self-compassion drawing on the Neff (Neff, 2003a) components whilst focusing on a past emotionally challenging experience with common humanity, self-kindness, and mindfulness (Leary et al., 2007); 3. Self-compassion focused on writing with only one component (i.e., mindfulness, self-kindness or common humanity) to investigate spillover effects across measured outcomes measured by each subscale (Dreisoerner et al., 2021; Neff, 2003a). The aforementioned studies produced some improvements in self-compassion, suggesting a writing intervention may provide an effective and flexible approach to investigating self-compassion components and how they may relate in a caregiver population.

The Present Research

Three studies explored the components of self-compassion as described by Neff (2003a). Continuing the work of Dreisoerner et al. (2021), who explored spillover between the self-compassion components in an eight-week writing intervention, and Neff et al. (2021) who adapted and tested a state version of the self-compassion scales, the present research focused on self-compassion as a state in caregivers.

Study 2 drew on recommendations to include mindfulness at the start of self-compassion interventions (Dreisoerner et al., 2021; Neff, 2003a; Neff & Germer, 2013). Self-compassion components were tested separately (self-kindness, common humanity, mindfulness), with a mindfulness induction at the start of the procedure, to investigate differing effects on mood. These recommendations were followed with the aim to understand if maximum benefits could be achieved with inclusion of mindfulness. In Study 3 self-compassion components were investigated separately, without a mindfulness induction, to understand their individual effects of these on mood. Finally, Study 4 helped refine conclusions from Studies 2 and 3, whilst testing an adapted induction method proposed by Neff et al. (2021). Here, self-compassionate writing including all components, or including only self-kindness and common humanity was tested and compared with controls. Together, the three studies tested the benefits of self-compassionate writing when including one, two, or all self-compassion components.

All studies involved independently recruited samples of informal caregivers of older adults, with the first two studies including postintervention measures for mood and self-compassion, as for the research of Breines and Chen (2013) (Breines & Chen, 2013) and Miyagawa et al. (Miyagawa et al., 2020). Study 4 included pre and post measures to align with the protocol of Neff et al. (Neff et al., 2021).

The overall aims were to test the self-compassion components in a novel online intervention for caregivers of older adults. This research was then exploratory, although we did predict that engagement in each self-compassion component would benefit mood.

Another aim was to develop a widely accessible intervention with online delivery. Recent findings have demonstrated promising emotional well-being outcomes for a digitally delivered mindfulness self-compassion intervention with dementia caregivers (Goodridge et al., 2021). Furthermore, digitally accessible interventions have the potential to disseminate self-compassion tools more widely compared with face-to-face delivery (Linardon, 2020). A study showed that technology provided vital support to mental well-being for older adults who were otherwise socially isolated (Daly et al., 2021); social isolation is also a common experience for informal caregivers (Li & Wister, 2023). The current research contributes towards development of a highly accessible, much needed intervention for caregivers of older adults. In addition, research has found long-term benefits for short online interventions (Schmidt et al., 2023) which warrants testing the current intervention for caregivers.

The Current Study

To induce self-compassion, participants were exposed to a brief writing exercise and subsequently responded to state measures for mood and self-compassion.

Since mindfulness has been identified as a pre-condition of self-compassion (Dreisoerner et al., 2021; Neff, 2003a; Neff & Germer, 2013) mindfulness was initially included in inductions for self-compassion, and compared self-kindness and common humanity exercises with mindfulness writing alone and a neutral control group who wrote about the facts of their caregiving experience.

On the basis of the review of the literature, the following six hypotheses for effects of brief writing interventions for caregiver samples were proposed:

The first set of hypotheses concerned the efficacy of brief writing on state self-compassion:

Hypothesis 1. Writing with mindfulness would increase self-compassion.

Hypothesis 2. Writing with self-kindness would increase self-compassion.

Hypothesis 3. Writing with common humanity would increase self-compassion.

A second set of hypotheses concerned the impact of brief self-compassionate writing on mood:

Hypothesis 4. Writing with mindfulness would improve mood.

Hypothesis 5. Writing with self-kindness would improve mood.

Hypothesis 6. Writing with common humanity would improve mood.

Study 2

Method

Ethical Approval

The following studies were reviewed by the University Research Ethics Committee and were granted favourable ethical approval (2021-193-AH). All included participants provided informed consent and were debriefed after the study. Participants' data remained anonymous from the point of data collection and beyond, since recruitment was carried out through Prolific (Prolific., 2022) which uses a number identification system without names. Participants received payment for their time at the standard hourly Prolific rate, which was set at £7.50 at the time of the study.

Participants

Sample size was calculated using G*Power (Faul et al., 2009). Since the research was relatively novel, there was not a reliable source available to estimate effect size. Instead, power was designed to detect a moderate effect size of $f = .25$. For power of .90 at $\alpha = .05$ or less, a sample size of $N = 232$ was needed to detect differences between the four conditions. Sensitivity analyses indicated the final number recruited following exclusions ($N = 206$) reduced power to .86.

In total, 243 participants completed the study. Exclusions were applied where participants spent less than eight minutes or had not completed a writing condition task; a previous online writing intervention lasting around eight-minutes was found to elicit improved outcomes (Kizilcec & Cohen, 2017). Second, responses from participants who repeated the activity were removed, leaving *N* = 230 participants. Finally, responses where completion time lasted more than thirty minutes were excluded leaving *N* = 206 participants. Longer completion times were assumed to indicate that participants had likely left their computers mid-task making it difficult to measure state as intended. Remaining responses were included in the analyses.

For demographics, mean participant age was 42.80 years (*SD* = 13.52, range 19 – 73). Of the included sample (*N* = 206), gender was reported as 47.6% male, 50.5% female, and 1.9% were non-binary. Ethnicity was reported as 90.8% white, 1.5% African or Caribbean, 1.9% mixed, and 1.9% other. The current sample included 24 participants (12%) who cared for someone under 65 years (recipient age: *M* = 45.88, *SD* = 15.23, range 8 - 63). There were 181 participants (88% of *N* = 206) caring for recipients aged 65 and over (recipient age: *M* = 80.03, *SD* = 7.92, range 65 - 98). The mean number of years of caring was 5.30 (*SD* = 5.16, range 1 - 37). The percentage of participants caring for a parent was 59.7%, and 1% for a sibling, a spouse or partner 4.4%, friend 6.3%, and other 28.2%. The nature of care provided was mostly reported to involve supporting multiple needs (47.1%), both physical and psychological. Diagnoses of multiple conditions (physical and psychological) was reported most often (31.1%). In terms of living arrangements, 31.6% reported living with the recipient and 50.5% received some professional caregiving support. Most participants also engaged in paid work outside of caring (74.8%).

Although the aim of the study was to focus on caregivers of older adults aged 65 years and over, some were caring for other age groups. These participants were included because self-compassion in caregivers was likely to benefit informal caregivers across recipient groups who also faced high demands (Han et al., 2021).

Procedure

Participants were recruited through Prolific (Prolific., 2022) during February and March 2022. An information sheet, instructions, consent form, survey, and writing exercises were available to participants through Qualtrics (Qualtrics, 2022). The initial survey asked for participants' consent, demographic information, and details relevant to their caregiving situation. Participants received payment for their time through Prolific (Prolific., 2022).

Participants were randomly assigned to one of four conditions through Qualtrics (Qualtrics, 2022) (Control n = 56; Mindfulness n = 54; Mindfulness & Self-Kindness n = 51; Mindfulness & Common Humanity n = 45), delivered through writing exercises lasting a total of eight minutes. This time period was set according to a previous experimental study which included sessions of seven to ten minutes of self-compassionate writing (Dreisoerner et al., 2021). Writing exercises drew upon methods of previous research (Dreisoerner et al., 2021; Germer & Neff, 2019; Leary et al., 2007; Neff, 2003a; Neff & Germer, 2018; Neff, 2003b; Pennebaker et al., 1990; Shapira & Mongrain, 2010). Two active writing conditions, one control, and one control with mindfulness were adapted from writing exercises constructed by Dreisoerner et al. (2021), who drew on the work of Neff and Germer (Neff & Germer, 2018).

Instructions used by Dreisoerner et al. (2021) were adapted for writing focused on individual self-compassion components plus mindfulness, with instructions to recall a distressing care related experience. All writing activities started with four questions targeted at recollection of a difficult caregiving event which occurred over the previous week. This approach was designed to elicit emotion and ground the discussion in a meaningful, self-relevant experience (Leary et al., 2007; Pennebaker et al., 1990). All participants completed this part. They were given two minutes per question within the Control condition, and thirty seconds per question within the remaining three conditions.

The Control condition involved focusing on the difficult caregiving event itself. Participants were asked questions to elicit descriptive responses, for example: ‘What was happening in the situation?’, What made the situation distressing?’. In the Mindfulness condition, participants first wrote about the difficult caregiving event then spent three minutes engaging in mindful writing. Instructions in the Mindfulness condition directed participants to write about the recalled difficult event, describing emotions they experienced without engaging in them. Example of prompts to elicit responses for Mindfulness included: ‘Spend time writing about how you felt in this situation’, ‘Do this whilst accepting these feelings without downplaying or dramatising the experience’. This approach encouraged participants to identify difficult feelings with understanding and acceptance rather than repression, allowing greater clarity of their experience (Neff, 2003a). This exercise was then designed to encourage participants to become aware of the situation from an unattached viewpoint, noticing all aspects of the situation without judgment or feeling overwhelmed (Neff, 2003a).

Including a Control condition and Mindfulness only condition allowed effects of descriptive writing or writing with mindfulness only to be observed. This approach was appropriate for this exploratory study to understand all potential influences. These conditions also acted as comparisons to observe differences in effects across all four conditions.

Mindfulness exercises were also used together with the two self-compassion writing exercises (Self-Kindness and Common Humanity). In these two conditions, participants wrote about an event (as in the Control condition), described mindfulness (as in the Mindfulness condition), then engaged in the self-compassion exercises appropriate for their condition assignment. These self-compassion conditions included three one-minute focused writing exercises. For the Self-Kindness condition, participants were asked to write understanding and supportive comments to themselves, including positive and empowering words for their efforts. Questions to elicit responses for Self-Kindness included: ‘Focusing on the difficult situation you have identified; celebrate the efforts you have made in supporting the person you care for. Engage in soothing and supportive words’. ‘Think of the way you managed this situation, expressing kindness towards yourself’. Finally, the Common Humanity condition involved focusing on how other caregivers would have experienced the same difficulties. Examples of prompts to elicit responses for Common Humanity included: ‘Consider how other carers would have responded in a similar way in this situation’. Remind yourself that other caregivers would have found the situation stressful’.

In accordance with the Cherries Checklist (Eysenbach, 2004), the number of screens presented to participants in online surveys should be reported to understand participant experiences. All participants were initially presented with four screens including information, consent, and demographic questions. For Controls, six screens included information and spaces to complete the main task; For Mindfulness, information and task completion space spanned nine screens; Self-Kindness information and tasks spanned eleven screens; Common Humanity spanned eleven screens. All participants completed mood and self-compassion measures on one screen following their tasks. All participants were given the opportunity to provide feedback after completing their tasks.

Surveys were piloted on a small subsample through Prolific (Prolific., 2022) before opening the survey to the total sample.

Measures

PANAS Serenity, Guilt, and Sadness (Watson & Clark, 1994). The full PANAS scales for mood include 20 items in total (Watson & Clark, 1994). Subscales for serenity, guilt, and sadness were selected based on their relevance to a caregiver population. The PANAS scales (Watson & Clark, 1994) were also used in the research of Neff et al. (Neff et al., 2021) as indicators of mood in relation to measured self-compassion.

Affect was measured with these three subscales as follows: serenity comprised three items on which participants rated their sense of feeling calm or peaceful for serenity; guilt included five items on which participants rated feelings of guilt or dissatisfaction with self; sadness included five items related to unhappy feelings. A sixth item 'dissatisfied with self' from the guilt subscale was omitted in error. Items were rated on a scale of 1 (very slightly or not at all) to 5 (extremely). High reliability was noted across all subscales α = > .65. Cronbach's Alphas for scale totals were: serenity α = .94, guilt α = .92, sadness α = .91.

State Self-compassion Scale Short-Form (SSCS-S) (Neff et al., 2021). The six-item SSCS-S was used to measure global state self-compassion. Participants rated the relevance of positive and negative statements related to self-compassion. An example of a positive statement was 'I'm giving myself the caring and tenderness I need;' a negative statement example was 'I'm obsessing and fixating on everything that's wrong.' Participants rated items on a scale of 1 (not at all true for me) to 5 (very true for me). Cronbach's Alpha for the total SSCS-S was α = .79.

Data analysis. Data were analysed using SPSS version 28 (IBM Corp, Released 2021). Pearson correlation tests were used to explore associations between scale items.

Analyses of variance (ANOVA) tests were carried out to test condition effects on outcome measures.

All statistical analyses performed for this research were designed to explore differences in effects across self-compassion components. This method was applied to understand which effects across conditions had significant benefits (Armstrong, 2014). Due to the exploratory nature of the study, post-hoc Bonferroni correction tests were not used since including them could cause some effects to be missed (Armstrong, 2014).

Results

Correlations. Table 3 includes Pearson correlations, means, and standard deviations for composite scores on the discussed scales. All correlations were significant (p < .001). The SSCS-S was positively correlated with serenity (r(204) =. 46). Negative correlations were found for the SSCS-S with guilt (r(204) = -.37) and with sadness (r(204) = -.49).

Table 3

Study 2: Correlations for Scale Composites (*N* = 206)

	M (SD)	1	2	3
1. Serenity	2.73 (1.05)	-	-	-
2. Guilt	2.01 (0.96)	-.41**	-	-
3. Sadness	2.45 (1.07)	-.56 **	.54 **	-
4. SSCS-S	3.10 (0.81)	.46 **	-.37 **	-.49 **

Notes: SSCS-S – Self-Compassion Scale – Short Form.

** Statistically significant *p* < .001.

Analyses for condition effects. Tests of normality for scales for each condition showed that whilst some scores crossed + / - 1 for skewness or kurtosis, scores did not cross this threshold for 20 out of 24 of the variables measured. Furthermore, of those which violated normality, the greatest was 1.58 for skewness and 1.78 for kurtosis. The threshold of + / - 1 was recommended to determine normality distribution (Muthén & Kaplan, 1985) and applied by Neff et al. (2021). However, ANOVA tests are robust even with non-normal distributions (Blanca Mena et al., 2017). Since non-normality was slight and for a small proportion of data, parametric ANOVA tests were used for all comparisons of effect.

Multimedia Table 4 includes results for one-way ANOVAs for condition effects for all scales. Significant effects were found between scores for guilt ($F(3,202) = 3.40$ $p = .019$) and sadness ($F(3,202) = 2.78$, $p = .042$). A Tukey HSD test was used to compare means for guilt. Results showed a significant difference in condition effects for Self-Kindness ($M = 1.76$, $SD = 0.88$) and Mindfulness ($M = 2.33$, $SD = 1.02$) ($p = .010$). Due to unequal variance between groups for sadness scores (Levene's: $F(3, 202) = 3.01$, $p = .031$), a Games-Howell post hoc test was carried out. This also showed significant condition differences between Self-Kindness ($M = 2.10$, $SD = 0.95$) and Mindfulness ($M = 2.68$, $SD = 1.22$) ($p = .039$).

Table 4

Study 2: One-Way ANOVA scores with means and standard deviations for all conditions: (*N* = 206)

Scale	*F*	*dfs*	*p*	Partial eta^2	Control *M* *(SD)*	Mind *M* *(SD)*	Kind *M* *(SD)*	CH *M* *(SD)*
Serenity	1.55	3,202	.204	.022	2.73(1.10)	2.51(0.93)	2.95(1.07)	2.78(1.17)
Guilt	3.40	3,202	.019*	.048	1.97(0.96)	2.33(1.02)	1.75(0.88)	1.97(0.91)
Sadness	2.78	3,202	.042*	.040	2.49(0.98)	2.68(1.22)	2.10(0.95)	2.51(1.06)
SSCS-S	1.13	3,198	.330	.017	3.12(0.73)	2.95(0.81)	3.24(0.87)	3.10(0.83)

Notes: CH – Common Humanity; Kind – Kindness; Mind – Mindfulness; *dfs* - degrees of freedom; SSCS-S – Self-Compassion Scale - Short Form.

* Statistically significant $p < .05$.

Study 3

Self-compassionate writing did not increase state-self compassion as anticipated for Hypotheses 1, 2, and 3. Also unexpectedly and counter to Hypothesis 4, the Mindfulness condition *increased* negative mood on the guilt and sadness subscales as compared to the Self-kindness condition. As compared to the Mindfulness condition, participants who had written with self-kindness reported lower negative mood in terms of both sadness and guilt. However, it should be noted that, although participants were asked to time their responses, these timings were not controlled. It is possible then that variations in time spent on each task may have influenced outcomes.

There were three important goals for Study 3. Because in Study 2 mindfulness appeared to *lower* mood, the first goal was to investigate effects of self-compassion alone by removing mindfulness from the Self-Kindness and Common Humanity conditions to understand their effects on mood. Understanding was also sought to determine whether more robust writing intervention effects would be apparent for self-compassion when it is delivered without the mindfulness component used in the first study. The second goal was to equalise the total time spent on the writing activity across conditions. It was anticipated that without the mindfulness portion of the intervention, participants would have more time for the self-kindness and common humanity exercises. The third goal for Study 3 was to replace the SSC-S with the State Self-Compassion Scale Long Form (SSCS-L) (Neff et al., 2021), to examine whether this comprehensive measure would be more sensitive to condition effects. Indeed, from validation studies of the long version of the Self-Compassion Scales (both state and trait) these measures were suggested to be useful for looking at effects within the individual self-compassion components (Neff et al., 2021; Neff et al., 2019). As an additional measure, writing exercises were to be timed to ensure all participants were exposed to activities for times which were comparable.

Hypotheses remained the same as for Study 2, with additional hypotheses accounting for the separate self-compassion components measured using the SSCS-L (Neff et al., 2021). The additional hypotheses were:

> Hypothesis 7. Writing with mindfulness would be associated with greater mindfulness, self-kindness, and common humanity outcomes. Scores for the negative self-compassion poles of self-judgement, isolations, and over-identification would be lower for this writing condition.
>
> Hypothesis 8. Writing with self-kindness would be associated with greater mindfulness, self-kindness, and common humanity outcomes. Scores for the negative self-compassion poles of self-judgement, isolations, and over-identification would be lower for this writing condition.
>
> Hypothesis 9. Writing with common humanity would be associated with greater mindfulness, self-kindness, and common humanity outcomes. Scores for the negative self-compassion poles of self-judgement, isolations, and over-identification would be lower for this writing condition.

Method

Ethical Approval

Amendments for the Study 2 protocol were requested for Study 3. These amendments were approved by the University Research Ethics Committee. Consent, anonymity, and payment for participants followed the same procedure as for Study 2.

Participants

Since the number of conditions remained the same, power was based on the calculation for Study 2. A total of 238 informal caregiver participants were recruited through Prolific (Prolific., 2022) during July 2022. One exclusion was applied where the participant was a professional caregiver so did not meet the criteria. Further exclusions were applied for incomplete responses (*n* = 9) and responses taking over thirty minutes (*n* = 4) reducing the number to 224 and power to .89.

Mean age for included participants was 43.21 years (*SD* = 13.36, range 18 – 70). Of the included sample (*N* = 224), reported gender was 46.9% male, 52.7% female, and < 1% other gender. For ethnicity, 81.3% reported as white, 9.4% Asian, 2.7% African or Caribbean, 3.6% mixed, and 3.1% other. The mean age of care recipients for this sample was 78.27 years (*SD* = 8.26, range 65 - 90). Mean reported years of caring was 5.34 (*N* = 224, *SD* = 4.46, range 1 - 30). For the reported relationship to the care recipient, 60.3% were caring for a parent, and < 1% for a sibling, a spouse or partner 3.6%, friend 7.6%, and other 27.7%. For the nature of care provided, participants mostly reported supporting daily living tasks (92%) such as assistance with shopping, cooking, and cleaning. Conditions causing restricted mobility were the most frequently diagnosed in this sample (63.4%). For living arrangements, 27.2% reported living with the recipient and 55.8% received additional support. Most participants were engaged in work outside of caregiving (73.2%).

Procedure

The same protocol was followed as for Study 2, but was amended, with an expected completion time of ten minutes. This time, participants were informed that they would have a set time to complete the exercise. For simplicity, demographic questions for recipient diagnoses, nature of care, and occupation were presented in multiple choice, with options based on responses from Study 2.

The four induction exercises were set at thirty seconds per question and one and a half minutes per question for the three self-compassion exercises. Mindfulness was removed from the start of Self-Kindness (*n* = 55) and Common Humanity (*n* = 54) conditions for Study 3. For the Control condition (*n* = 58), participants spent one and a half minutes on each of the four questions. Lastly, for Mindfulness (*n* = 57), participants spent thirty seconds per question for four induction exercises followed by two minutes of mindfulness then focusing for a further two minutes on the induction exercise again.

All participants were initially presented with eight screens including information, consent, and demographic questions. For Controls, six screens included information and spaces to complete the main task; For Mindfulness, information and task completion space spanned nine screens; Self-Kindness information and tasks spanned ten screens; Common Humanity spanned ten screens. All participants completed mood and self-compassion measures over three screens following their tasks. All participants were given the opportunity to provide feedback after completing their tasks.

Surveys were piloted on a small subsample through Prolific (Prolific., 2022) before opening the survey to the total sample.

Measures

Following each condition, participants completed questions for four scales and subscales (as for Study 2). Presentation of scale items was randomised within Qualtrics (Qualtrics, 2022) to control for order effects. A manipulation check to test whether participant responses conformed to the presented tasks was included. However, no meaningful responses were found with this check, so details are not discussed here. Findings for the scales are discussed here.

PANAS Serenity, Guilt, and Sadness (Watson & Clark, 1994). Subscales for serenity, guilt, and sadness were identical to Study 2. The sixth item 'dissatisfied with self' from the guilt subscale was omitted in error. High reliability was noted across all subscales with Cronbach's Alpha's of α = > .65. Cronbach's Alpha's for scale totals were: serenity $\alpha = .94$, guilt $\alpha = .93$, sadness $\alpha = .92$.

State Self-Compassion Scale Long Form (SSCS-L) (Neff et al., 2021). The eighteen-item SSCS-L was used to measure the six components of state self-compassion. Subscales included self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. Self-judgment, isolation, and over-identification were reversed scored according to author's instructions (Neff et al., 2021). The combined subscales were then used to find overall SSCS scores. Participants rated statements in the same way as for the SSCS-S, with high reliability for individual subscales (self-kindness: $\alpha = .78$; self-judgement: $\alpha = .78$; common humanity: $\alpha = .85$; isolation: $\alpha = .77$; mindfulness: $\alpha = .78$; over-identification: $\alpha = .81$). The Cronbach's Alpha for the overall SSCS-L score was $\alpha = .83$.

Data Analysis. Data were analysed using SPSS version 28 (IBM Corp, Released 2021).

Results

Correlations. Table 5 shows Pearson correlations, means, and standard deviations for composite scores on the discussed scales. All were significant except common humanity with serenity, guilt, sadness, judgement, and over-identification. There were no significant effects for serenity except with sadness (*r*(222) = -.15, *p* = .030) and mindfulness (*r*(222) = .17, *p* = .013).

Table 5

Study 3: Correlations for scale composites (*N* = 224)

Scale	M (SD)	1	2	3	4	5	6	7	8	9
1. Serenity	2.39 (6.89)	-	-	-	-	-	-	-	-	-
2. Guilt	2.06 (1.03)	-.13	-	-	-	-	-	-	-	-
3. Sadness	2.38 (1.08)	-.15*	.65*	-	-	-	-	-	-	-
4. Kindness	2.88 (0.98)	.09	-.46**	-.43**	-	-	-	-	-	-
5. Judgement	3.21 (0.99)	.05	-.59**	-.55**	.49**	-	-	-	-	-
6. CH	3.25 (0.91)	-.01	-.13	-.12	.42**	.09	-	-	-	-
7. Isolation	3.36 (1.11)	.01	-.52**	-.70**	.53**	.66	.25	-	-	-
8. Mindful	3.17 (0.83)	.17*	-.41**	-.42**	.70**	.47**	.51**	.45**	-	-
9. Over-Id	3.38 (0.89)	.10	-.51**	-.46**	.37	.67	.01	.61**	.36**	-
10. SSCS-L	3.21 (0.70)	.88	-.60**	-.62**	.80**	.78**	.51**	.82**	.78**	.69**

Notes: CH – Common Humanity; Judgement – Self-Judgement; Kindness – Self-Kindness; Mindful – Mindfulness; Over-Id – Over-Identification; SSCS-L – Self-Compassion Scale – Long Form.

** Statistically significant *p* < .001; * Statistically significant *p* < .05.

Due to high skew and kurtosis for serenity, non-parametric Spearman rank correlations were also carried out for this scale. Results for Spearman correlations with serenity were: mindfulness: *r*(222) = .64; over-identification: *r*(222) = .29; self-kindness: *r*(222) = .61; judgment: *r*(222) = .38; common humanity: *r*(222) = .29; isolation: *r*(222) = .43; SSCS-L: *r*(222) = .59; guilt: *r*(222) = -.43; sadness: *r*(222) = -.49. All Spearman correlations were significant (*ps* = < .001).

Analyses for condition effects. No significant condition differences were found across all scales (see Table 6).

Table 6

Study 4: One-Way ANOVA scores with means and standard deviations for all conditions: (*N* = 224)

Scale	*F*	*p*	*Partial eta*^{2}	Control *M (SD)*	Mindful *M (SD)*	Kindness *M (SD)*	CH *M(SD)*
Serenity	1.15	.329	.015	2.80(1.16)	0.92(13.52)	2.94(1.09)	2.91(1.02)
Guilt	1.36	.257	.018	2.20(1.11)	2.18(0.98)	1.86(0.92)	1.20(1.09)
Sadness	0.87	.233	.003	2.43(1.02)	2.44(1.13)	2.36(0.99)	2.29(1.19)
Kindness	1.73	.162	.023	2.83(0.95)	2.66(1.02)	3.05(0.91)	2.98(1.02)
Judge	1.39	.246	.019	3.12(1.03)	3.05(0.95)	3.37(0.93)	3.32(1.03)
CH	0.20	.900	.003	3.31(0.81)	3.23(0.93)	3.19(0.98)	3.28(0.95)
Isolation	0.49	.691	.007	3.47(1.08)	3.24(1.16)	3.31(1.10)	3.42(1.10)
Mind	0.94	.423	.013	3.24(0.79)	3.06(0.83)	3.28(0.76)	3.09(0.94)
Over-Id	0.38	.765	.005	3.33(0.89)	3.34(0.88)	3.49(0.92)	3.38(0.91)
SSCS-L	0.73	.534	.010	3.23(0.71)	3.10(0.72)	3.28(0.62)	3.24(0.75)

Notes: CH – Common Humanity; Degrees of freedom – 3,220 on all measures; Judge – Self-Judgement; Kindness – Self-Kindness; *M(SD)* - Means and standard deviations by condition; Mindful – Mindfulness; Over-Id – Over-Identification; SSCS-L Self-Compassion Scale – Long Form.

Serenity scores were notably lower for the Mindfulness condition, although not significantly. For serenity, high levels of skew and kurtosis were noted specifically for the Mindfulness condition (*skewness* = -7.471; *SD* = .32; *kurtosis* = 56.227; *SD* = .62). Because of this, a non-parametric test was also carried out for scores on this scale. Non-parametric Kruskal-Wallis results were non-significant indicating no effects were found *H* (3, *N* = 224) = 1.53, *P* = .675. Median scores were lowest for the Mindfulness condition (*Mdn* = 2.67) followed by Control (*Mdn* = 2.83) with no difference between Self-kindness and Common Humanity conditions (both *Mdn* = 3.00).

Post hoc comparisons explored differences for serenity between the Mindfulness and Self-kindness conditions, and the Mindfulness and Common Humanity conditions. Due to high skew and kurtosis in the Mindfulness condition for serenity, Mann-Whitney U tests were conducted. Differences were non-significant between Mindfulness and Self-kindness (*U* = 1377, *p* = .274). Non-significant differences were also found between Mindfulness and Common Humanity for serenity (*U* = 1429, *p* = .343).

Further post hoc tests were carried out comparing both self-compassion (Self-Kindness and Common Humanity) and both control groups (Control and Mindfulness). A Mann-Whitney U test (for serenity scales due to skew and kurtosis) and independent t-tests showed significant differences between groups for self-kindness (Controls combined: *M* = 2.75, *SD* = .99; Self-Compassion combined: *M* = 3.01, *SD* = .96) *t*(222) = -2.05, *p* = .042), and self-judgement (Controls combined: *M* = 3.08, *SD* = .98; Self-Compassion combined: *M* = 3.35, *SD* = .98) *t*(222) = -2.00, *p* = .047).

Study 4

Post hoc t-tests for both self-compassion conditions combined demonstrated weak condition effects may have been present but not detectable across the four conditions.

As for Study 2 and counter to Hypothesis 4, the findings suggested mindfulness was not beneficial but potentially detrimental for caregivers included in the sample for Study 3. Although, detrimental effects cannot be concluded with confidence since no significant differences were found with post hoc Mann-Whitney U tests. Study 3 procedures intentionally restricted engagement time to standardise across conditions, but this methodological decision may have in effect frustrated participants' self-expression and stymied potential benefits for those who were closely engaged in the activity.

The writing exercises introducing aspects of self-compassion selectively for caregivers from the framework provided by Neff (Neff, 2003a) showed weak and inconsistent benefits of self-compassion over mindfulness alone. Therefore, in a third study, Neff et al.'s (Neff et al., 2021) induction exercise used in a non-caregiver population was relied upon.

Study 4 was therefore designed primarily to adapt more closely methods used by Neff et al. (Neff et al., 2021) whilst addressing limitations of Study 3. First, we tested the intervention without a timer to allow participants to engage in activities and eliminate this potential distraction. The number of times participants switched between writing activities was also reduced to allow participants to engage more deeply on the tasks. A third goal was to revisit the writing instructions, taking note of those suggested by Neff et al. (Neff et al., 2021). Since Neff's initial instructions asked participants to complete all self-compassion components as one condition, an additional control condition without the mindfulness component was included to consider again the negative effects noted from Studies 2 and 3. Finally, new to this study we measured affect before and after the writing exercise to examine within-person change.

For self-compassion outcomes in Study 4, it was hypothesised:

> Hypothesis 10. Writing with all self-compassion components would be associated with greater mindfulness, self-kindness, common humanity, and overall self-compassion outcomes at Time 2 compared with Time 1. Scores for the negative self-compassion poles of self-judgement, isolation, and over-identification would be lower at Time 2 compared with Time 1 for this writing condition.
>
> Hypothesis 11. Writing with self-kindness and common humanity would be associated with greater mindfulness, self-kindness, common humanity, and overall self-compassion outcomes at Time 2 compared with Time 1. Scores for the negative self-compassion poles of self-judgement, isolation, and over-identification would be lower at Time 2 compared with Time 1 for this writing condition.

For mood outcomes in Study 4, it was hypothesised:

> Hypothesis 12. Writing with all self-compassion components would be associated with higher positive mood and lower negative mood at Time 2 compared with Time 1.

Hypothesis 13. Writing with self-kindness and common humanity components of self-compassion would be associated with higher positive mood and lower negative mood at Time 2 compared with Time 1.

Method

Ethical Approval

Amendments for the Study 2 protocol were requested for Study 4. These amendments were approved by the University Research Ethics Committee. Consent, anonymity, and payment for participants followed the same procedure as for Study 2.

Participants

Power was calculated for inclusion of three groups using G*Power (Faul et al., 2009). As for the previous studies, power was calculated to detect a moderate effect size of $f = .25$. For power of .90 at $\alpha = .05$ or less, a sample size of $N = 207$ was needed to detect differences between the conditions. However, a sample size of 222 participants was reached following exclusions with power of .92.

Data was collected through Prolific (Prolific., 2022) during November 2022. The sample recruited included 325 informal caregiver participants. Of these participants, $N = 306$ responses were retained following exclusions according to participants' ratings on a compliance measure (Neff et al., 2021). A further 84 exclusions were applied where activities were incomplete or where less than 200 characters were included in each written response. This latter criterion was drawn from the procedure used by Neff et al. (2021). One participant cared for someone just below the age for inclusion (aged 64 instead of 65). This participant was retained.

Responses to our demographic survey indicated mean age for participants was 42.29 years (*SD* = 13.20, range 18 – 77). Of the included sample (*N* = 222), gender included 49.5% male, 50% female, and < 1% were non-binary. Ethnicity included 82% white, 7.7% Asian, 3.2% African or Caribbean, 4.1% mixed, and 3.2% other. The mean for number of years for caring was 5.81 (*SD* = 6.80, range 0 - 75). The mean age of care recipients for this sample was 78.94 years (*SD* = 8.34, range 64 - 90). Care was provided by 62.2% of the sample for a parent, 2.3% for a spouse or partner, 4.1% for a friend, < 1% for a sibling, and other was reported by 30.6% of the sample. The nature of care provided mostly involved help with daily living (93.7%) such as cleaning and shopping. Diagnoses of conditions affecting mobility (62.6%). Reported living arrangements indicated 31.1% lived with the recipient 52.7% in receipt of additional support. Many participants engaged in additional work besides caring (68%).

Procedure

The same protocol was followed as for Studies 2 and 3. Following procedures applied in the second study of Neff et al. (Neff et al., 2021), compliance measures and demographic information were collected after writing exercises. Compliance measures were adapted from those of Neff et al. (Neff et al., 2021; Self-Compassion: Dr Kristin Neff, 2021).

Participants were asked to recall a difficult caregiving experience, complete scales to measure self-compassion and mood, then engage in their allocated written component. They were then randomly assigned to one of three conditions: A Control condition (*n* = 75), Self-compassion condition (*n* = 73), and a Self-Compassion Without Mindfulness condition (*n* = 74). The Control and Self-Compassion conditions were adapted from recommended content of Neff et al. (2021) (for instructions see Neff et al., 2021; Self-Compassion: Dr Kristin Neff, 2021).

Writing elements were structured as follows: 1) Control – three writing components were included to parallel the Self-Compassion condition but with descriptive content; 2) Self-Compassion condition included writing with mindfulness, kindness, then common humanity; 3) Self-Compassion Without Mindfulness included the same content as for Self-Compassion, but with removal of mindfulness. Following both self-compassion conditions, participants were asked to read through and reflect on their writing before completing the compliance measures, repeating the scales, and completing demographic information.

Including a Control condition and a Self-Compassion Without Mindfulness condition allowed effects of descriptive writing only and effects of writing with self-kindness and common humanity only to be compared with effects of writing with all self-compassion components together. This approach was appropriate for this exploratory study to understand the differing effects across all three conditions.

All participants were initially presented with five screens including information and consent. For Controls, four screens included pre-task measures, information, and spaces to complete the main task; The Self-Compassion pre-task measures, information, and task completion space spanned three screens; Self-Compassion Without Mindfulness pre-task measures, information and tasks spanned three screens. All participants completed post-task mood and self-compassion measures and demographic questions presented over six screens following their tasks. All participants were given the opportunity to provide feedback after completing their tasks.

Surveys were piloted on a small subsample through Prolific (Prolific., 2022) before opening the survey to the total sample.

Although timing for completion of the study was not restricted, estimated completion time was fourteen minutes. To ensure participants included the minimum amount of required writing (at least 200 characters per writing exercise) instructions to write at least three lines per question were given. After the first ten participants, it was noted that answers were not often the required length. One participant revealed they had completed the study on a phone. Since a mobile phone screen is smaller and the display would differ, instructions to complete the study on a desktop were emphasised. To increase salience of this requirement, a note was added asking participants to complete the survey on a desktop only. Instructions for amount of writing was increased to five lines per question. As for the previous studies, an opportunity to provide feedback was included at the end.

Measures

Compliance. Compliance measures followed the recommendations of Neff et al. (Neff et al., 2021; Self-Compassion: Dr Kristin Neff, 2021). For both the Self-Compassion and Self-Compassion Without Mindfulness conditions, compliance was assumed where participants selected an option which indicated the task was approached with self-compassion (Neff et al., 2021; Self-Compassion: Dr Kristin Neff, 2021).

PANAS Serenity, Guilt, and Sadness (Watson & Clark, 1994). Serenity, guilt, and sadness subscales were used as in Studies 2 and 3. The sixth item for guilt 'dissatisfied with self' which was erroneously omitted for Studies 2 and 3 was included for Study 3. High reliability was noted across all subscales and overall scores for Times 1 and 2. For Time 1, Cronbach's Alpha's were as follows: serenity α

= .93, guilt α = .93, sadness α = .93. For Time 2: serenity α = .87, guilt α = .94, sadness α = .92.

Self-Compassion Scale-Long Form (SSCS-L) (Neff et al., 2021). The eighteen-item scale was retained, with scoring carried out as for Study 2. Cronbach's Alpha subscale totals were all α = > .65. Cronbach's Alphas for individual subscales were: self-kindness α = .66; self-judgement α = .79; common humanity α = .76; isolation α = .81; mindfulness α = .84; over-identification α =.75. The Cronbach's Alpha for the entire SSCS-L scale at Time 1 was α = .86.

At Time 2, Cronbach's Alpha subscale totals were α = > .65. Cronbach's Alphas for individual subscales were: self-kindness α = .89; self-judgement α = .80; common humanity α = .81; isolation α = .88; mindfulness α = .82; over-identification α =.76. The Cronbach's Alpha for the overall SSCS-L at Time 2 was (α = .84).

Data analysis. Data was analysed using SPSS version 28 (IBM Corp, Released 2021). Repeated analyses of variance (ANOVA) tests were used for comparison of scores across Times 1 and 2.

Results

Correlations. Table 7 displays Pearson correlations, means, and standard deviations for composite scores on the discussed scales. Most were significant at both Time 1 and 2 ($p < .001$). A strong negative correlation was found between isolation and sadness at Times 1 and 2 (respectively: $r(220) = -.71$, $p < .001$; $r(220) = -.79$, $p < .001$). Judgement and over-identification showed strong positive correlations for times 1 and 2 (respectively: $r(220) = .63$, $p < .001$; $r(220) = .68$, $p < .001$).

Table 7

Study 4: Correlations for Scale Composites Times 1 and 2 (*N* = 222)

Scale: Time 1	M (SD)	1	2	3	4	5	6	7	8	9
1. Serenity	2.70 (1.06)	-	-	-	-	-	-	-	-	-
2. Guilt	2.15 (1.04)	-.51**	-	-	-	-	-	-	-	-
3. Sadness	2.57 (1.12)	-.58**	.70**	-	-	-	-	-	-	-
4. Kindness	2.63 (0.91)	.49**	-.41**	-.50**	-	-	-	-	-	-
5. Judgement	3.02 (0.93)	.40**	-.64**	-.53**	.55**	-	-	-	-	-
6. CH	3.30 (0.86)	.28**	-.33**	-.35**	.44**	.41**	-	-	-	-
7. Isolation	3.09 (1.04)	.50**	-.54**	-.71**	.52**	.62**	.40**	-	-	-
8. Mindfulness	3.10 (0.86)	.47**	-.52**	-.50**	.62**	.57**	.58**	.52**	-	-
9. Over-Id	3.27 (0.88)	.37**	-.46**	-.42**	.36**	.63**	.27**	.50**	.57**	-
10. SSCS-L	3.07 (0.70)	.55**	-.63**	-.66**	.76**	.83**	.66**	.79**	.83**	.72**
Scale: Time 2	M (SD)	1	2	3	4	5	6	7	8	9
1. Serenity	2.70 (0.96)	-	-	-	-	-	-	-	-	-
2. Guilt	1.94 (1.03)	-.51**	-	-	-	-	-	-	-	-
3. Sadness	2.36 (1.05)	-.61**	.71**	-	-	-	-	-	-	-
4. Kindness	2.99 (0.91)	.45**	-.42**	-.51**	-	-	-	-	-	-
5. Judgement	3.32 (0.97)	.42**	-.62**	-.54**	.50**	-	-	-	-	-
6. CH	3.66 (0.84)	.26**	-.23**	-.30**	.44**	.28**	-	-	-	-
7. Isolation	3.37 (1.12)	.57**	-.55**	-.79**	.51**	.62**	.37**	-	-	-
8. Mindfulness	3.40 (0.80)	.48**	-.47**	-.50**	.66**	.59**	.55**	.48**	-	-
9. Over-Id	3.53 (0.92)	.14**	-.47**	-.46**	.36**	.68**	.14*	.48**	.48**	-
10. SSCS-L	3.38 (0.70)	.58**	-.62**	-.71**	.76**	.83**	.60**	.80**	.82**	.70**

Notes: CH - Common Humanity; Judgement – Self-Judgement; Kindness – Self-Kindness; Over-Id - Over-Identification; SSCS-L – Self-Compassion Scale – Long Form. ** Statistically significant $p < .001$; * Statistically significant $p < .05$.

For within-subjects, mean scores show the negative correlation found for isolation and sadness was explained by decreased sadness at Time 2 and increased isolation at Time 2. For between-subjects, sadness increased at Time 2 for Control but decreased for both self-compassion conditions whereas isolation increased in all conditions at Time 2.

Effects of condition across time. Skew and kurtosis were mostly within or close to -/+ 1, with the greatest skew for guilt time 2 (*skewness* = 1.84; *SD* = 1.03) and greatest kurtosis for over-identification time 2 (*kurtosis* = -1.01; *SD* = 0.92). Levene's tests were not violated. Parametric tests were then used.

Results for condition effects across time (Condition X Time interactions) with means and standard deviations are summarised in Table 8. Condition differentially changed across time when predicting serenity ($F(2, 218) = 4.55$, $p = .012$), guilt ($F(2, 219) = 9.85$, $p = < .001$), and sadness ($F(2, 219) = 11.48$, $p = < .001$). Significant results were also present predicting kindness ($F(2, 219) = 6.10$, $p = .003$) and common humanity ($F(2, 219) = 4.59$, $p = .011$). There were no significant differences for condition changing across time for overall SSCS-L scores.

Table 8

Study 4: Repeated measures ANOVA scores for Condition x Time effects with means and standard deviations by condition (*N* = 222)

Scale	*F*	*dfs*	*p*	*Eta S*^{2}		
Serenity	4.55	2,218	.012*	.040		
Guilt	9.85	2,219	.001**	.083	-	-
Sadness	11.48	2,219	.001**	.095	-	-
Kind	6.10	2,219	.003*	.053	-	-
Judge	0.53	2,219	.587	.005	-	-
CH	4.59	2,219	.001**	.040	-	-
Isol	1.02	2,219	.362	.009	-	-
Mind	0.80	2,219	.452	.007	-	-
Over-Id	1.00	2,219	.369	.009	-	-
SSCS-L	2.12	2,219	.123	.019	-	-

			Condition			
	C 1	C 2	SC 1	SC 2	WM 1	WM 2
Scale	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*
Serenity	2.76(1.06)	2.55(0.91)	2.70(1.03)	2.76(0.93)	2.63(1.09)	2.80(1.02)
Guilt	2.13(0.96)	2.22(1.09)	2.09(0.97)	1.78(0.87)	2.24(1.17)	1.83(1.07)
Sadness	2.46(1.13)	2.56(1.15)	2.59(1.05)	2.33(.094)	2.65(1.17)	2.18(1.04)
Kind	2.62(0.91)	2.72(0.93)	2.66(0.97)	3.16(0.92)	2.62(0.86)	3.09(0.84)
Judge	2.93(0.88)	3.30(1.03)	3.15(0.99)	3.44(0.96)	3.00(0.92)	3.23(0.92)
CH	3.26(0.89)	3.41(0.92)	3.30(0.84)	3.71(0.79)	3.34(0.85)	3.86(0.76)
Isol	3.03(1.06)	3.21(1.19)	3.15(1.06)	3.49(1.05)	3.11(1.02)	3.41(1.11)
Mind	2.96(0.89)	3.26(0.88)	3.21(0.83)	3.44(0.79)	3.12(0.85)	3.49(0.73)
Over-Id	3.26(0.88)	3.42(0.96)	3.30(0.93)	3.63(0.93)	3.26(0.86)	3.53(0.87)
SSCS-L	3.01(0.73)	3.22(0.77)	3.13(0.72)	3.48(0.68)	3.07(0.65)	3.43(0.62)

Notes: CH – Common Humanity; *dfs* – degrees of freedom; Isol – Isolation; Judgment – Self-Judgement; Kindness – Self-Kindness; Over-Id– Over-identification; SSCS-L – Self-Compassion Scale – Long Form.

** Statistically significant $p < .001$; * Statistically significant $p < .05$.

Follow-Up Within-Subjects Effects

Within-subjects ANOVAs for Times 1 and 2 showed significant effects for the Self-Compassion condition on all self-compassion components and the overall SSCS-L (Table 9).

Table 9

Study 4: Simple Slope Change (from Time 1 pre-manipulation to Time 2 post-manipulation) as a Function of each Condition (Control, Self-Compassion, and Self-Compassion Without Mindfulness), Separately (*N* = 222)

	Control			
	F	*dfs*	*p*	*Partial eta*^{2}
Serenity	6.83	1,74	.011*	.084
Guilt	0.81	1,74	.371	.001
Sadness	1.15	1,74	.286	.015
Kindness	1.38	1,74	.244	.018
Judgement	14.51	1,74	.001**	.164
CH	4.87	1,74	.031*	.062
Isolation	4.34	1,74	.041*	.055
Mindfulness	18.96	1,74	.001**	.204
Over-Id	3.28	1,74	.074	.042
SSCS-L	13.92	1,74	.001**	.158
	Self-Compassion			
	F	*dfs*	*p*	*Partial eta*^{2}
Serenity	0.51	1,71	.513	.006
Guilt	12.56	1,72	.001**	.149
Sadness	11.78	1,72	.001**	.141
Kindness	23.86	1,72	.001**	.249
Judgement	10.65	1,72	.002*	.129
CH	19.80	1,72	.001**	.216
Isolation	14.84	1,72	.001**	.171
Mindfulness	7.09	1,72	.010*	.090
Over-Id	11.62	1,72	.001**	.139
SSCS-L	31.62	1,72	.001**	.305
	Self-Compassion Without Mindfulness			
	F	*dfs*	*p*	*Partial eta*^{2}
Serenity	2.69	1,73	.106	.035
Guilt	37.45	1,73	.001**	.339
Sadness	30.02	1,73	.001**	.291
Kindness	28.78	1,73	.001**	.283
Judgement	4.25	1,73	.043*	.055
CH	27.85	1,73	.001**	.276
Isolation	13.52	1,73	.001**	.156
Mindfulness	20.53	1,73	.001**	.219
Over-Id	8.72	1,73	.004*	.107
SSCS-L	40.14	1,73	.001**	.355

Notes: CH – Common Humanity; *dfs* – degrees of freedom; Judgment – Self-Judgement; Kindness – Self-Kindness; Over-Id– Over-identification; SSCS-L – Self-Compassion Scale – Long Form.** Statistically significant $p < .001$; * Statistically significant $p < .05$.

For self-compassion, improvements were: mindfulness (*F*(1, 72) = 7.09, *p* = .010); over-identification (*F*(1, 72) = 11.62, *p* = < .001); self-kindness (*F*(1, 72) = 23.86, *p* = .001); self-judgement (*F*(1, 72) = 10.65, *p* = .002); common humanity (*F*(1, 73) = 19.80, *p* = < .001); isolation (*F*(1, 72) = 14.84, *p* = < .001); total SSCS-L (*F*(1, 72) = 31.62, *p* = < .001). For mood, the Self-Compassion group improved on guilt (*F*(1, 72) = 12.56, *p* = < .001) and sadness (*F*(1, 72) = 11.78, *p* = < .001).

Significant improvements were found for the Self-Compassion Without Mindfulness condition on the same measures: mindfulness (*F*(1, 73) = 20.53, *p* = < .001); over-identification (*F*(1, 73) = 8.72, *p* = .004); self-kindness (*F*(1, 73) = 28.78, *p* = < .001); self-judgement (*F*(1, 73) = 4.25, *p* = .043); common humanity (*F*(1, 73) = 27.85, *p* = < .001); isolation (*F*(1, 73) = 13.52, *p* = < .001); SSCS-L (*F*(1, 73) = 40.14, *p* = < .001). For mood, Self-Compassion Without Mindfulness improved for guilt (*F*(1, 73) = 37.45, *p* = < .001) and sadness (*F*(1, 73) = 30.02, *p* = < .001).

Controls also showed improvements, albeit more modest improvements, for mindfulness (*F*(1, 74) = 18.96, *p* = < .001); self-judgement (*F*(1, 74) = 14.51, *p* = < .001); common humanity (*F*(1, 74) = 4.87, *p* = .031); isolation (*F*(1, 74) = 4.34, *p* = .041); total SSCS-L (*F*(1, 74) = 13.92, *p* = < .001). There were negative effects for mood with lowered serenity (*F*(1, 74) = 6.83, *p* = .011).

Discussion

Three studies were carried out to investigate self-compassion in caregivers of older adults. Since little previous research had focused on this area, the first two studies focused on testing each of the separate components of self-compassion proposed by Neff (2003a). The effects of each component of self-compassion were investigated to explore their independent contributions towards measured outcomes. The first two studies showed weak and inconsistent benefits of self-compassion over mindfulness alone. In Study 3 some support for Hypotheses 1 to 3 (greater self-kindness and common humanity) and Hypotheses 4 to 6 (lower sadness and guilt; higher serenity) was noted, where more consistent benefits of engaging in writing about caregiving experiences were found when more complete self-compassion was incorporated within the writing. However, benefits were not greater when looking at the mindfulness component of self-compassion or overall self-compassion scores.

In Study 2, mindfulness was included at the start of self-compassion conditions to engage participants in their recalled events (Dreisoerner et al., 2021; Neff et al., 2021). However, self-compassion was not significantly increased using this method. Instead, guilt and sadness were found to increase in the Mindfulness condition compared with the self-compassion conditions. However, it should be noted that, although participants were asked to time their responses, these timings were not controlled. It is possible then that variations in time spent on each task may have influenced outcomes.

The first goal for Study 3 was to investigate effects of self-compassion alone by removing mindfulness from the Self-Kindness and Common Humanity conditions to understand their effects on mood. Similar to findings from Study 2, serenity was found to be lower in the Mindfulness condition for Study 3. Counter to expectations, the findings for Study 3 suggested mindfulness was not beneficial but potentially detrimental for caregivers included in this sample. Although, it was not possible to conclude detrimental effects with confidence since no significant differences were found with post hoc tests.

Study 3 procedures intentionally restricted engagement time to standardise this across conditions, but this methodological decision may have in effect frustrated participants' self-expression and stymied potential benefits for those who were closely engaged in the activity.

It should be noted that, although mindfulness includes benefits such as clarity and acceptance of difficult emotions as described by Neff (2003a), engaging with these emotions could be challenging and potentially harmful for some individuals (Baer et al., 2019). Returning to our results for Study 2, increased guilt and sadness were likely due to the focus on difficult care experiences required in the mindfulness condition without engagement in self-kindness and common humanity. In Study 3, effects on serenity may have been due to the pressure of writing under timed conditions whilst also focusing on a difficult event, again with no engagement with self-kindness and common humanity.

The findings gleaned from the current study highlight the complexity of the relationship between self-compassion, its components, and mood. For example, engagement in mindfulness alone was associated higher guilt and sadness in Study 2, but this finding was not replicated with inclusion of self-kindness or common humanity. Research has found significant negative correlations between guilt and self-compassion and between depression and self-compassion (Etemadi Shamsababdi & Dehshiri, 2024). Moreover, guilt has been found to mediate the relationship between depression and self-compassion (Etemadi Shamsababdi & Dehshiri, 2024). Depression includes feelings of sadness (Beck, 1979). It is possible then that those participants who experienced greater guilt in the current study experienced greater sadness because of these greater levels of guilt. Mindfulness may have mediated this relationship, with increased awareness of perceived faults and failures in caregiving. However, the current research was exploratory, and the focus was to understand the impact of self-compassion components on mood. Mediating factors, such the influence of guilt on sadness and its relationship with self-compassion and its components were then not investigated.

The third goal for Study 3 was to replace the SSCS-S with the State Self-Compassion Scale Long Form (SSCS-L) (Neff et al., 2021), to examine whether this comprehensive measure would be more sensitive to condition effects. Indeed, from validation studies of the long version of the Self-Compassion Scales (both state and trait) these measures were suggested to be useful for looking at effects within the individual self-compassion components (Neff et al., 2021; Neff et al., 2019). However, post hoc t-tests for both self-compassion conditions combined demonstrated weak condition effects may have been present but not detectable across the four conditions.

Study 4 was designed primarily to adapt more closely methods used by Neff et al. (2021) whilst addressing limitations of Study 3. First, intervention was tested without a timer to allow participants to engage in activities and eliminate this potential distraction. The number of times participants switched between writing activities was also reduced to allow participants to engage more deeply on the tasks. A third goal was to revisit the writing instructions, taking note of those suggested by Neff et al. (2021). Since Neff et al.'s (2021) initial instructions asked participants to complete all self-compassion components as one condition, an additional control condition without the mindfulness component was included to consider again the negative effects noted from Studies 2 and 3. Finally, new to this study affect was measured before and after the writing exercise to examine within-person change.

In Study 4, the expectations that self-compassionate writing would increase self-compassion were supported in both self-compassion conditions, with greatest effects for the Self-Compassion condition with mindfulness. However, improvements were noted for two self-compassion components separately (self-kindness and common humanity), with no greater improvements for mindfulness or total self-compassion scores. Findings showed that self-compassion increased regardless of inclusion of mindfulness within the exercise.

A notable finding for Study 4 was a significant increase for the Control condition on five measures for self-compassion and total self-compassion measured on the SSCS-L. However, there was also a significant decrease in scores for serenity for this condition, suggesting that writing in itself reduced peaceful mood, a potential cost that was not observed when self-kindness and common humanity were included in the intervention. Merely describing an event may negatively influence some elements of self-compassion and mood, but aspects of self-compassion can protect from these costs.

It is possible that the decrease in serenity observed in Controls for Study 4 was because descriptive writing acted as a reminder of the difficult caregiving experience. Whereas writing with self-compassion encouraged participants to reframe their experience in a way which incorporated a more forgiving and less self-isolating outlook. Indeed, greater serenity has been linked with a more balanced outlook on difficult situations, with less overidentification with negative emotions and greater self-understanding (Al-Refae et al., 2021). Inclusion of self-compassion in descriptive writing in Study 4 provided the structure for both reframing of the difficult experience and insight into one’s role in this experience, thus encouraging greater serenity for participants.

Focusing on the potential harms of mindfulness, caution has been noted on the use of mindfulness-based intervention and practice (for example, see Baer et al., 2019; Britton, 2019; Clarke & Draper, 2020), although there has been little research in this area. Harms from interventions have been defined as a sustained detrimental outcome directly resulting from treatment (Baer et al., 2019; Duggan et al., 2014). However, since mindfulness appeared to enhance benefits for participants in Study 4 in the current research, this suggests when applied together with the other self-compassion components, mindfulness could be beneficial. As a precautionary measure to protect against potential harms, such as those mentioned here, all participants received debriefing information explaining the research and who to contact should they experience any unwanted effects.

Looking at differences across outcomes according to writing condition in the current study, previous research using interventions presented over an extended period may offer further insight. In line with my findings from Study 4, successful application of mindfulness-based interventions have been widely documented (Baer et al., 2019). Furthermore, it was suggested that therapeutic exposure to a difficulty could have temporary effects which later elicit greater long-term benefits (Baer et al., 2019; Dimidjian & Hollon, 2010). For example, mindfulness was included in the Mindfulness Self-Compassion Program which was presented over an eight-week period (Germer & Neff, 2019). In this program, mindfulness was identified as a necessary component to achieve beneficial outcomes. An extended eight-week program was also the protocol applied by Dreisoerner et al. (2021) in their study in which participants completed activities for self-compassion. Furthermore, findings from a meta-analysis indicated writing interventions spaced over time were most effective for achieving beneficial outcomes (Smyth, 1998). In the current research, further study should then measure effects of presentation over time to understand longer-term outcomes and to increase possibility of potential benefits.

Drawing on previous application of interventions using self-compassion, studies have found improvements including increased resilience, mood, health behaviours, and self-care (Beshai et al., 2018; Biber & Ellis, 2019; Egan et al., 2019; Trompetter et al., 2017). In the interest of caregivers, self-compassion may then play a role in protecting the well-being of caregivers by providing valuable tools for managing and coping with the situation (Lloyd et al., 2019). Specifically, the current study found prominent improvements in the self-kindness and common humanity components of self-compassion. It is recognised in the literature that caregivers can experience sense of self-judgment or guilt (Gallego-Alberto et al., 2022; Gallego-Alberto et al., 2019). Self-kindness offers an alternative way to treat oneself when one identifies their decisions, thoughts, or behaviours as incorrect or potentially unhelpful for the care recipient (Neff, 2003a). Self-kindness may be particularly useful when faced with challenges where the caregiver experiences little or no control, such as observed deterioration in the care recipient for example (Liao et al., 2021). Additionally, informal caregiving can involve less opportunity to observe others in similar situations due to the requirement to provide one-to-one care (Hajek et al., 2021); common humanity offers an alternative perspective through recognition that other caregivers can also face challenges (Neff, 2003a).

Based on these studies, recommendations for research into successful application of self-compassion interventions for informal caregivers of older adults include considering potential health challenges and needs of caregivers as well as limitations to what they can realistically provide the recipient. For example, those caring for older adults informally have often been noted to be middle-aged or older adults providing care for an older spouse, partner, or parent (Schulz et al., 2020). Interventions may then need to incorporate tasks which also target management of caregivers own age or health related challenges. Research in this area should then also take account of caregivers' individual needs.

Limitations and Future Directions

In this study, self-compassionate writing exercises were completed in a short exercise at one time point. It would be interesting to examine effects on caregivers' mood after completing these tasks over a longer time scale. In addition, the study was conducted remotely but could also be presented in a controlled environment in future work, for example by inviting participants to a lab. Furthermore, it would be useful to measure length of time spent on each writing task to understand whether engagement intensity influences outcomes. Although in these studies time spent on writing sessions was likely unrelated to measured improvements in writing interventions, according to a meta-analysis (Dreisoerner et al., 2021; Smyth, 1998) there is reason to believe that with even longer timespans greater benefits may not necessarily be attained.

The inconsistent links between mood, self-compassion, and its components demonstrated the complexity of these relationships. It is possible that some mood states, such as guilt, mediated the relationship between other mood states, such as sadness or serenity, and their relationships with self-compassion. However, it was beyond the focus of the current research to understand these links, but it could be insightful to look at these in future investigations.

Another consideration to be acknowledged would be the inclusion of some caregivers with recipients under the age of 65 years in Study 2. It was noted that, since these participants were also caring informally, they too were likely to benefit from self-compassion. Furthermore, since they had completed the activity according to all other criteria it was most respectful to include their data. The impact of this decision was likely minimal since the percentage of participants caring for recipients under 65 was small compared with the overall sample obtained throughout the three studies.

Conclusions and Recommendations

The three studies investigated the impact of a series of self-compassion and interventions in caregivers of older adults. Across studies, mindfulness writing had mixed effects on self-compassion and mood but held the potential to benefit self-compassion writing (Study 4). Conversely, writing from the perspective of both self-kindness and common humanity showed neutral to beneficial effects on self-compassion and mood, suggesting that these can be harnessed in more intensive interventions to improve caregiver well-being. It is recommend that brief and remotely conducted self-compassionate writing interventions for older adult caregivers include self-kindness, common humanity, and mindfulness to achieve the best improvement profile, and potential impact for better well-being.

Funding

This research received partial funding from the University of Reading Research Committee. Remaining funds were covered by the authors for this research.

Trial Registration

ClinicalTrials.gov Identifier: NCT06507826

Data availability statement

The data sets generated during this study are available in the Open Science Framework repository (Wiita et al., 2024, July 15).

3.4 Summary of Chapter 3

Chapter 3 included three experimental studies, in which I explored the benefits of self-compassionate writing, comparing the three components (Neff, 2003a). Studies 2 and 3 showed that mindfulness was challenging for family caregivers of older adults when they engaged in only mindfulness or mindfulness with one other component. However, revisions in Study 4 showed benefits were achieved when all components were presented together, following the guidance of Neff et al. (2021) (Neff, 2021; Neff et al., 2021). Although, inclusion of mindfulness was not essential for achieving benefits, with improvements also being found when mindfulness was not included in the writing task.

It was notable that self-kindness and common humanity increased significantly when I looked at the separate components, with the greatest increase shown for self-kindness. Considering the challenges of family caregiving, self-kindness in particular may then offer important benefits for people who care for older adult family members.

Chapter 4

The following chapter includes research submitted to the Journal of Happiness Studies https://link.springer.com/journal/10902 and is currently under review.

4.1 Introducing Solitude into a Well-Being Intervention for Middle and Older Adults

In Chapter 1, solitude was discussed with reference to well-being in middle and older adults. Research has shown time alone tends to increase with age (Cotterell et al., 2018). Solitude has also been linked with negative effects, including sadness and loneliness (Lay et al., 2019). Conversely, when utilised as an opportunity for alone time, solitude has been linked with positive outcomes, including opportunity for self-focus and peaceful affect (Adams & Weinstein, 2023; Nguyen et al., 2018).

In Chapter 2 (Study 1), the concept of self-compassion was explored through interviews with caregivers of older adults. This research showed that self-compassion was often perceived to involve engagement in self-nurturing and enjoyable activities. For example, participants identified going to a spa or writing poetry as a form of self-compassion because these were activities they found enjoyable (Wiita et al., 2024).

An additional finding from Study 1 (described in Chapter 2), was that access to time alone was a valuable and sought after resource for caregivers in this sample. Time alone, in solitude, allowed caregivers to focus on themselves and connect with their own thoughts and feelings for this period of time.

In connection with the findings from Study 1, findings from Studies 2, 3, and 4 suggested that self-kindness was a particularly beneficial component of self-compassion for caregivers of older adults. Self-kindness is identified by Neff (2003a) as a self-compassion component which involves a forgiving, non-judgemental, and gentle approach towards oneself. Somewhat aligned with this is the concept of 'loving-kindness' which includes a self-care approach in which feelings of warmth and kindness are directed towards oneself (Reilly & Stuyvenberg, 2023). Furthermore, engagement in loving-kindness has been linked with increased self-compassion (Reilly & Stuyvenberg, 2023).

It is recognised that informal caregiving for older adults is often carried out by an adult child or a spouse (Schulz et al., 2020). As previously discussed, both middle and older adults often face their own challenges, such as age-related health conditions and managing multiple roles (Jaul & Barron, 2017; Lindt et al., 2020). This current chapter confronts these challenges to produce findings which could inform well-being in both middle and older adult age groups and potentially informal caregivers as well.

4.2 Solitude and Self-Compassion in Middle and Older Adults

Solitude has often been described with reference to negative outcomes, such as loneliness (Lay et al., 2019). Discussed here is the natural life progression to circumstances which may increase possibility of time alone, such as retirement or family leaving home (Dahlberg et al., 2022; Lam & García-Román, 2019; Larson, 1990). Another potential reason for increased solitude time is the possible transition to an informal caregiving role due to ageing parents or a spouse, for example (Sung et al., 2022).

In keeping with self-compassion, the focus now will turn to age progression in general and how potentially increased solitude time may facilitate self-focus and self-care (Thomas, 2023). Whilst focusing on solitude and self-compassion, consideration will be taken of possible shifts in role, such as becoming a caregiver, or age-related decline in health.

This chapter includes a pilot study looking at planned solitude experiences and how these are associated with self-compassion in young adults (Study 5). Research focused on planned solitude and self-compassion experiences in middle and older adults is then discussed (Study 6).

4.3 Well-Being Interventions for Middle and Older Adults

Research into older adult well-being is sparse (Iwano et al., 2022). In their systematic review and meta-analyses, Iwano et al. (2022) sought to identify research on well-being interventions for healthy adults over 65 years and found only five qualitative and four quantitative studies. Findings from these studies suggested interventions which promote interaction with people or animals are likely to benefit older adult well-being (Iwano et al., 2022). It was further suggested that these interventions essentially promote interaction and social support from others (Iwano et al., 2022). However, since older age is associated with isolation and social disconnection (Donovan & Blazer, 2020), long-term benefits from interventions which rely on interaction may prove challenging for individuals to maintain.

For adults of retirement age, group-based psychosocial interventions have benefited well-being, for example less loneliness and greater happiness have resulted from these interventions (Cassanet et al., 2023). Psychosocial interventions could then be useful for maintaining sense of connection during this life phase.

Retirement can also bring opportunity for time alone, including time to reflect (Hoppmann & Pauly, 2022). Interventions to encourage this positive solitude experience may enhance these benefits.

4.4 Piloting an Intervention for Self-Compassion in Solitude in a Student Sample

Findings from Studies 1 to 4 demonstrated that self-compassion, and particularly self-kindness, were a vital but challenging resource to foster. The studies also showed that time alone could be challenging but also much needed for engagement in enjoyable self-focused activities.

The following study was designed to explore these findings further through piloting a solitude intervention in a young adult student population. Although not directly linked with caregivers of older adults, young adults are also known to face challenges academically and socially (Hellström & Beckman, 2021). However, young adults students are also a highly accessible population for research, with their attendance at university and willingness to learn and contribute to findings (Weigold & Weigold, 2022).

Study 5 provides the foundation for Study 6, by exploring self-compassion during planned self-focused solitude experiences. The findings from this initial pilot study later informed methods implemented in Study 6, in which self-kindness in solitude became the central focus.

4.5 Studies 5 and 6: Self-Compassion in Solitude: The Role of Self-Kindness in Enhancing Positive Affect and Reducing Sadness in Younger and Older Adults

Abstract

Being in solitude with one's own thoughts can be peaceful when thoughts are constructive or unpleasant when judgmental. This study tested the expectation that components of self-compassion: self-kindness, common humanity, and mindfulness, would relate to solitude moments characterised by well-being (peaceful affect, lower sadness (Studies 5-6); vitality, guilt, lower isolation (Study 6). Study 5 involved a five-day pilot with students (*N*=119) who engaged in self-planned solitude activities. In Study 6, adults aged>50 (*N*=136) reported on solitude activities guided towards self-nurturing or self-care (self-kindness condition) or unguided (everyday solitude condition) over three days. Study 5 indicated that of the three self-compassion components at either state or trait level, state self-kindness most robustly linked with well-being in solitude. Study 6 replicated this. Furthermore, those high in trait self-kindness and assigned to plan for self-kindness experienced greater serenity and vitality. Self-kindness may be sensitive to context and an important facilitator for positive solitude experience.

Introduction

Time alone, in solitude, offers opportunity to spend quality time with oneself for internal reflection and self-connection. Because individuals in solitude, by definition, do not attend to or engage with other people, they are for those moments freed from others' demands and distractions. The dominant relationship during this time is with one's self, and solitude can facilitate greater self-focus, self-reflection, and self-awareness (Weinstein, Hansen, et al., 2023). Much like compassionate friends can improve well-being during *social* interactions (Pezirkianidis et al., 2023), the extent to which individuals offer themselves self-compassion during solitude time may predict the extent they experience well-being during their time alone, with themselves. To test this expectation, the current paper explores three qualities that comprise self-compassion (Neff, 2003a): self-kindness, common humanity, and mindfulness, which may enhance solitude time and thus promote positive affect and reduce negative affect, during time alone.

Well-Being During Solitude

When intentionally accessed, brief solitude periods can be experienced as pleasant and beneficial (White et al., 2022). In particular, daily diary studies have associated brief periods of solitude with greater peaceful affect (Adams & Weinstein, 2023; Nguyen et al., 2018). Further, in qualitative work (Ost Mor et al., 2021), both young and older adults describe positive solitude experiences as involving quietness, tranquillity, and calm with space to reflect. In addition, people in solitude can use the time to reflect productively and think through ideas, feelings, and memories or even make plans for the future in a way that helps them understand more about themselves and what they need (France, 2014; Kull, 2009).

For many of the same reasons that solitude can foster a sense of peace and provide an opportunity for self-reflection – namely, that this unstructured space frees individuals from distractions offered by social interactions and returns them to the relationship with themselves – time in solitude can also be difficult (Weinstein, Nguyen, et al., 2023). For example, solitude has been associated with negative emotions such as sadness and loneliness (Lay et al., 2019). Furthermore, while individuals may be open to self-reflection during solitude (Paterson & Park, 2023), they may also be susceptible to rumination when thoughts are critical, unproductive, and tied into the difficult feelings, giving way to negative affect (Lay et al., 2019). In all, the literature to date suggests that, because it offers the psychological space from others that helps individuals to connect with the self, solitude may feel peaceful and offer opportunities for self-reflection. However, it suggests that for this same reason, individuals may feel more sadness and loneliness when they are alone. Given the absence of external conversation, the relationship with the self, and individuals' internal conversations, appears to be key. It may therefore be that by encouraging solitude to be approached with a gentle and forgiving mindset, one may be more open to the benefits of this time alone.

Components of Self-Compassion and Benefits Within Solitude

The extent to which individuals experience well-being in solitude may therefore be influenced by their self-compassion. Self-compassion is understood as a gentle, forgiving approach towards oneself, which is especially useful at times of difficulty and challenge (Neff, 2003a). This (Neff, 2003a) sees self-formulation compassion as comprised of three protective components that support well-being. First, individuals can respond with *self-kindness,* taking a gentle and forgiving approach towards themselves and their failings. Second, self-compassion involves *common humanity,* the experience of identifying with commonalities in one's own experiences and those of others that helps individuals to feel part of the shared human experience. Finally, self-compassion involves *mindfulness,* a sense of openness to ones' difficult feelings that enables self-awareness and self-acceptance (Neff, 2003a).

Self-compassion may be a key factor when the relationship is with the self that ultimately yields more rewarding solitude experiences. Although this has not been previously tested, there appears to be a conceptual link between each of the protective components of self-compassion and solitude experiences. For instance, self-kindness involves allowing oneself space for solitary time without criticism or judgement. This might involve allowing oneself to take time off work or forgiving oneself for stepping back from social commitments, when necessary, without feelings of guilt and self-imposed pressure. Alongside self-kindness, common humanity may play an important role in solitude because individuals high on this quality feel connected with others, even when they are not physically present. This sense of social connection may extend to solitude moments, which can in non-optimal conditions feel isolating, and protect from feelings of sadness when others are not around (for example, see Bu et al., 2020). Finally, mindfulness encourages openness and acceptance of feelings that may arise during solitude, helping sustain a balanced perspective, and fostering a more reflective approach when people are alone.

Current Research

Time alone is ubiquitous and can be difficult or rewarding. Self-compassion underlies a more positive relationship with the self and may ultimately result in greater well-being during periods of solitude. Two studies set out to test the role of self-compassion in solitude experiences. Study 5 explored the roles that both state and trait self-compassion play in periods of solitude that take place during the daily life of young adults. Study 6 focused on self-kindness, a critical component of self-compassion, and sought to replicate Study 5 effects now with older adults. In addition, in Study 6 a self-kindness intervention was attempted to promote self-kindness during solitude periods and examine causal evidence for self-compassion effects in solitude.

Study 5

Solitude has been viewed as ‘unusual’ and potentially unhealthy in young adults (Lin et al., 2020). Yet although it can be difficult for them, young adults share that an important reason for seeking solitude is as a way to manage stress and difficult thoughts (Ost Mor et al., 2021). Further, although young adults often struggle with solitude (e.g., Pauly et al., 2016) not all young adults find time alone to be a negative experience (e.g., Lay et al., 2019). In sum, this literature suggests that solitude may play an important role in young adulthood but is also quite challenging to this age group. Study 5 was therefore designed to test whether benefits of solitude are enhanced for young people when self-compassion is higher, examining the roles that both state and trait self-compassion play in moments of solitude in their daily lives.

Two hypotheses (H) were tested:

H1. Greater state self-kindness, common humanity, and mindfulness components would be associated with greater serenity and lower sadness in solitude.

H2. Greater trait self-kindness, common humanity, and mindfulness would be associated with greater serenity and lower sadness.

Method

Participants

Calculating power can be problematic for studies which use a multilevel modelling design (Nezlek, 2020), but the target was set to recruit a minimum of 125 participants estimating feasibility of data collection across an academic semester. Ultimately, a sample of

119 students who completed both initial trait-level surveys and at least one daily survey over the course of five days were recruited.

Demographic information can be found in Table 10.

Table 10

Demographic information for Studies 5 and 6

Young Adults	(*N* = 119)	Older Adults (*N* = 136)	
Characteristic	*M* / *SD* / %	Characteristic	*M* / *SD* / %
Age (*M* / *SD*)	-	Age (*M* / *SD*)	-
18 - 46	20.64 / 3.77	50 - 64	66.31 / 10.23
Gender (%)	-	Gender (%)	-
Female	84	Female	40.4
Male	10.1	Male	58.8
Gender neutral	5	Other	1%
Other	1	Ethnicity (%)	-
Ethnicity (%)	-	White	83.8
White	58.8	Mixed	1.5
Black	4.2	Asian/Asian British	3.7
Asian	22.7	Black/African/Caribbean/Black British	9.6
Middle Eastern	1.7	Other	1.5
Mixed	10.7	-	-
Other	1.7	-	-

Notes: Means, standard deviations, and percentages for demographic information included for both Studies 1 and 2.

Ethics Approval

This study formed part of separate research into solitude and emotion regulation. The study was reviewed by the University Research Ethics Committee (2023-045-NW). Recruitment was carried out within the university by advertising online, posters, and through snowballing. All participants provided informed consent.

Procedure

Participants were recruited between April and May 2023. The study was accessed by participants through Qualtrics (Qualtrics, 2022). Participants completed an initial survey measuring demographic information, self-compassion, and mood. Following this, they responded to evening surveys on each of five days. Participants received information about solitude and its potential benefits in the initial survey before identifying up to three solitude activities to complete during the study. They were then asked to engage in their chosen activities for 10 minutes per day. The following options were provided to help participants plan these activities: 1. Tasks for creativity or skill building, such as painting or cooking; 2. Relaxation such as listening to music; 3. Spirituality for example prayer; 4. Self-care activities such as taking a bubble bath; 5. Intellectual pursuits such as language learning; 6. Connecting with nature through bird watching for example; 7. Meditation or reflection activities, such as mindfulness; 8. Exercise such as riding a bike. On each of the following days, reminders were sent to participants each morning, and they were asked to think about which activity they would complete during that day. On the evening of each day, surveys were completed that measured self-compassion and mood. Participants received course credit or £6 for their time.

Measures

State Self-Compassion Scales (Neff et al., 2021). Nine items of the state self-compassion scale were used. This scale includes three subscales, each with three items. These were: ‘self-kindness’ – example statement ‘I’m being kind to myself’; ‘common humanity’ – example statement ‘I’m remembering difficult feelings are shared by most people’; ‘mindfulness’ – example statement ‘I’m keeping my emotions in balanced perspective.’ Items were rated on a scale from 1 (*not at all true for me*) to 5 (*very true for me*). At the state level internal reliabilities were: self-kindness α = .78; common humanity α = .83; mindfulness α = .69. At the trait level, internal reliabilities were: self-kindness α = .82; common humanity α = .65; mindfulness α = .79.

Positive and Negative Affect Schedule (PANAS) Serenity and Sadness (Watson & Clark, 1994). The serenity subscale of the PANAS included three items – example statement: ‘calm’; sadness included five items – example statement: ‘sad’. Items were rated on a scale of 1 (*very slightly or not at all*) to 7 (*extremely*) to be sensitive to fluctuations which could occur across days (Hjartarson et al., 2021). These subscales showed high reliability: serenity α = .85; sadness α = .91.

Results

Data were organised into composites using SPSS (IBM Corp, Released 2021). Data for state and trait self-kindness was centred using R (Bates et al., 2015). Analyses for effects were carried out using JASP (Team, 2023).

Activity Selection

Participants were asked to indicate all activities they had engaged in over the study using the selection menu. From this menu, participants indicated engagement in relaxation the greatest number of times (45.4%). This was followed by exercise (21.1%), creativity/skill building (20.6%), self-care (18.6%), meditation (14.5%), nature connection (12.9%), intellectual pursuits (13.8%), and lastly spirituality (8.2%).

Correlations

Correlations between study variables can be found in Table 11. Across days, self-compassion and mood variables all correlated with one another (*ps* < .05), with one exception: the correlation for *state* (Level 1) common humanity and sadness was not significant. Similarly, self-compassion correlated with mood at the *trait* level (Level 2) with two exceptions: First, self-kindness and sadness correlation were not related. Second, mindfulness did not relate to serenity.

Table 11

Study 5: correlations for state and trait measures

Level 1 (N = 545*)*	*Mean*	*SD*	1	2	3	4
1. Self-Kindness	3.17	0.86				
2. Common Humanity	2.93	1.01	.32**			
3. Mindfulness	3.05	0.79	.52**	.58**		
4. Serenity	4.72	1.34	.50**	.24**	.29**	
5. Sadness	2.62	1.50	-.25**	.02	-.10*	-.36**
Level 2 (N = 545*)*	*Mean*	*SD*	1	2	3	4
1. Self-Kindness	2.90	0.80				
2. Common Humanity	3.47	0.73	.40**			
3. Mindfulness	3.14	0.84	.70**	.47**		
4. Serenity	4.72	1.34	.09*	.16**	.08	
5. Sadness	2.62	1.50	-.08	-.25**	-.16**	-.36**

Notes: Level 1 - state; Level 2 - trait.

N = number of observations.

* *Correlation is significant at the p .05 level (2-tailed);* ** *Correlation is significant at the p .01 level (2-tailed).*

Analyses for Effects

Primary Tests. A Linear Mixed Effects (LME) modelling approach was used to analyse responses over time at Level 1 (state level) and individual Level 2 responses (trait level). Data for all days were analysed for serenity and sadness with all Level 1 self-compassion components as predictors and in a separate model with all Level 2 self-compassion components as predictors. Following best practices (Raudenbush & Bryk, 2002), variables were person centred at Level 1, and grand centred at Level 2. The intraclass correlation coefficient (ICC) scores for serenity and sadness were greater than .01 (ranging from: ICC .30 to ICC .49), indicating sufficient variability to perform nested models.

State Self-Compassion and Mood Effects

Associations between state self-compassion subscale measures and affect (Table 12) showed on days when self-kindness was higher people reported greater serenity (β = .71, *SE* = .08, *t*(419.714) = 9.01, *p* = .001) and also less sadness in solitude (β = -.26 *SE* = .08, *t*(421.708) = -3.26, *p* = .001). On days when participants experienced greater mindfulness they also experienced less sadness (β = -.19 *SE* = .09, *t*(421.708) = -2.01, *p* = .045). Unexpectedly, on days when participants experienced greater common humanity, they reported greater sadness (β = .23 *SE* = .08, *t*(421.708) = 2.72, *p* = .007). Hypothesis 1 was then partially supported.

Trait Self-Compassion and Mood Effects

Holding constant state-level self-compassion effects on mood, and in contrast to its state-level effects, greater trait-level common humanity was associated with *lower* sadness (β = -.46 *SE* = .16, *t*(116.147) -2.88, *p* = .005) (see Table 12). No other trait effects were found meaning Hypothesis 2 was partially supported.

Table 12

Study 5: linear mixed effects levels 1 and 2

Level 1	ß	*se*	*t*	*p*	*Level 2*	ß	*se*	*t*	*p*
Serenity	-	-	-	-	Serenity	-	-	-	-
Self-Kind	0.71	0.08	9.01	.001**	Self-Kind	0.07	0.14	0.50	.620
CH	0.20	0.08	0.25	.803	CH	0.28	0.13	2.15	.034
Mindfulness	-0.01	0.09	-0.96	.924	Mindfulness	-0.04	0.14	-0.27	.789
Level 1	ß	*se*	*t*	*p*	*Level 2*	ß	*se*	*t*	*p*
Sadness	-	-	-	-	Sadness	-	-	-	-
Self-Kind	-0.26	0.08	- 3.26	.001**	Self-Kind	0.20	0.18	1.14	.259
CH	0.23	0.08	2.72	.007*	CH	-0.46	0.16	-2.88	.005*
Mindfulness	-0.19	0.09	-2.01	.045*	Mindfulness	-0.23	0.18	-1.28	.202

Notes: CH – Common Humanity; Self-Kind – Self-Kindness.

Level 1: State level predictors by affect; Level 2: Individual level predictors by affect.

* *Significant at* $p < .05$; ** *Significant at* $p < .001$.

Conclusions

Study 5 was designed to investigate the extent to which components of self-compassion relate to more positive solitude experiences. The extent to which state and trait-level self-compassion related to positive experiences during young adults' brief periods of everyday solitude was examined. Findings partially supported the hypotheses. Firstly, it was anticipated that all components of state self-compassion during periods of solitude would link to greater serenity and lower sadness. However, models testing them simultaneously found that only self-kindness independently related to positive well-being on both mood measures during these periods. Specifically, self-kindness was associated with greater serenity and lower sadness. Mindfulness was associated with lower sadness, but there was no association between mindfulness and serenity. Unexpectedly, state common humanity was associated with *greater* sadness, though trait common humanity was related to *less* sadness, consistent with our expectations. In all, findings suggested that state self-kindness was a particularly important component that benefited well-being in solitude.

Changes Implemented for Study 6

Drawing on the findings from Study 5, Study 6 was designed to specifically target self-kindness in self-nurturing, planned solitude time. The goal was now to explore the self-kindness component of self-compassion specifically in a middle and older adult sample.

The activity menu was adapted to include options which encouraged selection of self-nurturing activities, such as taking a bubble bath or engaging in a hobby. Participants allocated to a self-compassion group were also provided with information about the construct at the start of the study. This allowed comparison between those who engaged in planned solitude activities targeted towards self-kindness and a control group.

Due to potential time demands and life stressors for the community sample included in Study 6 (Donovan & Blazer, 2020), participants completed the study in three instead of five days. Reasoning for this decision was to encourage participant retention, reduce burden, and accommodate for time demands of the middle and older adult sample (for example, see Brueton et al., 2014).

Study 6

First, given its predictive power in Study 5, Study 6 focused on the links between *self-kindness* and well-being in solitude and sought to replicate effects identified and furthermore expand on them. Therefore, Study 6 expanded on Study 5 in three additional ways to build on Study 5 findings.

Study 6 sampled middle and older adults recruited from the community through community outreach and snowballing efforts. The focus was on self-kindness to replicate and expand the findings of Study 5. It was anticipated that self-kindness would benefit solitude for older adults as they had in the young adult sample. As people age, they, on the whole, experience greater benefits from momentary solitude (Pauly et al., 2016), including feeling more peaceful affect and lower loneliness (Weinstein et al., 2021). However, older adults also spend greater periods of time alone (Cotterell et al., 2018) and experience life stressors such as loss of a spouse and increased health concerns (Donovan & Blazer, 2020). By bringing self-compassion to solitude experience, difficulties encountered may be negated by providing a healthier, less damaging way of relating to oneself (Neff, 2003a).

Study 6 also implemented a self-kindness intervention that promoted self-kindness during solitude periods. Since previous research has found self-compassion interventions to be effective when presented over time (Dimidjian & Hollon, 2010), the second study tested self-kindness specifically presented repeatedly over three days of the study.

Third, three additional mood indicators were considered in solitude: guilt, vitality, and isolation. Guilt is a broadly negative emotion that is more energised than the low-arousal negative emotions tested in Study 5 (Luck & Luck-Sikorski, 2021), which may stem feeling that one is a burden to others (Pedroso-Chaparro et al., 2021) or responsible for negative outcomes (French et al., 2023). In older adults it may reflect ruminative tendencies that are difficult in solitude (Baumeister et al., 1995; French et al., 2023). In addition, subjective vitality was tested, which includes a positive energy stemming from feeling able to self-express and explore when free from external demands and conflicts (Ryan & Frederick, 1997). Vitality is also important for older adults, for example when providing care for a loved one and who are restricted in their activities by conflicting work or family demands (Lindt et al., 2020). Finally, isolation was also tested to identify solitude periods that also feel alienating when individuals low in self-compassion evaluate their solitude time as standing in the way of human connection (Fakoya et al., 2020). Isolation and its corresponding feeling of loneliness was also important because of its many health costs in older adults (Phillips et al., 2023).

Three hypotheses (H) were tested:

H1. State self-kindness would be linked with greater serenity and vitality, and lower sadness and isolation.

H2. Trait self-kindness would be linked with greater serenity and vitality, and lower sadness and isolation.

H3. Those assigned to the Kindness Self-Compassion condition would report greater serenity and vitality, and lower sadness and isolation when compared with those assigned to the Control condition.

Methods

Participants

A community middle and older adults sample of *N* = 158 was recruited for this study. This sample is comparable in size to daily diary studies focusing on everyday solitude (Weinstein, Hansen, et al., 2023). Exclusions were applied for 18 participants because they did not complete the initial survey and therefore had no scores for trait self-compassion and 4 participants withdrew, leaving a sample size of 136. One Control group participant completed an initial survey for self-compassion in error. That participant remained in the control group for analysis since this was the condition to which they were most exposed. Three participants (two in the Control group and one in the Kindness Self-Compassion group) completed one extra day in error, one participant from the self-compassion group completed only two days, and another completed one day. Responses were retained where participants had a completed initial survey and at least one daily survey.

The sample included 45.59% aged 50 - 64 years (middle-age range) and 53.68% aged 65 - 89 years (older age range) (see Table 10 for standard demographic characteristics). Considering health conditions, 33.1% reported having a diagnosed physical or psychological health condition. For 27.2% of the sample diagnosis was for a physical condition, whereas 2.2% reported having a psychological condition, and 2.2% reported experiencing both physical and psychological conditions. For most participants, physical condition did not restrict their mobility (57.4%), with 1.5% reporting extreme restricted mobility. Meeting people was not restricted by physical condition in 77.9% of participants, with 0.7% experiencing extreme restriction on meeting others. Independence was not restricted by physical condition 74.3% of the time but was extremely restrictive for 1.5% of participants.

In general, participants reported feeling no more content being around others compared with being alone, with 39% selecting 3 on a scale of 1 (*not at all*) to 5 (*extremely*).

Care was provided informally by 17.6% of participants, with most people providing care once per week (6.6%) or two to three times per week (5.9%). Care was provided for a parent 6.6% of the time, sibling 3.7%, friend or neighbour 2.9%, a spouse or partner 2.2% of the time, grandparent 1.5%, and 1.5% reported ‘other,’ with 0.7% caring for a grandchild and 0.7% caring for their mother-in-law.

Ethics Approval

This research received was reviewed by our University Research Ethics Committee (2023-065-NW). Recruitment was carried out by advertising through posters, social media, community activity centres, a university database, and through snowballing. Informed consent was obtained from all participants.

Procedure

Participants were recruited between July and November 2023. Participants accessed the study through Qualtrics (Qualtrics, 2022). An initial survey was completed before the start of the three-day diary study. Consent and demographic information were collected within the initial survey along with trait self-compassion.

Participants received one of two versions of the initial survey: Participants in the Control group completed study surveys only. In contrast, the Self-Compassion Kindness group were asked to plan three activities to complete for 30 minutes per day over the three study days, consistent with the guidance provided in Study 5. The Self-Compassion Kindness group was also presented with additional information about the benefits of solitude and self-compassion, and led through an exercise considering how self-kindness could fit into their solitude experiences, and to identify any barriers and facilitators to implementing self-kindness in their solitude. Subsequently, participants completed an evening survey on each of three days. Participants received £20 for their time.

Measures

State Self-Compassion Scales (Neff et al., 2021). The self-kindness component from the scale was used, as described for Study 5. Items were rated on a scale from 1 (*not at all true for me*) to 5 (*very true for me*). At the state level, internal consistency was: $\alpha = .95$ and at the trait level consistency was: $\alpha = .85$.

PANAS Serenity, Sadness, and Guilt (Watson & Clark, 1994). The subscales were included to measure affect throughout the study, as for Study 5. For guilt, three of the six subscale items for guilt were included: 'guilty', 'ashamed,' and 'blameworthy.' These items were selected since they most appropriately matched the nature of the study, which was to encourage greater self-care and well-being. Items were rated on a scale of 0 (*not at all*) to 6 (*extremely*). Serenity: $\alpha = .93$; sadness: $\alpha = .95$; guilt: $\alpha = .94$.

Isolation. No suitable measure for isolation for the current study was identified. The intention was to understand people's experiences of being alone separately from self-compassion. For these reasons three questions to measure isolation. Were constructed: "how much did you feel alone?"; "how much did you feel lonely?"; "how much did you feel isolated?" Items were rated on a scale of 0 (*not at all*) to 6 (*extremely*). Isolation: $\alpha = .88$.

Subjective Vitality (Ryan & Frederick, 1997). Three items were included from this scale to measure perceptions of well-being in terms of energy levels and alertness. An example statement was '*I felt alive and vital*'. Items were rated on a scale of 0 (*not at all*) to 6 (*extremely*). Vitality: $\alpha = .92$.

Results

As for Study 5, data was organised using SPSS (IBM Corp, Released 2021), centred for state and trait self-kindness using R (Bates et al., 2015), and analysed using JASP (Team, 2023). Interaction effects for condition were analysed using R (Bates et al., 2015).

Activity Selection

At the end of the study, participants in the Self-Compassion Kindness group reported engagement in activities using the menu: relaxation 30.6%, engagement in a hobby 20.9%, nature connection 19.4%, spirituality 14.0, and self-care 13.2%.

Correlations

State self-kindness was correlated with all mood and well-being variables, *ps* < = .01 (Table 13). Sadness, guilt, and isolation correlated negatively with both self-kindness and serenity. There were no significant correlations for sadness, guilt, or isolation with vitality.

For trait self-kindness, all but four correlations were significant at *ps* < .01. There were no significant correlations for sadness, guilt, or isolation with vitality. There was also no relation between isolation and self-kindness. Sadness, guilt, and isolation correlated negatively with self-kindness and sadness correlated with isolation and lower serenity.

Table 13

Study 6: correlations levels 1 and 2

Level 1; N = 541	*M*	*SD*	1	2	3	4	5
1. Self-Kindness	3.59	1.13	-	-	-	-	-
2. Serenity	4.32	1.35	.53**	-	-	-	-
3. Sadness	1.05	1.49	-.29**	-.26**	-	-	-
4. Guilt	0.83	1.32	-.25**	-.22**	.87**	-	-
5. Isolation	1.13	1.39	-.22**	-.17*	.76**	.73**	-
6. Vitality	3.99	1.45	.43**	.65**	-.06	-.02	-.05
Level 2; N = 541	*M*	*SD*	1	2	3	4	5
1. Self-Kindness	3.43	0.80	-	-	-	-	-
2. Serenity	4.34	1.33	.22**	-	-	-	-
3. Sadness	1.06	1.50	-.12**	-.26**	-	-	-
4. Guilt	0.84	1.31	-.11**	-.22**	.87**	-	-
5. Isolation	1.13	1.38	-.08	-.17**	.76**	.73**	-
6. Vitality	4.05	1.43	.26**	.65**	-.06	-.02	-.05

Notes: Level 1 - State; Level 2 - Trait.

N = number of observations.

* *Significant at p < .05;* ** *Significant at p < .01 level (2-tailed).*

Primary Analyses

To compare state self-kindness and trait effects with mood, an LME approach was used in Study 2. Model 1 included effects of state self-kindness (Level 1) and mood effects, including serenity, sadness, guilt, isolation, and vitality. Model 2 included trait self-kindness (Level 2) and mood effects as above. Group differences were analysed for all variables at state level (Model 3) and trait level (Model 4) to check for condition effects.

The intraclass correlation coefficient (ICC) scores for serenity, sadness, guilt, isolation, and vitality were greater than .01 (ranging from: ICC .29 to ICC .41), indicating sufficient variability to perform nested models.

State Self-Kindness and Affect. On days when participants were higher in self-kindness they were more serene (β = .60, *SE* = .08, *t*(238.316) = 7.27, *p* = .001), less sad (β = -.37, *SE* = .06, *t*(236.540) = -6.35, *p* = .001), less guilty (β = -.29, *SE* = .05, *t*(238.701) = -6.12, *p* = .001), felt less isolated (β = -.15, *SE* = .07, *t*(232.954) = -2.09, *p* = .037), and more vital (β = .42, *SE* = .09, *t*(235.527) = 4.55, *p* = .001) during the day's corresponding solitude period (see Table 14). Hypothesis 1 was supported.

Trait Self-Kindness and Affect. Results at the trait level were less consistent than those linking state self-compassion to affect (Table 14). Participants who scored higher on trait level self-kindness reported greater serenity (β = .39, *SE* = .11, *t*(130.841) = 3.53, *p* = .001) and vitality (β = .43, *SE* = .12, *t*(127.748) = 3.67, *p* = .001) across the solitude events of the study. Hypothesis 2 was supported, in part.

Table 14

Study 6: linear mixed effects levels 1 and 2 for state and trait self-kindness condition effects

Model 1	ß	*se*	*t*	*p*
Serenity	0.60	0.08	7.27	.001**
Sadness	-0.04	0.06	-6.35	.001**
Guilt	-0.29	0.05	-6.12	.001**
Isolation	-0.15	0.07	-2.09	.047*
Vitality	0.42	0.09	4.55	.001**
Model 2	ß	*se*	*t*	*p*
Serenity	0.39	0.11	7.27	.001**
Sadness	-0.16	0.11	-1.45	.150
Guilt	-0.14	0.10	-1.44	.152
Isolation	-0.13	0.11	- 1.12	.265
Vitality	0.43	0.12	3.67	.001**
Model 3	ß	*se*	*t*	*p*
Serenity	0.42	0.20	2.08	.040*
Sadness	-0.35	0.22	-1.57	.118
Guilt	-0.34	0.20	-1.71	.089
Isolation	-0.26	0.23	-1.15	.252
Vitality	0.47	0.20	2.33	.021*

Notes: Model 1: State self-kindness by affect; Model 2: Trait self-kindness by affect; Model 3: Condition effects for trait self-kindness.

* *Significant at p < .05;* ** *Significant at p < .001.*

Self-Compassion Kindness Condition Effects

It was hypothesised that condition would affect outcomes. Condition did not predict daily affect (Table 14). There were, however, significant interaction effects between trait self-kindness and condition predicting daily serenity and vitality: serenity (β = 0.42, *SE* = .20, *t*(132, 731) = 2.08, *p* = .040); vitality (β = 0.47, *SE* = .20, *t*(133, 380) = 2.33, *p* = .021).

Simple slopes analyses showed no association between trait self-kindness and serenity for people in the Control condition (β = .19, SE = .13, *p* = .150). On the other hand, trait self-kindness was significantly associated with serenity for people in the Self-Compassion Kindness condition (β = .61, *SE* = .15, *p* = .001). Simple slopes analyses for vitality similarly showed no association with trait self-kindness for those in the Control condition (β = .23, *SE* = .13, *p* = .090), but a significant association for people in the Self-Compassion Kindness condition (β = .70, *SE* = .15, *p* = .001). Hypothesis 3 was not supported. However, it appeared that participating in the Self-Compassion Kindness intervention unlocked the benefits of trait self-compassion on positive affect benefits of solitude.

Conclusions

Study 6 focused on the self-kindness component of self-compassion, following Study 5 results that suggested especially robust results for this component. Results largely replicated those of Study 5, now in middle and older adults. State self-kindness was linked with more positive affect and less negative affect on all indicators, but we observed mixed benefits for trait self-kindness. At the individual-difference level, self-kindness linked with more positive affect indicators (serenity and vitality) but did not appear to protect from lower negative affect indicators such as isolation and sadness.

New to this study, participants were also assigned to receiving a Self-Compassion Kindness experimental intervention which encouraged them to incorporate self-kindness through self-nurture or self-care. The findings did not support the expectation that middle and older adults would report more positive and less negative affect than their Control group counterparts. However, an unpredicted interaction effect was observed between condition and trait-level self-compassion. Participants assigned to the Self-Compassion Kindness condition only benefited if they were already high in trait self-kindness – those participants drove benefits for greater serenity and vitality.

General Discussion

Two studies explored links between trait and state self-compassion and event-specific mood during moments of intentional solitude during the everyday life of younger (Study 5), middle and older (Study 6) adults. Findings suggested that state self-compassion, and self-kindness in particular, played a role in positive solitude experiences during which people – both young adults and middle and older adults – experienced well-being. Across studies, they indicated that state levels of self-kindness was robustly associated with greater positive and less negative affect during solitude; when people entered solitude with a mindset characterized by self-kindness, they were more likely to attain well-being benefits, and less likely to incur well-being costs, of being alone. These findings build on previous self-compassion research that has shown benefits for psychological resilience and well-being (Trompetter et al., 2017). Despite its potential benefits, little was known about self-compassion during experiences of solitude, despite a growing understanding that solitude holds costs (Lay et al., 2019) such as loneliness (Dahlberg et al., 2022), and benefits including peaceful affect (Adams & Weinstein, 2023; Nguyen et al., 2018). These findings supported a view that perhaps because the dominant relationship during solitude time is with one’s self (Weinstein, Hansen, et al., 2023), self-compassion allows for benefits akin to those by compassionate friends during social interactions (Pezirkianidis et al., 2023).

Whereas *state-level* relationships between self-kindness and affect were largely consistent across the two studies, results were mixed when examining trait-level self-kindness. Specifically, in Study 5 trait self-kindness was linked with negative but not positive affect in solitude, but in Study 6 links between trait self-kindness and positive but not negative affect during solitude were found. While previous research has suggested that trait self-compassion has well-being benefit (Beshai et al., 2018), research has not examined trait self-compassion in direct relation to daily fluctuations nor has it considered solitude. Future research exploring the capabilities of trait-level self-compassion components would be informative for understanding its capabilities and limitations in fostering well-being.

Furthermore, despite null effects of trait self-kindness on negative affect indicators such as sadness or isolation in Study 6, self-kindness was robustly associated with higher serenity and vitality at a trait level for our middle and older adult sample. It may indeed hold benefits in solitude, but that these may extend to increasing positive aspects of the solitude experience rather than protecting against the more difficult affective aspects of time alone. These findings also inform previous research which demonstrates that self-compassion increases with age (Ewert et al., 2021; Homan, 2016; Phillips, 2021a), and suggests that being alone with greater access to self-kindness within this age group, the ability to have developed self-kindness across time may play an important role in older adults achieving the well-being benefits of solitude.

It is worth noting that the findings linking trait self-kindness to positive affect in Study 6 may also be due to the Self-Kindness Compassion intervention implemented in this study. Specifically, drawing on the benefits found for self-kindness in Study 5, Study 6 compared participants who were led through an exercise planning ways to incorporate self-compassion into their solitude time with those who pursued solitude time as usual. No hypothesised condition effect on affect in solitude was found, but an interaction between condition and trait self-kindness was observed. The experimental condition appeared to have activated benefits of self-kindness on affect; those high in trait self-kindness who took part in the structured plan benefited in terms of feeling more peaceful and vital. The attempt to inspire self-compassionate time was not new - previous research focused on loving-kindness mediation supports inclusion of self-kindness in interventions. Like self-compassion, loving-kindness meditation involves sending feelings of kindness and care towards oneself (Neff, 2023; Reilly & Stuyvenberg, 2022). While self-kindness defined by Neff (Neff, 2003a) includes recognition of one’s suffering, failings, and inadequacies (which loving-kindness mediation does not), it also includes fostering warmth, understanding, and acceptance towards oneself. However, in this study specific benefits for solitude experiences were observed that indicated that such interventions may unlock potential already within participants.

Results predicting guilt, sadness, and isolation highlighted the power of state self-compassion in protecting from these feelings, but consistent benefits from trait self-compassion were not found. Yet these three emotions within solitude are important: Guilt is too often experienced in adults aged 60 years and over when they perceive themselves as a burden to others (Pedroso-Chaparro et al., 2021), or in certain life circumstances common to older adulthood, such as when caring for a relative (Muro Pérez-Aradros et al., 2023). Older adults are also at risk for isolation (Lindt et al., 2020). In addition, it has been noted that older adults could face less unpredictable stressors and less novel experiences which give rise to negative emotions such as sadness in daily life compared with young adults (Mikkelsen et al., 2024). It may be that other factors besides trait self-kindness were related to lower guilt and sadness over the days of the research; future research exploring the role of self-kindness in reducing guilt and sadness in particular populations especially prone to it, such as caregivers (Lee et al., 2022; Muro Pérez-Aradros et al., 2023) or those with chronic health issues (Lee et al., 2020), will be important to understand the potential and limits of kindness towards oneself for well-being. For example, this research did not investigate unpredicted stressors (or lack of these) throughout the study so cannot rule out any impact they may have had on these negative emotions or potential protective powers of self-compassion.

Study 6 also explored subjective vitality, defined by the experience of positive energy regulated by the extent to which one feels free from external demands and conflicts (Ryan & Frederick, 1997). Greater vitality was found for participants who were higher in trait self-kindness at the start of the study and who engaged in self-kindness activities over the three days. In older adults specifically, vitality is reportedly achieved through two routes: 1. Connectedness through engagement with one's social and external world; 2. Connectedness through engagement with one's values and goals (Julien et al., 2024). Self-kindness activities in Study 6 may have enhanced vitality through either of these routes. For example, solitude moments in nature may connect individuals to the broader world and therefore vitalise (Ryan et al., 2010). Alternatively, individuals may have engaged in rewarding activities, and for these reasons benefited in terms of greater vitality. These mechanisms would be fascinating to explore in future research.

The findings that state self-kindness was important within solitude moments speaks to its role in populations challenged with vulnerabilities, such as academic challenges faced by students to meet expectations (Stallman et al., 2018), and cognitive vulnerabilities such as perfectionism or tendency to ruminate (Cabaços et al., 2023). In older adult populations the nature of the stressors shifts, and includes declining health, caregiving for ageing family members, retirement, and loneliness introduces vulnerabilities in older adult populations

(Dahlberg et al., 2022; Jaul & Barron, 2017; Schulz et al., 2020). Across challenges, state self-kindness may help people to accept challenges and failures with greater resilience. It may offer a way to connect with one's thoughts and feelings when faced with these challenges (Neff, 2023). Future research that examines these possibilities would be fascinating and inform the literature about the power, and potentially, the limitations of self-compassion as a driver of positive everyday solitude experiences.

Another interesting avenue to explore would be to examine these processes when dyads, such as caregivers and care recipients, engage in planned activities together. Self-kindness benefited mood in crafted solitude in the current study; other benefits could also result from joint kindness activities using a dyadic approach. It has also been noted that psychological interventions should target dyads when working to improve mental health outcomes in couples (Landolt et al., 2023), and dyadic interventions can improve relationship quality and well-being (Hua, 2024) because mental health experiences are shared within couples (Landolt et al., 2023; Nap-van der Vlist et al., 2021).

Limitations and Future Directions

In this research self-kindness was a key facilitator for better mood in young, middle, and older adults, but data were collected over brief periods of five and three days for practical purposes. It would be interesting to explore benefits of self-kindness in planned solitude over a longer period to understand the dose required for optimal results. It may be that self-kindness takes more time to develop. For example, an eight-week self-compassion intervention is recommended for increasing total self-compassion (Germer & Neff, 2019). In the previous writing intervention research (see Chapter 3), the interrelationships between the three protective components proposed by Neff (Neff, 2003a) were investigated. Self-kindness was found to be particularly beneficial in this research, as it was in the current studies. Study

6 of the current research extended these findings, testing self-kindness specifically over a longer period in middle and older adults. Extending this intervention across a number of days allowing comparison of the impact of self-kindness trait and state on mood over time. However, self-compassion is achieved over longer spans of time, and participants were not asked about their previous experiences of self-compassion or meditation practices. For example, experienced meditators have reported greater mindful attention (attention to present moment) compared with non-meditators (Somaraju et al., 2023). Long-term benefits of such practices for emotions in solitude would be highly informative.

It would also be interesting to compare young, middle, and older-adults on self-kindness activities in future research. Indeed, age has been found to moderate the relationship between self-compassion and coping (Ewert et al., 2021). Furthermore, younger and older adults differ on application of emotion regulation strategies (Sardella et al., 2023). It would be insightful to investigate how planned self-kindness in solitude affects mood and well-being outcomes.

Conclusions

This research provides insight into how self-compassion shapes the solitude experiences of younger, middle, and older adults in everyday life. Findings indicated that entering solitude with a mindset of self-kindness facilitates a more positive experience characterised by positive affect and less negative affect. Boosting self-kindness via a brief and short term self-led intervention benefitted middle and older adults who were already high trait self-kindness and led to higher levels of serenity and vitality, suggesting powerful interventions are needed that foster long-term and short-term resilience for lasting well-being during time alone.

Data Availability Statement

The data sets generated during this study are available in the Open Science Framework repository (Wiita et al., 2024, October 24).

Funding

This project has received funding from the European Research Council (ERC) (SOAR-851890).

4.6 Summary of Chapter 4

This chapter explored benefits of self-compassion in solitude time. From focusing on all self-compassion components in a pilot study with young adults, it was evident that self-kindness was linked with beneficial outcomes. This finding was consistent with the experimental work in Chapter 3 focused on informal caregivers of older adults. Together, the findings discussed in Chapters 2 and 3, and from Study 5, steered the focus exclusively towards the self-kindness component of self-compassion in the final study with middle and older adults (Study 6).

Inclusion of a middle and older adult sample was a necessary shift in focus to understand well-being within the age range who often care for older adults informally. It was highlighted that care is often provided to older adults by an adult child or spouse (Schulz et al., 2020). Furthermore, reported age for these informal caregivers is often >50 (for example, see Hall et al., 2022; Murfield, Moyle, Jones, et al., 2020; Sabo & Chin, 2021). It was necessary then to explore well-being in an age range of >50.

Including a middle and older adult sample was not likely to have impacted on the findings for thesis. Instead, this shift provides greater insight into the people most likely to provide informal care, or to become informal caregivers in the near future. Ideally, this research can be later tested in an informal caregiver sample to provide a more complete overall perspective.

Study 6 showed that engagement in planned self-kindness activities was particularly beneficial for greater serenity and vitality. However, these benefits were linked specifically with trait self-kindness. In line with recommendations for engagement in an eight-week self-compassion program (Neff & Germer, 2018; Neff & Germer, 2013), it is possible that with practice, people who were not already high in trait self-kindness may have shown benefits over time. Future research testing planned self-kindness activities over a period of at least eight weeks would then be needed to understand whether benefits could be strengthened in middle and older adults.

Chapter 5

Discussion

The current thesis focused on psychological well-being in informal caregivers of older adults and how to support this. Self-compassion was central to the completed work. This work developed deeper understanding of the self-compassion experiences of caregivers. Different components of self-compassion were tested to understand how they related to mood. Later, planned positive solitude experiences were incorporated into research testing whether self-compassion could enhance the benefits of time alone. This latter work was tested in young adults, but targeted towards middle and older adults specifically because this is a time when people often care for an older adult, such as a family member (Schulz et al., 2020). Another reason for the latter work was because time alone tends to increase with greater age (Cotterell et al., 2018), but time alone can be utilised for its benefits (Adams & Weinstein, 2023; Nguyen et al., 2018), despite its potential pitfalls (Lay et al., 2019).

This chapter will synthesise the findings from the studies discussed in the empirical chapters of this thesis. The strengths and weaknesses of these studies, as well as their novel contributions to knowledge will be considered. The chapter will conclude with a reflection on the findings and recommendations for future implementation of a self-compassion intervention specifically for caregivers of older adults.

5.1 Overview and Implications of Findings

In Chapter 3, everyday experiences of self-compassion in informal caregivers of older adults were explored. Through interviews constructed by drawing on the theoretical concepts of Neff (2003a) and Gilbert et al. (2017), six themes were generated providing a representation of self-compassion experiences in the everyday lives of caregivers in this sample (Wiita et al., 2024). In the eyes of the caregivers, the concept of self-compassion was broad, but in essence included connecting with and prioritising one's own needs.

Findings from Study 1 demonstrated the need for caregivers to be gentle with themselves when faced with challenges (Neff, 2003a). In the theme 'compromise and conflict' caregivers were challenged by their perception of their lack of ability to meet the recipient's needs (Wiita et al., 2024). This finding echoes the negative pole of self-judgement, in which the person focuses on their faults or failures (Neff, 2003a). From the theme 'self-compassion means connected self is prioritised' (Wiita et al., 2024), a barrier to self-compassion linked with an outward focus of compassion from caregiver to recipient was identified. For caregivers to overcome this barrier, this focus needed to encompass self-awareness, self-acceptance, with alignment of one's behaviour to meet one's needs (Klussman et al., 2022). However, focusing on the recipient's needs was highly prioritised by caregivers, leaving little opportunity for this self-connection.

The tendency for caregivers to direct compassion outwardly onto the recipient demonstrates their use of emotion focused coping strategies (Lazarus & Folkman, 1984). This means that caregivers rely more strongly on emotional triggers when experiencing challenges and do not focus on practical elements of the situation to reach solutions (Lazarus & Folkman, 1984). The reason for this is likely tied to the emotional bond they have already established with the recipient (Ceylantekin et al., 2023; Mroz et al., 2023; Shin & Gyeong, 2023). In the three flows of compassion, emotions are regulated through interactions within the relationship (Gilbert et al., 2017), and responses of the other person can elicit emotions. Since compassion involves 'sensitivity to suffering' (Gilbert et al., 2017), this can be particularly challenging when the caregiver observes suffering in their loved one (for example, see Lloyd et al., 2019; Murfield et al., 2021). Indeed, it was noted that caregivers have found helping their loved one natural to them whereas helping themselves felt awkward

(Murfield et al., 2021). Caregivers could then struggle to focus on their own needs because they perceive the recipient as a priority.

The findings from Study 1 relating to self-connection tie in with findings from Studies 2 and 3, in which results suggested engagement in mindfulness was linked with detrimental rather than beneficial effects. The writing exercises for the latter two studies involved connecting with a difficult caregiving experience. In Study 1, caregivers connected with these experiences from a self-judgemental standpoint in the theme ‘compromise and conflict’, when considering this finding from the standpoint of Neff (2003a) (Wiita et al., 2024). However, not yet addressed in the literature, in Study 1 caregivers also described engaging in activities they enjoyed as a form of self-compassion (Wiita et al., 2024).

The above findings highlight challenges in the mindfulness component of self-compassion for informal caregivers, and the ability to connect with one’s own needs in order to fulfil them. Self-connection requires the caregiver to identify their needs (Klussman et al., 2022), whereas mindfulness requires the caregiver to acknowledge the difficult experiences and feelings they encounter (Neff, 2003a). Yet, in meeting multiple demands (Pearlin et al., 1990), within the context of the relationship (Pearlin et al., 1990; Reid et al., 2005), informal caregivers struggle to engage in activities which fulfil their own needs (del-Pino-Casado et al., 2021; Gilbert et al., 2017). Furthermore, the needs of the caregiver are split between concerns to fulfil caregiving demands paired with recognition of their own values and needs (Pearlin et al., 1990). Mindfulness for informal caregivers then involves acknowledging and accepting challenges within the care relationship, acknowledging and accepting challenges in caring for the recipient, acknowledging and accepting challenges in observing deterioration or suffering in the recipient, whilst also acknowledging and accepting one’s own feelings and struggles. The current research shows that teaching the mindfulness component of self-compassion needs to go beyond the concept of Neff (2003a), extending to each of these facets in the caregiving experience.

In contrast to the findings described in this thesis, mindfulness-based interventions have been found to benefit psychological well-being in informal caregivers (for example, see Kor et al., 2018; Kor et al., 2019; Kor et al., 2020; Whitebird et al., 2012). However, in line with the current findings, mindfulness-based interventions have also sometimes been found to be detrimental to well-being (Baer et al., 2019; Baer et al., 2021). These conflicting results highlight the complexity of mindfulness but they also highlight that it could be powerful if used correctly. Recommendations for testing mindfulness-based interventions include attending to the following: psychoeducation and support for participants, ensuring shared understanding of mindfulness for both teachers or researchers and participants; intensity of the practice; adaption of mindfulness practices for people with vulnerabilities (Baer et al., 2019). This latter recommendation strengthens the recommendation to include a multifaceted approach, acknowledging all aspects of the caregiving experience.

In the current research, one way that informal caregivers overcame difficulties in Study 1 was by adopting a ‘coping mindset’ (Wiita et al., 2024). In this study, participants who adopted this mindset tended to look upon difficulties with acceptance and without dwelling on them. This again links with the component of mindfulness (Neff, 2003a), whilst highlighting the importance of incorporating a much broader focus when applying mindfulness in interventions for caregivers. For example, it is possible that writing with mindfulness in Studies 2 to 4 needed to include focusing on openness and acceptance of the difficult caregiving experience from all the angles described above - the care relationship, the challenges of caregiving, the observed difficulties in the recipient, and the caregiver’s own difficult feelings.

The complexity of coping for informal caregivers has been described in the literature in the context of role strain and role conflict (Goode, 1960; Pearlin et al., 1990). Role strain can be observed when performance in one role impacts on performance in another (Goode, 1960), whereas role conflict occurs when the caregiver is faced with multiple tasks at once making fulfilling all of them challenging, if not impossible (Pearlin et al., 1990). In the current research, role strain was apparent for caregivers through their strong outward focus on the care recipient which meant focusing on others, and themselves, was difficult. Due to the informal nature of caring in the current research, caregivers were also often faced with multiple tasks, including work commitments and helping their family members (Lam et al., 2022; Lei et al., 2023; Pearlin et al., 1990). Breaking these challenges down, focusing on each separately to strengthen the mindset of openness and acceptance could facilitate self-compassion training for caregivers.

Engagement in a difficult caregiving experience with common humanity showed mixed results in Studies 2 and 4. Little difference in effects for this condition was found compared with a control condition in Study 2. Yet engagement in self-kindness and common humanity components without mindfulness in Study 3 showed slightly greater benefits for increased common humanity at time 2. These findings further demonstrate the complexity of mindfulness for informal caregivers. For example, the theme ‘connection with others’ in Study 1 was a facilitator for self-compassion (Wiita et al., 2024). However, caregivers felt alone when they were unable to observe others experiencing the same struggles. These findings suggested that writing with common humanity requires greater preparation for caregivers, ideally involving learning through support groups for caregivers, building on previous work showing that support groups benefit caregivers (for instance, see Etxeberria et al., 2021; McLoughlin, 2022). The current research suggested that common humanity may be one reason that social support from peers has well-being benefits, including lower depressive symptoms (Zhong et al., 2020); it may be that such support elicits well-being in part through its benefits to common humanity. Delivery of support groups with inclusion of training to strengthen the mindfulness and common humanity components of self-compassion for caregivers needs careful preparation and research, but this could compliment a self-compassion intervention for this population.

Time constraints of informal caregiving restrict quality time for self (Keita Fakeye et al., 2023; Klinedinst et al., 2023). Yet these time constraints also restrict time available for social connection, which is a potential risk factor for social isolation and loneliness (Sung et al., 2022). The current research showed caregivers often felt disconnected from others because of differences in circumstance, but also because they lacked time to socialise, or were preoccupied with concerns for their loved one. Research has shown promising findings from interventions which include peer support to decrease loneliness (Velloze et al., 2022). However, it was recommended that these interventions should be tailored for online delivery, to increase accessibility for time challenged caregivers (Velloze et al., 2022).

‘Setting boundaries’ was the final theme generated from the thematic analysis in Study 1 (Wiita et al., 2024). In this theme, caregivers described how they maintained separation to protect their well-being and other aspects of their lives. This was important, not only in providing opportunity for these caregivers to connect with their needs but also for maintaining time for themselves. Later, in Study 5, the interaction between solitude time and self-compassion in young adults was tested. In planning solitude time, young adults were able to create these boundaries around time for self.

Setting boundaries allowed time for self in Study 1, but it also allowed for separation of roles. Separation of roles was important for maintaining identity, for example, the role of parent, employee, and for maintaining a separate personal identity. Research has shown that informal caregivers often feel invisible, with their own values, skills, and life situation being held at a distance to meet the recipient's needs (Andréasson et al., 2018). However, engagement in an online social forum helped caregivers feel socially connected and less invisible (Andréasson et al., 2018). In the context of the current research, an online space for informal caregivers may create a boundary to allow for social connection and maintenance of an identity which is separate from the needs of their loved one.

Focusing on Study 5, opportunity for self-connection was created, which was part of the theme 'self-compassion means connected self is prioritised' in Study 1 (Wiita et al., 2024). Findings from Study 5 indicated that self-kindness was a particularly important element of self-compassion during solitude time. Looking across the studies included in this thesis, it is clear that self-kindness was beneficial for family caregivers facing challenges, but also for young adults who can sometimes struggle with solitude (for example, see Pauly et al., 2016). Self-kindness has been linked with better well-being in young adults (for example, see Neely et al., 2009; Stallman et al., 2018), and building on the current work, focusing on self-kindness in interventions could bring powerful positive emotional outcomes to caregivers. Drawing on these findings, Study 6 included planned self-nurturing solitude experiences with a focus on self-kindness in middle and older adults, thus allowing time to prioritise self-connection and enjoyment – as observed in the theme 'self-compassion means connected self is prioritised' in Study 1 (Wiita et al., 2024).

Self-connection offers another route for caregivers to connect with their needs, which may otherwise be neglected due to conflicting demands (Goode, 1960; Klussman et al., 2022; Pearlin et al., 1990). As previously noted, social connection can allow caregivers to remain in touch with their own identity (Andréasson et al., 2018); solitude offers opportunity to connect with one's needs and engage in activities of choice without distraction (Burger, 1995; Thomas, 2023). Self-connection has been identified as important for engagement in actions which align with one’s needs (Klussman et al., 2022). This then is a vital aspect of the theme ‘self-compassion means connected self is prioritised’ generated in Study 1, because to engage in activities aligning with one’s needs, one first needs to identify what these needs are (Klussman et al., 2022). Furthermore, one needs to monitor one’s experience during chosen activities to assess the outcomes, such as enjoyment or boredom.

In Study 6, a three-day intervention involving planned such self-nurturing solitude activities to encourage self-kindness was tested. As in Study 5, state self-kindness was related to benefits in solitude experiences. When looking at interaction effects of trait self-kindness, serenity and vitality were improved. Interestingly, this result was only found for people in the active condition if they were higher in self-kindness at the start of the study. These findings demonstrate that when middle and older adults are high in self-kindness, this can be strengthened, and over time and can enhance benefits in other areas of well-being (serenity and vitality). For people who did not show these benefits, it is possible they may have improved with more practice; as previously stated, self-compassion is a trainable skill which can be learnt (Neff, 2011).

The findings of Study 6 are particularly promising, since they provide insight into how the benefits of solitude and self-kindness could be accessed by older adults. Moreover, these findings may inform accessible interventions which incorporate time out from caregiving in the daily lives of informal caregivers of older adults, who are often older adults themselves (Schulz et al., 2020). By fostering self-kindness during alone time, caregivers may be better able to connect with their needs and spend time on activities that are enjoyable or important to them. By engaging in self-kindness they may also build resilience to thoughts of self-criticism and judgement (Neff, 2003a), leaving them better able to face future challenges.

5.1.2 Generalisability of Findings

The studies discussed in this thesis have explored self-compassion and well-being in informal caregivers of older adults. Participants varied in terms of the type of disease or disability that the recipient was trying to manage, the type of care provided for them, and the relationship between caregivers and care recipients. I will now briefly reflect on these differences to consider the impact they may have on generalisability of the findings.

The influence of these differences on caregiver experience is complex and dependent on multiple factors. Returning to Pearlin's Stress Process Model (Pearlin et al., 1990), caregiver experiences consist of four main domains including the caregiving context, the types of stressors, factors mediating the stress experience, and the outcome resulting from this experience (Pearlin et al., 1990). Informal caregiving for older adults can vary in each of these domains.

Looking at differences in care recipient disease or disability, these could influence the caregiving experience through behaviour of the recipient if they have dementia, for example (Allen et al., 2020). However, the established informal relationship could include challenging behaviour if a difficult relationship already exists between the caregiver and recipient (for example, see Wang et al., 2021). If family conflict is also an issue, this further stress can impact the caregiving experience (Dieker et al., 2024). Ultimately, the type of care provided by the caregiver, whether physical, psychological, or emotional will always occur within the context of these challenging family dynamics.

The relationship between a caregiver and recipient brings further potential stressors. If the recipient has dementia, the caregiver needs to adapt to a new relationship dynamic in which the recipient may demonstrate memory loss and balance impairment, for example (Mc Ardle et al., 2021). However, this shift in relationship role is not restricted to diseases linked with cognitive decline. A shift in relationship role applies to any caregiving exchange that exists within a relationship where it was not originally required. For example, whether caring for a parent, spouse, or even a friend, there will likely be a noticeable shift in relationship role because of the shift in recipient needs (for example, see Bredewold et al., 2020; Egilstrod et al., 2019; Eifert et al., 2015).

Looking to outcomes, caregivers may experience a number of negative outcomes with exposure to potential stressors. For example, greater depression and anxiety has been identified in informal caregivers compared with non-caregivers (Janson et al., 2022). However, caregiving has been linked with less negative outcomes and lower anxiety and depression for caregivers with a positive mindset, greater emotion regulation, resilience, and coping skills (Panzeri et al., 2024). These findings demonstrate that caregivers with exposure to similar experiences may experience different outcomes depending on their mindset, emotion regulation, resilience, and coping skills.

Returning to Pearlin's Stress Process Model (Pearlin et al., 1990), the complexity in variance between the four main domains of caregiving stress (context; type of stressor; mediating factors; resulting outcomes) suggests generalisability of the current research is strong because it includes a sample with varied backgrounds and experiences. Including research into well-being for middle and older adults more generally further strengthens this generalisability, because these age groups are most often the people providing informal care for older adults (Schulz et al., 2020).

5.1.3 Limitations and Future Directions

This research provides deeper understanding of self-compassion experiences for informal caregivers. This is an area which was largely neglected previously (Murfield, Moyle, Jones, et al., 2020). The samples have included British caregivers, but self-compassion could look different for caregivers living in different countries within different cultural contexts (for instance, see Falzarano et al., 2021; Zarzycki, Morrison, et al., 2023). Extending this research across different countries could further enrich knowledge about self-compassion for caregivers within these differing contexts.

Differing individual circumstances across caregivers also means that self-compassion experiences are likely vary between caregivers. Indeed, Pearlin et al. (1990) described how factors including previous experience in caregiving, level of dependency of the recipient, financial strain, caregiver competence in caring, social support, and caregiver physical and mental health should be considered within their Stress Process model. Although some of these differences were measured in the current research, such as recipient health conditions and caregiver access to outside assistance, research into the influence of each of these differences needs further carefully controlled investigation. This is beyond the scope of the current research, since such investigation would require much larger samples to focus specifically on each of these differences.

Another consideration is that the caregivers included in the current research may have varied in prior knowledge of self-compassion and associated practices for this. For example, people who reported that they are experienced in Buddhist meditation practices show significantly stronger links between self-compassion and forgiveness, and self-compassion and perspective taking compared with undergraduate student and adult community samples (Neff & Pommier, 2013). The influence of prior knowledge and experience of self-compassion interventions and practices was not investigated in the current research, but this could be an insightful focus for future research.

The findings show that self-kindness in the form of self-nurturing planned activity in solitude can benefit well-being. However, further research is needed for the self-compassion components of mindfulness and common humanity (Neff, 2003a). These components appear to be powerful, but also complex because they need focused work to incorporate the needs of caregivers, taking note of the many demands that they face (Lam et al., 2022; Lei et al., 2023; Pearlin et al., 1990). Mindfulness and common humanity training should then be tailored to meet the needs of caregivers in future interventions.

5.2 Conclusions and Contributions for Informal Caregiver Well-Being

In this thesis, understanding, experience, and influence of self-compassion for informal caregivers was explored, focusing on how this may be incorporated into their everyday lives. The findings led to the conclusion that self-compassion included taking time out for self-focus and self-kindness specifically.

The component of mindfulness was found to be a particularly complex area for caregiver self-compassion. This is likely because informal caregiving requires fostering self-compassion, and mindfulness specifically, with an approach which considers of all aspects of the care experience - the care relationship, the challenges of caring, the observed difficulties in the recipient, and the caregiver’s own difficult feelings.

Common humanity was beneficial but also sometimes challenging to foster for informal caregivers. This component needs close attention in self-compassion interventions for caregivers and could benefit from training through peer group support to compliment learning and fostering of a self-compassion mindset which includes common humanity.

Ultimately, the research found that asking people to create a space for self-focus and self-nurturing activities whilst incorporating self-kindness into the experience benefited mood (serenity and vitality specifically).

In all, the research in this thesis showed that a successful intervention to increase self-compassion and bolster well-being for informal caregivers of older adults should include specific training in mindfulness and common humanity. Planning time out for self-focus and enjoyment, whilst fostering self-kindness, should form part of this intervention. In this space, caregivers may then be able to reflect on their experiences and tend to their own needs without self-criticism or judgement.

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Appendix A: Interview Schedule for Study 1

Open question: As a caregiver, how would you describe what self-compassion is?

Self-kindness – the following questions will focus on how you look after yourself as a carer. We are interested in how and when you can be caring towards yourself.

1. Are there times when you are more able to experience kindness towards yourself?
2. Are there times when self-compassion may be difficult?
3. How do you see yourself outside of being a carer?

Common humanity

The following question will look at how you see other carers.

1. Are there times when you feel you are the only one in your position as a carer?

Mindfulness

The next question will focus on your feelings as a carer.

2. When difficulties arise, are you able to notice your feelings and still think clearly?

Engagement component:

For the following questions, I would like you to focus on how you view your feelings as a carer.

3. Thinking of situations which may be distressing as a carer, are you able to reflect on your feelings and make sense of them?
4. When experiencing distress as a caregiver, are you non-critical, non-judgmental, and accepting of these feelings?

Action component:

The final questions will focus on how you manage your feelings and situations you face as a carer.

5. As a caregiver, if you feel distressed, can you come up with ways to manage these feelings?
6. When dealing with a problem as a carer, would you focus on the easiest solution for yourself?

Appendix B: Themes with example quotes from participant interviews for Study 1

Themes	Participant quotes
1. Self-compassion means connected self is prioritised	Alex: *“It's taking time out for yourself erm, from er something that can be quite stressful so that you've got erm, you've actually just got space to go and relax and do whatever you want to do.”* Francesca: *“When I am doing the things that I enjoy doing. I just feel I am myself, I'm kind of happy inside me. If that that's being kind to oneself is erm, doing the things that you like doing, this is the time.”*
2. Compromise and conflict	Grace: *“You try your best to keep this person safe and well, and when they're not, it feels like your fault.”* Lily: *“But that's very difficult when you are looking after them and there's things you end up doing that you wouldn't normally do. It’s a role reversal, you know (chuckles) you end up in that role reversal.”*
3. Resource depletion	Julie: *“Because honestly, it's all I can fit in. Because as soon as I sit down with something on my lap, Dad will call me, and it'll be you know what time is it or what's this piece of fluff on the floor? Or, you know, I want a glass of water and I'll be up and down like a Jack in the box.”* Mel: *“Because you literally are just running you just, you know you're at their beck and call and they can't help it, they need that, and everything else, but it's all consuming.”*
4. Connection with others	Alex: *“Thankfully, I've got a friend who's going through a very similar thing, so we are sort of like a joint support network, which really does help. So, you can say “you're not going to believe” and she'll go “yeah, I do, I totally get it.”* Mel: *“Erm, I knew that there were other people out there, but I felt that they probably also have probably felt quite alone.”*
5. Coping mindset	Mark: *“Yes, yes, thinking of some of the situations I have to deal with. Erm, I tend to just sort of get on with it, you know and just, don’t (clears throat) try not to get upset and frustrated by things. Try and not to let it affect me…”* Alex: *“it's very much that you just kind of I I've always been somebody who, when faced with something, it's like (big sigh) right, OK, we'll deal with it, and then we'll worry about it later.”*
6. Setting boundaries	Julie: *“It's something I'm trying to be better at. Like saying to Dad, "I'm I'm feeling extremely anxious because you're shouting, and I can't manage if you keep on.”* Sophie: *“Part of separating your roles is actually, just keeping that in one place. You know, and so if you kind of let it, if you let it leak into other areas of your life, you then I think you do have difficulty in terms of separating yourself as a carer.”*

Supplementary Materials

Advertisement Study 1

Volunteers sought for research into compassion and self-compassion in carers

In this study, we want to understand what compassion and self-compassion means to informal carers and the role of compassion in caregiving. There is confusion around how self-compassion is defined, although research has suggested it may be beneficial to well-being. We also hope to learn from carers how to develop strategies to build a better intervention to improve self-compassion. For this study, your participation will involve an online interview lasting approximately one hour. Through this interview, I hope to learn more about your personal story - your views and experiences. Interviews will be relaxed and carried out as an informal discussion with the researcher.

We do not anticipate benefits or costs to you if you choose to participate, however you will be contributing towards research into understanding self-compassion in caregivers with potential benefits to caregivers' well-being. We appreciate that your time is valuable, so all participants for this study will receive a £10 voucher following their interview.

Who are we looking for?

We are interested in interviewing people who are….

- Over the age of 18.
- Provide regular unpaid care for a friend, neighbour, or family member.
- Caring for somebody who is over 65.
- Able to understand and speak English.

What to do next

If you are interested in becoming a participant in this study and can answer yes to the above, please email researcher Farah Wiita with any questions or to sign up (details below).

Who to contact about this project

PhD research student, Farah Wiita: f.l.wiita@pgr.reading.ac.uk

Direct link to survey

You may also sign up and complete our consent form by following the link below. You will then be contacted by the researcher to arrange a suitable time for interview https://reading.onlinesurveys.ac.uk/exploring-understanding-and-experience-of-self-compassion-3

Ethics

This application has been reviewed and has been given a favourable ethical opinion for conduct by the University Research Ethics Committee, project 2021-065-AH, end date 31.12.24.

Thank you for your interest in this project.

Information Sheet Study 1

Title of Study: Exploring understanding and experience of self-compassion in caregivers of older adults.

Supervisor: Dr Aileen Ho Email: a.k.ho@reading.ac.uk

Experimenter: Farah Wiita

What is the study about?

This study will explore how self-compassion is understood and experienced in caregivers. Self-compassion is a term that has been used but has not been clearly defined. We aim to focus on informal caregivers of older adults. To ensure you understand the purpose of the study and what will be asked from you as a participant, please take some time to read carefully through this information sheet.

What am I required to do if I participate?

Your interview will be carried out a time arranged between yourself and a researcher. The interview is expected to last around 1 hour but may take less time or a bit longer. You will be asked questions about your experiences and understanding of self-compassion in your role as a caregiver. We would also like your views on possible ways to improve well-being in carers so will ask for your opinions about that too. There are no right or wrong answers to the questions since we are interested in your views and experiences. Your interview will be audio-recorded to allow time to identify themes in your responses and to answer our research questions.

Can I participate?

To take part in the study we ask that you meet the following criteria:

- You are over the age of 18 years.
- You are providing regular unpaid care for a friend, neighbour, or family member.
- The person you care for is over 65 years of age.
- You can understand and speak English for communication with the researcher.

Will my participation and details be confidential?

Personal information you provide will be handled in accordance with the General Data Protection Regulation (May 2018). The basis of collection of information from you is lawful under Data Protection law as it is necessary for the purposes of research intended to contribute towards an area of public interest. Information will be collected and managed in accordance with the necessary safeguards and your personal details will not be shared. Your participation will be confidential. Identifiable details will be anonymised in your responses collected at interview and a pseudonym will be used in place of your name. To protect your confidentiality,

information you provide on the consent form will be stored separately from research information. Only the named researchers noted at the bottom of this information sheet will have access to consent forms. These forms will be destroyed after five years. Your email address and name will be collected and used to contact you to arrange an interview. If you consent to the researchers contacting you again for further study, your details may be used for this purpose. These details will not be held for longer than 6 months.

Ethics

This application has been reviewed and has been given a favourable ethical opinion for conduct by the University Research Ethics Committee, project 2021-065-AH, end date 31.12.24.

Details of researchers with access to identifiable information from this study

Researcher, Farah Wiita: f.l.wiita@pgr.reading.ac.uk

Supervisor, Dr Aileen Ho: a.k.ho@reading.ac.uk

Supervisor, Dr Netta Weinstein: n.weinstein@reading.ac.uk

School of Psychology Ethics Committee: pclsethics@reading.ac.uk

Project Data Protection Officer (DPO) Rebecca Danielles: r.a.danielles@reading.ac.uk

Who do I contact if there is a problem?

If you have any concerns or complaints relating to this study, please do not hesitate to email one of the named contacts noted above.

Thank you for reading this information sheet.

Consent Form Study 1

Thank you for your interest in our study looking at understanding and experience of self-compassion in carers. To take part in our study we ask that you first read through the following carefully:

I have read the information sheet explaining the purpose of the study and what it will involve. I understand that the interview is estimated to last for approximately one hour but may be longer or shorter than this. I understand that my participation is entirely voluntary and that I may choose not to answer questions or choose to withdraw my participation at any time. Interview questions will explore my understanding and experience of self-compassion and thoughts about interventions to increase self-compassion.

I understand I am free to contact the researcher at any time regarding any questions I may have about the study.

I understand my participation is voluntary, and I will not be compensated.

I understand my participation is initially confidential, though fully identifiable information will be kept securely and separately from my interview responses. Interviews will be audio recorded and transcribed. Audio recordings will be destroyed within two months of the interview. At this point my data will be anonymous, which means the researchers cannot link your specific responses back to you. They will hold your name and email address to contact you for interview. They will only keep contact details for a later study if you indicate your consent to do so. Names and email addresses will be held for six months to allow us to contact you for further related study.

I understand that my responses will be anonymised and will not be linked to identifiable details. I am aware responses I provide will be held indefinitely and may be used in publications, presentations, and reports.

For any further information please contact:

Researcher, Farah Wiita: f.l.wiita@pgr.reading.ac.uk

Debriefing Study 1

Title of project: Exploring the concept of self-compassion in caregivers of older adult relatives.

Debriefing statement:

Thank you for taking part in our study exploring self-compassion in informal caregivers of older adults. In this study you will have been interviewed about how you interpret what it means to show self-compassion and how you have experienced this in your life as a caregiver compared with previously. Additionally, you will have explored potential options for interventions you felt would be most helpful and suited to your lifestyle.

What happens next?

Your responses will be explored to look for themes in interpretations and experiences of self-compassion in your caring role. Your intervention preferences will be considered to see what has been identified as helpful and manageable in your lifestyle.

You are reminded that information from your interview will be anonymised and that identifiable details will only be made available to the named researchers for this study. For any further information or concerns, please contact one of the researchers named at the end of this document.

Thank you for taking part. Your time is very much appreciated!

Researchers for this project:

Researcher – Farah Wiita, email: f.l.wiita@pgr.reading.ac.uk

Supervisor – Dr Aileen Ho, email: a.k.ho@reading.ac.uk

Supervisor – Dr Netta Weinstein, email: n.weinstein@reading.ac.uk

Information Sheet Study 2

Title of Study: Investigating the effectiveness of a writing activity to improve well-being in informal caregivers of older adults.

Supervisor: Dr Aileen Ho Email: a.k.ho@reading.ac.uk

Experimenter: Farah Wiita

What is the study about?

This study will investigate the impact of a writing activity on well-being in carers. The role of a caregiver can be challenging, however activities to support well-being in this group has received little attention. This investigation will focus specifically on informal caregivers of older adults. So that you understand the study purpose and what is required from you as a participant, please carefully read though the following information. What is required of me as a participant? Initially, you will be asked to identify and briefly describe a recent caregiving situation which you found challenging or difficult. Next you will receive written guidance for a writing task which requires you to write about these experiences in a bit more depth. With this situation in mind, you will be asked to complete a survey for the final stage of the activity. There are no right or wrong answers for this activity since we are interested in your experiences. We ask that you complete the exercise in one sitting. The activity entails writing paragraphs to describe your experience in full detail. Each writing activity requires you to write for a set amount of time. You will be able to move on to the next activity only once this set amount of time is up. Your responses will be analysed to allow us to understand whether writing about a challenging caregiving experience has an impact on well-being. Your participation is expected to take 15 minutes, although it could take a little less or more time.

Am I eligible to participate?

To participate in this study, you should meet the following criteria:

- You are over the age of 18 years.
- You provide regular unpaid care for a friend, neighbour, or family member.
- The care you provide is for someone over 65 years of age.
- You can read and write in English for the understanding of the researcher.

Will my participation be confidential?

Personal information you provide will be handled in accordance with the General Data Protection Regulation (May 2018). The basis of collection of information from you is lawful under Data Protection law as it is necessary for the purposes of research intended to contribute towards an area of public interest. Information will be collected and managed in accordance with the necessary safeguards and your personal details will not be shared. Your participation will be confidential. Identifiable details will be anonymous, and only your prolific ID will be available to the researchers. Only the named researchers noted at the bottom of this information sheet will have access to consent forms. These forms will be destroyed after five years. No identifiable personal details will be accessed by the researchers at any stage. Your prolific ID will be removed from information provided by you within one year following completion of the study. Ethics This application has been reviewed and has been given a favourable ethical opinion for conduct by the University Research Ethics Committee, project 2021-193-AH, end date 31/12/2024.

Details of researchers with access to identifiable information from this study

Researcher, Farah Wiita: f.l.wiita@pgr.reading.ac.uk Supervisor, Dr Aileen Ho: a.k.ho@reading.ac.uk Supervisor, Dr Netta Weinstein: n.weinstein@reading.ac.uk School of Psychology Ethics Committee: pclsethics@reading.ac.uk Project Data Protection Officer (DPO) Rebecca Danielles: r.a.danielles@reading.ac.uk Who do I contact if there is a problem? If you have any concerns or complaints relating to this study, please do not hesitate to email one of the named contacts noted above.

Thank you for reading this information sheet.

Consent Form Study 2

Thank you for your interest in our study focused on the experiences and well-being of informal caregivers. To participate in this study, we ask that you carefully read through the following information:

I confirm that I have read the information sheet provided for this study explaining what my participation will involve. I understand that my participation will involve completing a writing task and some survey questions at the end. I understand that my total participation time will take roughly 15 minutes, although it could take slightly more or less time than this. I understand that my participation is entirely voluntary and that I may choose to withdraw at any time. The study will focus on my experiences and well-being as a caregiver. I understand that I may contact the researcher at any time to answer questions I have about the study.

I understand that my participation is voluntary, and I will not be compensated.

I understand that my participation is confidential and identifiable information will be separated from the responses I provide. All responses will be collected online. I understand my responses will not be linked to any identifiable information, just my Prolific ID. I understand that my Prolific ID will be separated from information I provide within one year following completion of the study. Responses I provide will be held indefinitely and may appear in publications, presentations, or reports.

For further information please contact:

Researcher, Farah Wiita: f.l.wiita@pgr.reading.ac.uk

Debriefing Sheet Study 2

Title of project:
Investigating the effectiveness of a writing activity to improve well-being in informal caregivers of older adults.

Debriefing statement:
Thank you for taking part in our study investigating the effectiveness of a writing intervention for informal caregivers of older adults. In this study you will have identified a recent caregiving experience which you found particularly challenging. You will then have completed a writing task in which you were asked you to discuss the recent challenging caregiving experience in a bit more depth. For this writing exercise, you were allocated to one of four main tasks: 1) describing the event expressing kindness and appreciation towards yourself; 2) describing the event whilst recognising similarities between your own and other caregivers' experiences; 3) reflecting on your experiences taking a distant viewpoint; 4) outlining details of the event, including what made the experience distressing for you. It is suggested that self-compassion may be beneficial to well-being. Writing tasks 1, 2, and 3 drew on elements of self-compassion to find out if one or more of these play an important role in improving well-being for carers. Task number 4 acted as a comparison to find out whether simply describing the event was enough to improve self-compassion and well-being. To understand whether some or all writing tasks presented had an impact on your thoughts and feelings, you will have completed a survey at the end.

What happens next?
Your responses will be analysed for improvements by comparing initial and final survey scores. Additionally, we may explore the event descriptions you have provided to compare with those of other participants.

You are reminded that information you have provided will be anonymous and that only you're your prolific ID will be held by the named researchers for this study. For any further information or concerns, please contact one of the researchers named at the end of this document. Thank you for taking part. Your time is very much appreciated!

Researchers for this project:
Researcher - Farah Wiita, email: f.l.wiita@pgr.reading.ac.uk
Supervisor - Dr Aileen Ho, email: a.k.ho@reading.ac.uk
Supervisor - Dr Netta Weinstein, email: n.weinstein@reading.ac.uk

Feedback
If you have any comments regarding this activity, please provide feedback here…

Information Sheet Study 3

Title of Study: Investigating the effectiveness of a writing activity to improve well-being in informal caregivers of older adults.

Supervisor: Dr Aileen Ho Email: a.k.ho@reading.ac.uk

Experimenter: Farah Wiita

What is the study about? This study will investigate the impact of a writing activity on well-being in carers. The role of a caregiver can be challenging, however activities to support well-being in this group has received little attention. This investigation will focus specifically on informal caregivers of older adults. So that you understand the study purpose and what is required from you as a participant, please carefully read though the following information.

What is required of me as a participant?

Initially, you will be asked to identify and briefly describe a recent caregiving situation which you found challenging or difficult. Next you will receive written guidance for a writing task which requires you to write about these experiences in a bit more depth. The activity entails writing paragraphs to describe your experience in full detail. Each writing activity requires you to write for a set amount of time. You will be automatically moved on to the next activity once this set amount of time is up. With the caregiving situation in mind, you will then be asked to complete a survey for the final stage of the activity. There are no right or wrong answers since we are interested in your experiences. We ask that you complete the exercise in one sitting. Your responses will be analysed to allow us to understand whether writing about a challenging caregiving experience has an impact on well-being. Your participation is expected to take 10 minutes, although it could take a little less or more time.

Am I eligible to participate?

To participate in this study, you should meet the following criteria:

- You are over the age of 18 years.
- You provide regular unpaid care for a friend, neighbour, or family member.
- The care you provide is for someone over 65 years of age.
- You can read and write in English for the understanding of the researcher.

Will my participation be confidential?

Personal information you provide will be handled in accordance with the General Data Protection Regulation (May 2018). The basis of collection of information from you is lawful under Data Protection law as it is necessary for the purposes of research intended to contribute towards an area of public interest. Information will be collected and managed in accordance with the necessary safeguards and your personal details will not be shared. Your participation will be confidential. Identifiable details will be anonymous, and only your prolific ID will be available to the researchers. Only the named researchers noted at the bottom of this information sheet will have access to consent forms. These forms will be destroyed after five years. No identifiable personal details will be accessed by the researchers at any stage. Your prolific ID will be removed from information provided by you within one year following completion of the study. Ethics This application has been reviewed and has been given a favourable ethical opinion for conduct by the University Research Ethics Committee, project 2021-193-AH, end date 31/12/2024.

Details of researchers with access to identifiable information from this study:

Researcher, Farah Wiita: f.l.wiita@pgr.reading.ac.uk Supervisor, Dr Aileen Ho: a.k.ho@reading.ac.uk Supervisor, Dr Netta Weinstein: n.weinstein@reading.ac.uk School of Psychology Ethics Committee: pclsethics@reading.ac.uk Project Data Protection Officer (DPO) Rebecca Danielles: r.a.danielles@reading.ac.uk Who do I contact if there is a problem? If you have any concerns or complaints relating to this study, please do not hesitate to email one of the named contacts noted above.

Thank you for reading this information sheet.

Consent Form Study 3

Thank you for your interest in our study focused on the experiences and well-being of informal caregivers. To participate in this study, we ask that you carefully read through the following information: I confirm that I have read the information sheet provided for this study explaining what my participation will involve. I understand that my participation will involve completing a writing task and some survey questions at the end. I understand that my total participation time will take roughly 10 minutes, although it could take slightly more or less time than this. I understand that my participation is entirely voluntary and that I may choose to withdraw at any time. The study will focus on my experiences and well-being as a caregiver. I understand that I may contact the researcher at any time to answer questions I have about the study. I understand that my participation is voluntary, and I will not be compensated. I understand that my participation is confidential and identifiable information will be separated from the responses I provide. All responses will be collected online. I understand my responses will not be linked to any identifiable information, just my Prolific ID. I understand that my Prolific ID will be separated from information I provide within one year following completion of the study. Responses I provide will be held indefinitely and may appear in publications, presentations, or reports.

For further information please contact: Researcher, Farah Wiita: f.l.wiita@pgr.reading.ac.uk

Study 3 Debriefing Sheet

Title of project: Investigating the effectiveness of a writing activity to improve well-being in informal caregivers of older adults.

Debriefing statement:

Thank you for taking part in our study investigating the effectiveness of a writing intervention for informal caregivers of older adults. In this study you will have identified a recent caregiving experience which you found particularly challenging. You will then have completed a writing task in which you were asked you to discuss the recent challenging caregiving experience in a bit more depth. For this writing exercise, you were allocated to one of four main tasks: 1) describing the event expressing kindness and appreciation towards yourself; 2) describing the event whilst recognising similarities between your own and other caregivers' experiences; 3) reflecting on your experiences taking a distant viewpoint; 4) outlining details of the event, including what made the experience distressing for you. It is suggested that self-compassion may be beneficial to well-being. Writing tasks 1, 2, and 3 drew on elements of self-compassion to find out if one or more of these play an important role in improving well-being for carers. Task number 4 acted as a comparison to find out whether simply describing the event was enough to improve self-compassion and well-being. To understand whether some or all writing tasks presented had an impact on your thoughts and feelings, you will have completed a survey at the end.

What happens next?

Your responses will be analysed for improvements by comparing initial and final survey scores. Additionally, we may explore the event descriptions you have provided to compare with those of other participants.

You are reminded that information you have provided will be anonymous and that only you're your prolific ID will be held by the named researchers for this study. For any further information or concerns, please contact one of the researchers named at the end of this document. Thank you for taking part. Your time is very much appreciated!

Researchers for this project:

Researcher - Farah Wiita, email: f.l.wiita@pgr.reading.ac.uk
Supervisor - Dr Aileen Ho, email: a.k.ho@reading.ac.uk
Supervisor - Dr Netta Weinstein, email: n.weinstein@reading.ac.uk

Information Sheet Study 4

Title of Study: Investigating the effect of a writing activity in informal caregivers of older adults.

Supervisor: Dr Aileen Ho Email: a.k.ho@reading.ac.uk

Experimenter: Farah Wiita

What is the study about? This study will investigate self-attitudes when experiencing painful or difficult emotions. This investigation will focus specifically on informal caregivers of older adults. So that you understand the study purpose and what is required from you as a participant, please carefully read though the following information.

What is required of me as a participant?

Initially, you will be asked to identify a recent caregiving situation which you found challenging or difficult. Next you will be asked to complete a survey whilst keeping this situation in mind. You will then receive written guidance for a writing task which requires you to write about these experiences in some depth. The activity entails writing paragraphs to describe your experience in full detail. Each writing activity requires you to write a full paragraph. With the caregiving situation in mind, you will then be asked to complete a final survey following these activities. There are no right or wrong answers since we are interested in your experiences. We ask that you complete the exercise in one sitting without pauses. Your responses will be analysed to allow us to understand whether writing about a challenging caregiving experience has an impact on well-being. Your participation is expected to take 10 minutes, although it could take a little less or more time.

Am I eligible to participate?

To participate in this study, you should meet the following criteria:

- You are over the age of 18 years.
- You provide regular unpaid care for a friend, neighbour, or family member.
- The care you provide is for someone over 65 years of age.
- You can read and write in English for the understanding of the researcher.

Will my participation be confidential?

Personal information you provide will be handled in accordance with the General Data Protection Regulation (May 2018). The basis of collection of information from you is lawful under Data Protection law as it is necessary for the purposes of research intended to contribute towards an area of public interest. Information will be collected and managed in accordance with the necessary safeguards and your personal details will not be shared. Your participation will be confidential. Identifiable details will be anonymous, and only your prolific ID will be available to the researchers. Only the named researchers noted at the bottom of this information sheet will have access to consent forms. These forms will be destroyed after five years. No identifiable personal details will be accessed by the researchers at any stage. Your prolific ID will be removed from information provided by you within one year following completion of the study. Ethics This application has been reviewed and has been given a favourable ethical opinion for conduct by the University Research Ethics Committee, project 2021-193-AH, end date 31/12/2024.

Details of researchers with access to identifiable information from this study:

Researcher, Farah Wiita: f.l.wiita@pgr.reading.ac.uk Supervisor, Dr Aileen Ho: a.k.ho@reading.ac.uk Supervisor, Dr Netta Weinstein: n.weinstein@reading.ac.uk School of Psychology Ethics Committee: pclsethics@reading.ac.uk Project Data Protection Officer (DPO) Rebecca Danielles: r.a.danielles@reading.ac.uk

Who do I contact if there is a problem?

If you have any concerns or complaints relating to this study, please do not hesitate to email one of the named contacts noted above.

Thank you for reading this information sheet.

Consent Form Study 4

Thank you for your interest in our study focused on the experiences and well-being of informal caregivers. To participate in this study, we ask that you carefully read through the following information:

I confirm that I have read the information sheet provided for this study explaining what my participation will involve. I understand that my participation will involve completing a writing task and some survey questions at the end. I understand that my total participation time will take roughly 14 minutes, although it could take slightly more or less time than this. I understand that my participation is entirely voluntary and that I may choose to withdraw at any time. The study will focus on my experiences and well-being as a caregiver. I understand that I may contact the researcher at any time to answer questions I have about the study. I understand that my participation is voluntary, and I will not be compensated. I understand that my participation is confidential and identifiable information will be separated from the responses I provide. All responses will be collected online. I understand my responses will not be linked to any identifiable information, just my Prolific ID. I understand that my Prolific ID will be separated from information I provide within one year following completion of the study. Responses I provide will be held indefinitely and may appear in publications, presentations, or reports.

For further information please contact: Researcher, Farah Wiita: f.l.wiita@pgr.reading.ac.uk

Debriefing Sheet Study 4

Title of project: Investigating the effects of a writing activity in informal caregivers of older adults.

Debriefing statement:

Thank you for taking part in our study investigating the effects of a writing intervention for informal caregivers of older adults. In this study you will have identified a recent caregiving experience which you found particularly challenging. You will then have completed a survey followed by a writing task in which you were asked you to discuss the recent caregiving experience in a bit more depth. For this writing exercise, you were allocated to one of three main tasks: 1) reflecting on your experiences and expressing kindness towards yourself whilst recognising similarities between your own and other caregivers' experiences; 2) expressing kindness towards yourself whilst recognising similarities between your own and other caregivers' experiences; 3) outlining details of the event, recalling who was involved, and what was said. It is suggested that self-compassion may be beneficial to well-being. To test this, writing task 1 included three areas of self-compassion, task 2 included two areas of self-compassion, and task 3 acted as a comparison to find out if describing an event was enough to increase self-compassion. To understand whether some or all writing tasks increased self-compassion, you will have completed a survey at the end.

What happens next?

Your responses will be analysed for improvements by comparing initial and final survey scores. Additionally, we may explore the event descriptions you have provided to compare with those of other participants.

You are reminded that information you have provided will be anonymous and that only you're your prolific ID will be held by the named researchers for this study. For any further information or concerns, please contact one of the researchers named at the end of this document. Thank you for taking part. Your time is very much appreciated!

Researchers for this project:

Researcher - Farah Wiita, email: f.l.wiita@pgr.reading.ac.uk
Supervisor - Dr Aileen Ho, email: a.k.ho@reading.ac.uk
Supervisor - Dr Netta Weinstein, email: n.weinstein@reading.ac.uk

Information Sheet Study 5

What is the study about?

This is a 120-minute study designed to better understand how solitude experiences affect our daily lives. In this study, we aim to better understand integrative emotion regulation, self-compassion, and how people experience their time alone. In the first part of the study, you will be asked to complete a series of surveys about your general tendencies (5 minutes). In the next five consecutive days (7 min surveys for 5 days), you will be asked to complete surveys related to your solitude experience. For these days, in the morning, you will receive a daily reminder about your solitude experience (10 minutes for 5 days). Each evening, you will receive daily surveys at 8 pm and report on your solitude experiences.

Another aim of this study is to explore how the feeling of shame affects our daily lives. Shame is one of the most difficult emotions to regulate. In the last part of the study (7 min surveys for 3 days), you will be asked to answer some questions related to your shame experiences and complete a series of surveys related to your experience.

The study will last for eight days in total.

What will I be asked to do?

You will be asked to answer some questions related to your solitude and shame experiences and complete a series of surveys related to your experience.

Are there any risks of taking part?

There is not much risk involved with this study aside from the potential stress of answering some questions related to your shame experiences. However, if you experience any distress, please feel free to tell the researcher. You may also skip questions, or withdraw early if you wish, without providing an explanation.

Who has organised and approved the study?

The research is organised by the School of Psychology and Clinical Language Sciences, University of Reading, UK, and has received ethical approval from the School's Ethics Committee to proceed.

Is my participation voluntary?

Your participation in this study is completely voluntary. You are free not to participate or to withdraw at any time. No matter what decision you make, there will be no penalty or loss of benefits to which you are otherwise entitled.

What are the benefits of taking part?

You will be compensated for taking part in the study through course credit (2).

Who will my responses be handled?

The information provided will be held in compliance with GDPR regulations. The lawful basis for processing this information under Data Protection law is that it is necessary as part of our public task as a research institution for scientific and historical research purposes, in accordance with the necessary safeguards, and is in the public interest. This information is being collected by Nergiz Erdem and Prof. Netta Weinstein at the University of Reading. The information you provide will be held confidentially.

Before the deletion of identifying data, it is possible to remove your data. At the end of the study (within two weeks after completion), we will connect all your responses across time and delete identifying information you have provided (first name, pseudonym). At that point, your data will be anonymous, and we can no longer identify you. After this point, your data can no longer be removed. It may be held indefinitely for the purposes of evaluating or reproducing this research and may be shared publicly in a fully anonymous form (with no ability of others to identify who you are).

This application has been reviewed by the Research Ethics Committee of the School of Psychology and Clinical Language Sciences and has been given a favourable ethical opinion for conduct.

Contacts:
Please do not hesitate to contact us via the details below if you have any questions or concerns.
Project Lead: Nergiz Erdem (**n.erdem@pgr.reading.ac.uk**)
Project Supervisor: Prof. Netta Weinstein (**N.Weinstein@reading.ac.uk**)
School of Psychology Ethics Committee: (**pclsethics@reading.ac.uk**)
Project Data Protection Officer (DPO): Rebecca Daniells (**r.a.daniells@reading.ac.uk**)

Thank you for your help.

Study 5 Consent Form

Before you move on to the initial questionnaire, please read the following statements carefully:

I understand that my **participation in this study will involve** reporting on my solitude experiences, completing a task which is about shameful experiences and a number of surveys relating to this time.

I understand that participation in this study is entirely **voluntary**, that I do not have to complete all of the questions if I don't want to, and that I can withdraw from the study at any time without giving a reason.

I understand that I will be **compensated** for taking part in the study through course credit (2.00).

I understand that I am free to **contact the researchers** at any time with any questions or concerns I may have.

I understand that the responses I provide will be **confidential**, and that I will be asked my first name and a few questions about myself. Until it is anonymised, I can ask the researchers to delete my data. I understand two weeks after the completion of the study my data will be made fully **anonymous** and will no longer be linked to me in any way. It may be held indefinitely and will be used for presentations, reports, and publications, and the fully anonymous data may be shared publicly.

I also understand that at the end of the study I will be provided with additional information and **feedback** about the purpose of the study.

Contacts:
Please do not hesitate to contact the Project Lead via the details below if you have any questions or concerns.

Nergiz Erdem
Email: n.erdem@pgr.reading.ac.uk

Or the project supervisor:

Professor Netta Weinstein
Email: n.weinstein@reading.ac.uk

Debriefing Sheet Study 5

Thank you for taking part in this study. In this research, we sought to understand your unique experiences and emotions during time spent alone.

If, for whatever reasons, you might experience discomfort from your experience in the lab, or have concerns about your mental health, please email the principal investigator of this study, Prof. Netta Weinstein (N.Weinstein@reading.ac.uk).

If you experience stress or discomfort, please contact the principal investigator, or reach out to one of those mental health organisations:

- Mental Health Helplines in the UK (https://www.nhs.uk/conditions/stress-anxiety-depression/mental-health-helplines/
- **Your General Practitioner (GP)**: Your GP will be able to offer support and advice on possible treatment options for any mental health concerns.
- **Samaritans:** Tel: 08457 90 90 90, Email: Jo@Samaritans.org: Samaritans provides confidential emotional support, 24 hours a day for people who are experiencing feelings of distress or despair. They are there to listen if you're worried about something, feel upset.

If you are interested in contacting one of these sources, please feel free to copy this information down now, or contact the Principal Investigator, Prof. Netta Weinstein (N.Weinstein@reading.ac.uk) for an electronic copy of this list.

Advertisement Study 6

University of Reading

STUDY ON EVERYDAY EXPERIENCES AND MOOD

WHAT ARE WE STUDYING?

We are interested in your everyday experiences and how this influences mood.

WHY ARE WE INTERESTED?

We aim to find ways for people to nurture their well-being through their own everyday activities and interactions.

WHO ARE WE RECRUITING?

We are interested in people who are:

- OVER 50 YEARS OF AGE.
- CAN COMPLETE SURVEYS IN ENGLISH.

WHAT'S IN IT FOR ME?

At the end of the study you will be compensated £20 through payment or voucher.

WHO SHOULD I CONTACT?

Please email researcher Farah Wiita directly: f.l.wiita@pgr.reading.ac.uk

ETHICS

This study has received favourable ethical opinion from the University Research Ethics Committee, project 2023-065-NW.

This study will run over three days following one initial survey. Contact researcher Farah Wiita for further details: f.l.wiita@pgr.reading.ac.uk

Information Sheet Study 6

Title of Study: Everyday Activities and Well-Being

Supervisors: Prof Aileen Ho, Email: a.k.ho@reading.ac.uk and Prof Netta Weinstein, Email: n.weinstein@reading.ac.uk

Experimenter: Farah Wiita

What is the study about?
This study investigates everyday well-being during and after life's typical and atypical activities. So that you understand the study purpose and what this study involves as a participant, please carefully read though the following information.

What is required of me as a participant?
Initially, you will be presented with some survey questions so we can gain some understanding about your daily experiences. You will be asked to select one of your identified activities which you will be asked to complete during the day. There are no right or wrong answers for this activity, we just ask that you think about activities that are most suitable for your own situation and lifestyle. You will be asked to complete the activities within each of three subsequent days, for at least 30 minutes per day. Every evening for three days, you will be asked to complete a survey about your time spent during the day's activity. Your participation is expected to take around 2 hours in total over the course of the study, although it could take a little less or more time.

Am I eligible to participate?
To participate in this study, you should meet the following criteria:
- You are age 50 years or over.
- You can read and write in English

Will my participation be confidential?
Personal information you provide will be handled in accordance with the General Data Protection Regulation (May 2018). The basis of collection of information from you is lawful under Data Protection law as it is necessary for the purposes of research intended to contribute towards an area of public interest. Information will be collected and managed in accordance with the necessary safeguards and your personal details will not be shared. Your participation will be confidential. Identifiable details will only be available to the researchers. Only the named researchers noted at the bottom of this information sheet will have access to consent forms. These forms will be destroyed after five years. Data will be held in anonymous form and may be shared publicly in anonymous form. No identifiable details will be made publicly available.

Is my participation voluntary?
Your participation in this study is completely voluntary. You are free to withdraw your participation at any time. There will be no penalty should you choose to withdraw participation.

What are the benefits of taking part?
You will be compensated £20 for taking part in this study.

Ethics
This application has been reviewed and has been given a favourable ethical opinion for conduct by the Research Ethics Committee of the School of Psychology and Clinical Language Sciences at the University of Reading, project 2023-065-NW, end date 31.12.25.

Details of researchers with access to identifiable information from this study
Researcher, Farah Wiita: f.l.wiita@pgr.reading.ac.uk
Supervisor, Prof Aileen Ho: a.k.ho@reading.ac.uk
Supervisor, Prof Netta Weinstein: n.weinstein@reading.ac.uk
School of Psychology Ethics Committee: pclsethics@reading.ac.uk
Project Data Protection Officer (DPO) Rebecca Danielles: r.a.danielles@reading.ac.uk

Who do I contact if there is a problem?
If you have any concerns or complaints relating to this study, please do not hesitate to email one of the named contacts noted above.

Thank you for reading this information sheet.

Consent Form Study 6

Thank you for your interest in our study. To participate, we ask that you carefully read through the following information:

I confirm that I have read the information sheet provided for this study explaining what my participation will involve.

I understand that my participation will involve completing survey questions throughout the three-day study and carrying out some solitude activities chosen by myself.

I understand that my total participation time will take roughly 2 hours, although it could take slightly more or less time than this.

I understand that my participation is entirely voluntary and that I may choose to withdraw at any time. The study will focus on my experiences of daily activities and any benefits or difficulties I experience carrying out these activities.

I understand that I may contact the researcher at any time to answer questions I have about the study.

I understand that my participation is voluntary, and that I will be compensated £20.

I understand that my participation is confidential and identifiable information will be separated from responses that I provide.

I understand my responses will be anonymous and will not be publicly identifiable. Responses I provide will be held indefinitely and may appear in publications, presentations, or reports.

For further information please contact
Researcher, Farah Wiita: f.l.wiita@pgr.reading.ac.uk
Or alternatively, supervisors for this project:
Prof Aileen Ho, a.k.ho@pgr.reading.ac.uk
Prof Netta Weinstein, n.weinstein@reading.ac.uk

Debriefing Sheet Study 6

About the study:

We are interested specifically in supporting the well-being of adults aged 50 and over since this can be a time of new challenges, such as changes to work life or perhaps caring for a loved one, such as an older parent or spouse. For this study, we sought to understand whether there were potential benefits of time spent alone in chosen activities or those that occurred by chance. Another focus of the study was to investigate whether self-compassion enhanced benefits of time spent alone. You will have been allocated to one of two groups: 1. To engage in chosen solitude activities whilst engaging in self-compassion and/or self-care; 2. To reflect on naturally occurring solitude and social experiences in daily life.

If, for whatever reasons, you experienced discomfort from your experience during this study, or have concerns about your mental health, please email one or both supervisors for this study, Prof. Aileen Ho (a.k.ho@pgr.reading.ac.uk) or Prof Netta Weinstein (N.Weinstein@reading.ac.uk). If you experience stress or discomfort, please contact the one of the named supervisors above, or reach out to one of these mental health organisations:

- Mental Health Helplines in the UK (https://www.nhs.uk/conditions/stress-anxiety-depression/mental-health-helplines.
- Your General Practitioner (GP): Your GP will be able to offer support and advice on possible treatment options for any mental health concerns.
- Samaritans: Tel: 08457 90 90 90, Email: Jo@Samaritans.org: Samaritans provides confidential emotional support, 24 hours a day for people who are experiencing feelings of distress or despair. They are there to listen if you're worried about something or feel upset.

If you are interested in contacting one of these sources, please feel free to copy this information down now, or contact one of the named supervisors above for an electronic copy of this list.