Doctoral Thesis

Exploring the psychology of wisdom and posttraumatic growth in older adults. A review of the literature and single case series trial for older adults experiencing depression.

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Abstract

This research portfolio sought to explore the links between an emerging literature on the psychology of Wisdom, Posttraumatic Growth (PTG), and the mental health of older people. It was theorised that these concepts may have utility for enhancing the psychological wellbeing of older adults, consistent with theories of psychological development in later life. Two studies were conducted. First, a systematic review examining the evidence for PTG in older adults identified and reviewed 14 studies that explicitly examined PTG in older adult samples. It found evidence for PTG occurring in older adults, and highlighted that specific factors relating to older adults (e.g. trauma type, time since trauma and social processes of PTG) may need to be taken into consideration when understanding PTG in this population. Secondly, a clinical trial, utilising a multiple baseline single case experimental design with six participants, tested a Cognitive Behavioural Therapy wisdom enhancement timeline technique for depression in older adults. Four participants were deemed responders to the intervention, by demonstrating a significant reduction in depression scores that coincided with the onset of the intervention. Findings demonstrate promising utility for the technique, which utilises wisdom-based principles within a cognitive-behavioural framework for reducing depression symptoms. A process report on the technique is provided. Discussions on the potential benefits and challenges of applying wisdom-based principles to older adult Clinical Psychology are explored, and recommendations for further research on these topics are made.

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Chapter 1: Thesis Portfolio Introduction

The afternoon of life is just as full of meaning as the morning; only, its meaning and purpose are different.

- Carl Jung, 1953

Later life is a time of duality. Older people are likely to experience a number of significant changes, challenges and losses, including inevitable physical and often social declines. However, it is also a time in which individuals can experience a number of positive psychological changes, growth and relatively high levels of well-being. It is this dialectic nature of ageing that forms the backdrop to this investigation, which considers implications for Clinical Psychology within a broader context of the psychological development of later life.

Psychological research in older adults has increasingly focused on developing theories of 'successful ageing'. Models such as Selection, Optimisation and Compensation (P. Baltes & Baltes, 1990; Freund & Baltes, 1998), Socio-emotional Selectivity Theory (Carstensen, 1991; Carstensen, Isaacowitz, & Charles, 1999) and Awareness of Age-Related Change (Diehl & Wahl, 2010) formed part of an emerging theoretical literature that sought to understand how older people use strategies of adaptation and coping when facing the stressors of later life. Underpinning these coping processes were thought to be particular strengths of older adults and key psychological resources, such as self-efficacy, self-image and environmental mastery (Woods & Clare, 2008).

In fact, evidence has shown that ageing is associated with more positive emotional well-being and emotional stability (Carstensen et al., 2011), whilst increased resilience in later life has been long documented in studies (MacLeod, Musich, Hawkins, Alsgaard, & Wicker,

2016; Perkins & Whittington, 2013). In the UK, it was found that those aged 65 to 79 tended to report the highest average levels of personal well-being (Office for National Statistics, 2016). Results of gerontological studies also show that older people maintain life satisfaction and well-being despite difficult life circumstances. Many studies have found that psychological resources are a key component in what supports an older person to adapt to challenges and help reduce the likelihood of negative outcomes (Ong, Bergeman, Bisconti, & Wallace, 2006; Windle & Woods, 2004). Healthy psychological wellbeing is therefore a key part of the process of successful ageing.

However, like other populations, a significant number of older adults suffer from mental health conditions. Depression and anxiety are common psychological problems in later life (Gould, 2012), with depression being the most common mental health problem among older adults. Recent statistics estimate that depression affects 22% of men and 28% of women aged over 65 years in the UK (Royal College of Psychiatrists, 2018). It has also been shown that mental health problems in later life can have more significant impacts on physical health and are often triggered by stressful life events (Carr & McNulty, 2016; Kraaij, Arensman, & Spinhoven, 2002).

1.2. New directions in later life Clinical Psychology

It stands to reason that if societies are to effectively manage the increasing demands of an ageing population, then it is important to emphasise the development and supporting of those psychological resources that buffer the impacts of inevitable stresses and challenges. However, it is argued in this portfolio that key to this is a sensitive and appropriate understanding of the unique psychological profile of later life, including the emotional dialectics of later life and the natural growth and psychological development that occurs as part of the normal ageing process.

Research has found the types of well-being that emerge in later life, at least on an emotional level, can be more complex than those of younger people. For example, it has been found that emotions in later life are characterised by a greater complexity of co-occurring positive and negative emotions (Carstensen et al., 2011). It is therefore fitting that research in older adults' well-being is becoming increasingly interested in issues of personal meaning and spirituality (Bamonti, Lombardi, Duberstein, King, & Van Orden, 2016; Coleman & O'Hanlon, 2004; Peteet, Al Zaben, & Koenig, 2019). Tornstam's theory of Gerotransendence (Tornstam, 2011) provides a framework for understanding psychological growth that occurs specifically in later life. It argues that as part of the normal ageing process, individuals are required to challenge basic assumptions about their existence and values, which can lead to positive changes in how they define and relate to their selves, others and the world. What appears to emerge from these literatures on ageing is a focus on the importance of finding meaning in later life: making sense of the past and preparing to traverse later life experiences and challenges. This portfolio is concerned with two related concepts: Wisdom and Posttraumatic Growth (PTG). Both are large interdisciplinary subjects that draw on extensive theoretical literatures but have important relevance for Clinical Psychology.

PTG is defined as, "positive psychological changes experienced as a result of the struggle with trauma or highly challenging situations" (Tedeschi, Shakespeare-Finch, Taku, & Calhoun, 2018, p. 3). PTG is a field of study which has gained significant attention in helping to understand how individuals might experience psychological growth as the result of trauma. Whilst the notion of experiencing growth from trauma has long been discussed in the literature, it was not operationally defined as PTG until 1995. It was from this point that the term existed and research that developed was able to start to more clearly investigate and further understand the concept of PTG. There is no singular accepted definition for the ancient concept of wisdom, but a large empirical study of the psychology of wisdom has

emerged over the last few decades. Empirical researchers have begun to operationalise and measure wisdom in terms of cognitive, affective and reflective capabilities, where wisdom is dependent on life experiences and related a number of positive psychological qualities (Sternberg & Gluck, 2019). What unites these concepts in their relevance to Clinical Psychology, is how they both broadly consider how one might use the meaning making process from past experiences as a resource in order to help achieve higher levels of wellbeing and coping in the present. Both models assume that negative experiences, even that of trauma, are not entirely negative but offer opportunities in which to grow, develop and experience positive psychological change.

Of particular interest, throughout this investigation, is considering how one taps into the specific resources of their life experience in order to promote the meaning-making and growth process that leads to increased well-being. Its particular relevance to later life lies in the assumption that this is especially likely to follow on from having both a lifetime of rich experiences to draw upon and the reflective inclinations that are characteristic from being in the later stages of life. Older people may therefore be uniquely positioned to most benefit from these processes. Psychological interventions that focus on accessing or enhancing these processes would therefore be of particular significance for older adults dealing with mental health difficulties and later life stressors. This thesis is interested in how such ideas might be empirically integrated in a way that has strong clinical implications for supporting older adults; not only with mental health problems, but in navigating the ageing process that leads towards successful psychological health and more meaningful lives.

1.3 Portfolio objectives

This portfolio comprises of two studies. The first is a systematic review investigating what the literature has found on PTG in older adults. As will be described, PTG is well documented in general but there is a lack of research on how this may be experienced

specifically by older adults. The second study is an N-of-1 series clinical trial with older adults, testing a psychological intervention that is theorised to utilise mechanisms of wisdom for reducing depression. It is hoped that both studies will help contribute to this emerging and important literature on psychological health and growth for older adults.

Chapter 2. Systematic Review Paper

Posttraumatic Growth in older adults: what has research found? A systematic review

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Prepared for submission to Clinical Psychology Review

Journal requirements: (appendix A)

Manuscripts should ordinarily not exceed 50 pages, *including* references and tabular material.

Paper word count: 41 pages, 8905 (excluding tables and figures).

Notes:

A copy of the study appraisal tool is in appendix C

A copy of the PRISMA chart is in appendix D

2.1 Abstract

Background and objectives: Posttraumatic growth (PTG) is a subject of increased clinical and theoretical interest. However, less is known about PTG in older adults specifically. This study investigated what research has found so far about PTG in older adults. **Research methods:** A systematic review searched online databases for quantitative studies examining PTG outcomes in samples of older adults exclusively ≥ 60 years. 14 studies were subject to a narrative synthesis. **Results:** A mixture of studies present evidence for PTG in older adults within a range of traumatic experiences, time scales since trauma and associated factors for PTG. **Discussion and implications:** Studies provide information on older adults' experience of PTG from a range of traumas across the lifespan and in later life, but do not indicate how older age might impact on PTG or its development over time. Studies indicate considerations for PTG with older adults, such as an increased role of social support. Types of trauma can be diverse, including later-life stressors, with some studies finding equivalent levels of PTG from a range of traumas across the lifespan, when examined in later life. As diverse studies, these findings may not be generalisable and the need for further research is highlighted.

Key words: Posttraumatic growth, older adults, trauma

Highlights

- This is the first systematic review of PTG specifically in older adults
- Types of traumatic experiences include historical traumas and later life stressors
- Equivalent levels of PTG identified from a range of traumas across the lifespan
- Social support could have particular bearings on growth for older adults

2.2 Background and objectives

2.2.1 Posttraumatic Growth

Posttraumatic growth (PTG) is defined as, "positive psychological changes experienced as a result of the struggle with trauma or highly challenging situations" (Tedeschi et al., 2018, p. 3); a phenomenon now firmly established within a broad range of settings. PTG has become of increasing interest to researchers and clinicians as a way of understanding how people can respond to traumatic events in a way that is beneficial, despite a seeming paradox of loss and growth. Following a traumatic experience, Tedeschi and Calhoun (1995) discerned three broad categories of possible growth that may occur: changes in perception of self, changes in experience of relationships with others, and changes in one's general philosophy of life. The subsequent development of the Posttraumatic Growth Inventory (PTGI) (Tedeschi & Calhoun, 1996) specified five factors involved in PTG: relating to others, new possibilities, personal strength, spiritual change and appreciation of life. PTG has been described as a separate and distinct process to decreases in posttraumatic stress symptoms (PTSS) but has nonetheless been related to increased positive mental health, reduced negative mental health, and better subjective physical health (Tedeschi et al., 2018). Despite its similarity to a number of overlapping concepts, including for example*, stress-related growth* and *benefit finding*, PTG has evolved into a specific and definitive model, which emphasises truly transformational changes as a response to the challenges to one's core beliefs following genuine traumatic events.

Empirical research has shown that PTG is complex and that a number of factors can influence how someone experiences such growth, at the individual, social and cultural level. Tedeschi et al. (2018)'s PTG model highlights the importance of pre-existing demographic characteristics that might impact the likelihood of PTG, including that of age. One study found an inverse relationship between age and PTG when studying a wide range of adults

aged 20-70 years (Manne et al., 2004); another found that age was a significant moderator of religious coping as a factor in PTG (Prati, Pietrantoni, & trauma, 2009). As such, some reviews have begun to investigate how different age populations might differ in their experiences and the factors involved in PTG. For example, Meyerson, Grant, Carter, and Kilmer (2011) investigated the evidence for PTG among children and adolescents.

Whilst many studies on PTG include older adults within their samples, findings rarely delineate according to this age bracket. A number of studies have begun to look specifically at factors and situations involving PTG with older adults. However, there has not to date been a systematic review of these studies.

2.2.2 Older adults, trauma and PTG

Studying PTG within the older adult population is important. The global population is ageing and trauma and posttraumatic stress are frequent and significant problems for older adults, both from historical events and those occurring in later life (Berger, 2015; Durai et al., 2011; Maercker et al., 2008). Understanding and supporting older individuals through PTG processes is likely to be important for individual wellbeing and for reducing burden on public health systems. The unique age-related stressors and changes in physical health that older adults face mean that they can be particularly vulnerable to traumatic and highly challenging experiences. In addition, trauma experienced in earlier parts of life may have sequelae in later life, as well as the effects of chronic and lifelong traumatic experiences (Foster, Davies, & Steele, 2003; Rintamaki, Weaver, Elbaum, Klama, & Miskevics, 2009). Trauma in the elderly is still under-researched, although one review found that posttraumatic stress disorder (PTSD) in this age group presents unique aspects not seen in younger cohorts and that it can lead to significant impairment in daily life; decreased satisfaction; receiving lower-level care; feeling older than their objective age; as well as associations with health problems and depression and anxiety. (Lapp, Agbokou, & Ferreri, 2011)

However, findings on the nature of trauma with older people are mixed, with some research suggesting that old age may not be a risk factor in the development of trauma, and that older people may in fact be more resilient or resistant to traumatic experiences (MacLeod et al., 2016). Higher resilience in older adults has been thought to be related to an accumulation of experiences that allows them to de-emphasise negative events and selectively optimise positive experiences (Shrira, Shmotkin, & Litwin, 2012). Whilst models of ageing suggest that older people develop more acceptance strategies for dealing with life challenges (P. Baltes & Baltes, 1990). A review of positive reappraisal in older adults found that positive reappraisal is an adaptive coping strategy particularly used by older adults with wide-ranging benefits, including improved mental health (Nowlan, Wuthrich, Rapee, & Health, 2015).

Such research suggests that the nature of PTG is also likely to be distinct or different in older adults, as it interacts with the unique psychological profile of later life.

2.2.3 Specific objectives

This study aimed to systematically review the literature that explicitly considers PTG in older adults, to consolidate what research has occurred and found so far about PTG in older adults.

2.3 Research design and methods

2.3.1 Search strategy

This systematic review was conducted according to the preferred reporting items for systematic reviews and meta-analyses (PRISMA) (Moher, Liberati, Tetzlaff, Altman, & Group, 2009) and was registered on the International prospective register of systematic reviews (PROSPERO; CRD42020169318). EndNote software was used to manage citations during screening and an EXCEL database used to store extracted data from studies.

A search was conducted over seven databases (MEDLINE, PsycINFO, EMBASE, PILOTS, Science Direct and Web of Science) in February 2020. The same search was performed in each database.

Two separate searches were combined in line with the two main themes of enquiry. Papers relating to older adults were searched for using the terms: (“older adults” OR “older people” OR “elderly” OR “geriatric” OR “geriatrics” OR “aging” OR “ageing” OR “senior” OR “seniors” OR “aged 65” or “65+”). In addition, the following MeSH terms were used: “Aged” and “Aged, 80 and over” where possible. Papers relating to posttraumatic growth were searched for using the terms ("posttraumatic growth" OR "post-traumatic growth" OR "post traumatic growth"). In addition, the MeSH term: "Posttraumatic Growth, Psychological” was used to capture those studies that might have been using alternative terms to refer to the same process.

2.3.2 Inclusion criteria

Studies were included for review if they met the inclusion criteria in table 2.1

Table 2.1

Summary of inclusion criteria for studies

Inclusion topic	**Description**
Setting and method of publication	Studies must be published in English & in online peer-reviewed journals with a full text available.
Time of publication	Studies must have been published between 1995 and 2020.
Methodology	Studies must present quantitative data. Qualitative studies are excluded. No other study methodology types (e.g. RCT, cohort) are excluded.
Population of older adults	The entire (primary) sample of the study must be comprised as older adults, as defined as those aged ≥ 60 years.
Outcome of posttraumatic growth	Studies must measure and draw conclusions on PTG as an outcome, where PTG is consistent with the term's intended purpose according to Tedeschi & Calhoun's PTG theory.

Researching older adults is problematic due to varying definitions of older adulthood and mixed samples included in studies (Shenkin, Harrison, Wilkinson, Dodds, & Ioannidis, 2017). For this review, we defined older adults as those aged ≥ 60 years (World Health Organisation, 2018) and chose to exclude any study which reported mixed samples of adults below and over the age of 60, unless they included a primary sample of adults aged ≥ 60 years, were a direct comparison between these groups, and drew distinct conclusions about the older adult population. It was considered that this approach would allow findings to be generalisable to older adults. Where studies did not report a minimum range for their population, attempts were made to contact the authors of those studies. Where there was no response these papers were excluded. Papers were included if a range was not given but the sample clearly contained those aged over 60, such as those studies examining WW2 survivors 60 years after the end of the war.

Only studies published from 1995 were included in line with the coining of the term 'posttraumatic growth' in 1995. Whilst the concept was being studied prior to this date under different guises, it was not as clearly defined. Eligible studies were required to (a) use the term 'posttraumatic growth' and (b) include an investigation of posttraumatic growth in its intended meaning, as defined by Tedeschi & Calhoun (1995) and as satisfied by the review authors. Studies that used other terms synonymous with PTG, as indicated by Tedeschi et al., (2018), such as *adversarial growth* and *perceived benefits* were included if the reviewers were satisfied that the study's topic of choice was in keeping with the conceptual model for PTG. However, caution was exercised around terms associated with PTG and often used interchangeably but which may not refer to the same concept, such as *stress-related growth, benefit finding, thriving, flourishing,* and *resilience*. For a discussion of why these terms may not be synonymous with PTG, see Tedeschi et al (2018).

2.3.3 Data extraction

Data was extracted from included studies relating to:

- Study characteristics (e.g. study design, objectives, outcomes, context)
- Participant characteristics (e.g. demographics, sample sizes, inclusion criteria)
- Study outcomes and specific study outcomes related to PTG and older adults. As with previous reviews in PTG e.g. Meyerson et al. (2011), specific data was extracted on:
    - Main findings for PTG in older adults
    - Types of trauma, measures and timescales of trauma associated with PTG in older adults
    - Social and psychological processes associated with PTG in older adults
    - Positive or negative outcomes associated with PTG in older adults
    - Demographic factors related to PTG among older adults
    - Any potentially unique or important considerations for PTG in older adults

One reviewer extracted study data, whilst a second reviewer checked accuracy of data extraction for 20% of studies reviewed. All disagreements were discussed and decided on together. If an agreement could not be reached, there were provisions for a third rater to be involved.

2.3.4 Assessment of study quality and risk of bias

Quality assessment was conducted on all studies selected for review. To effectively appraise the studies, a bespoke 22-item tool was developed by the authors. Whilst other existing measures were consulted, these were deemed unsuitable for use with this topic given the specific focus of the review. Therefore, the authors created their own tool to allow for a meaningful review. The tool was developed by the authors based on systematic review guidelines for quality assessment (Higgins & Green, 2011), as well as other established measures for specific study designs. The developed tool allowed for a consistent appraisal of key quality features across a number of different study types, whilst also rating studies based on their relevance to the review topic. 22 items allowed for a detailed assessment of each study whilst maintaining inter-rater reliability. Studies were rated on several items within the following key domains:

- Selection of participants (e.g. definition/representation of sample)
- Study design (e.g. clarity of aims, adequate information provided)
- Outcomes (e.g. justifiable conclusions, generalisability)
- Relevance to the review topic (e.g. clarity of PTG definition, use of validated measures)
- Comparability, where applicable (e.g. matching of any control groups)
- Intervention, where applicable (e.g. standardisation of intervention, randomisation processes, blinding)

Studies were allocated scores of good, acceptable or poor/not reported for each item within these domains. Rather than award each study a total score, these scores were used to guide an overall appraisal and comparison of each study's quality and risk of bias.

Two reviewers completed quality assessments of identified papers meeting the inclusion criteria, with the second rater quality rating 20% of eligible papers. All disagreements were discussed and decided on together. If an agreement could not be reached, there were provisions for a third rater to be involved.

2.3.5 Data synthesis

Data from included studies was subject to a narrative synthesis that summarised and discussed information on methodological quality, relevance to the topic, study characteristics, participant characteristics and outcome characteristics in relation to PTG in older adults. The synthesis was reviewed and appraised by both reviewers. Meta-analysis was not be used due to a large variation in study type, populations, and a limited number of studies included for review.

2.4 Results

2.4.1 Search results

Figure 2.1 details the study selection process. The relevance of each study was assessed according to the inclusion criteria stated in table 1. Full-text papers of any titles and abstracts that were considered relevant by the reviewer were obtained where possible. Following all screenings, 14 papers met eligibility for review and were agreed on between the authors.

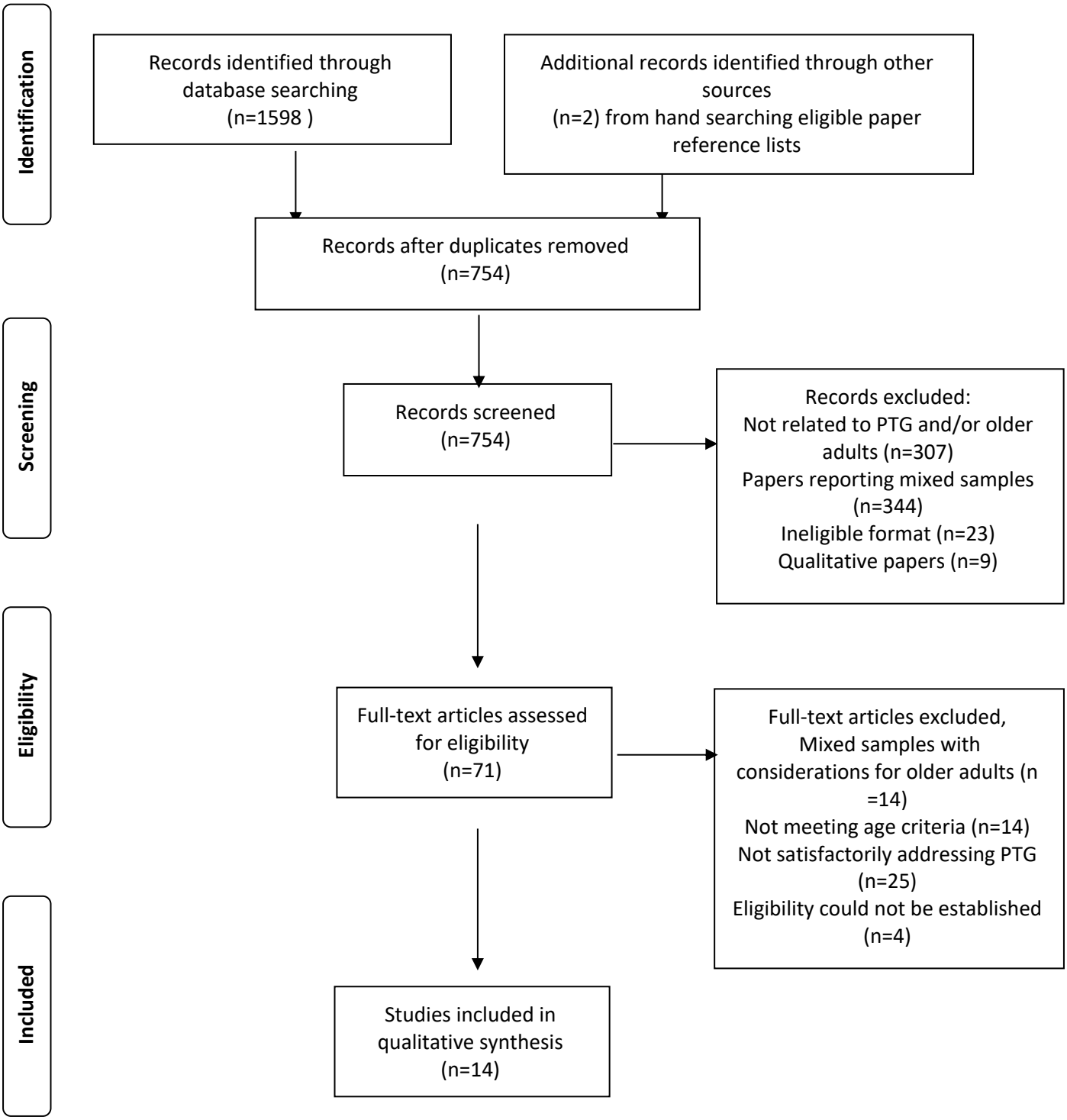

Figure 2.1 PRISMA flow diagram for study selection

2.4.2 Narrative synthesis of studies

2.4.2.1 Assessment of study quality and risk of bias

Following quality ratings of eligible studies, Cohen's kappa demonstrated excellent agreement between raters ($k = .857$, $p < .001$). The overall methodological quality of included studies was deemed good or acceptable for each study. All studies gave appropriate descriptions of participant selection, design and methods to allow replication, and justifiable outcomes. This general standard, as well as diversity of studies, allowed all studies to be integrated together within the narrative synthesis. However, the generalisability of several studies was reduced due to limited study designs, and risk of bias in the representativeness of samples, particularly due to smaller sample sizes. Therefore, special considerations were made in appraising the relative reliability of findings when comparing studies. Where notable, these are described during the results.

2.4.2.2 Study characteristics

Study characteristics are summarised in table 2.2. The studies reviewed were published between 2008 and 2019, included a total of n=2227 participants (1894, excluding controls) and came from a variety of countries (Poland, Germany, Denmark, Switzerland, Israel, Iran, USA, Spain, Australia and Turkey). Seven of the studies used a cross-sectional observational design, five of the studies used a case-control design, and two studies were clinical trials; one of which was a randomised control trial (RCT). Both trials were conducted by the same authors and tested the same intervention for PTSD. All used a questionnaire-based format to obtain information from participants. All studies used the term 'posttraumatic growth' when describing the construct, and the majority measured PTG as part of the primary outcome of the study. Three studies examined PTG as a secondary outcome and all studies used a form of the PTGI to measure PTG. The majority of these were validated in their relevant language. Two studies used a short form version of the PTGI. The studies had a variety of aims, with many aiming to measure PTG in a specific trauma population, and in relation to additional variables.

2.4.2.3 Participant characteristics

Participant characteristics are summarised in table 2.3. All studies selected for review contained samples where all participants were aged ≥ 60 years. Participants across the studies ranged from age 60 to age 100, with primary sample age means ranging from 67.7 to 82.69. All studies except two contained predominately female samples, ranging from 52% to 100% female, which is broadly consistent with gender differences in later life. Level of education varied across samples, with a variety in reporting making this difficult to interpret. The married status of participants also varied across studies, with most samples including a majority of married or widowed participants. Participants were ethnically diverse, mostly from European to Middle Eastern countries, in line with the range of study locations and samples being examined.

Table 2.2:

Study characteristics

Authors and year of publication	Study objectives	Design; Country	Outcomes (measures)	PTG outcome	Type of trauma related to PTG	Time since trauma event	Main findings regarding PTG for older adults
Błaszczyński, P., &, Turek, R. (2013)	To investigate PTG in people with stoma following traumatic illness/surgery. Are stomic societies an environment for PTG?	Case-control; Poland	Emotional traits (STPI) Acceptance of illness (AIS) Health locus of control (MHLCS) PTG (PTGI; Polish, validated)	Primary	Stoma, resulting from surgery from a malignant or other illness	Time since surgery: 1 year (10%) 1-5 years (19%) Over 5 years (71%) Stoma ongoing	Similar levels of PTG found in members of a Stoma society with those in the control group. PTG levels were higher than in most other clinical groups.
Böttche, M., et al. (2016).	To evaluate the role of resource-oriented variables such as self-efficacy, locus of control and PTG in predicting treatment response in older adults with post-traumatic stress.	RCT; Germany	PTSD severity (PDS) Locus of control (POCQ) PTG (PTGISF; German) Self-efficacy (GES)	Secondary	War related trauma	Average of 65 years	Greater locus of control and post-traumatic growth was associated with greater improvement in PTSD symptoms following Internet based CBT.
Brix, S. A., et al. (2013).	To examine PTG in women with and without BC and whether the characteristics and treatment of BC are associated with PTG.	Case control; Denmark	PTG (PTGI; Danish, not validated)	Primary	Various traumatic or life-changing experiences (e.g. loss of a close person, chronic or acute disease)	Average time since operation of 6.9 years (range = 0.5-15.5)	No significant difference in overall PTG between women with BC and those without. Severity of disease features were positively associated with overall PTG and/or specific PTG domains.
Forstmeier, S., et al. (2009)	To examine PTG and its predictors: social acknowledgment as survivors, sense of coherence, trauma severity, and further factors in former child soldiers more than 60	Cross-sectional; Switzerland	Social resources (SAQ) Personal resources Sense of Coherence (SOC) Trauma characteristics PTG PTGI - (German, validated)	Primary	War related trauma	60 years +	Social acknowledgment as a survivor by significant others and belief that the world is meaningful are important factors contributing to PTG.

	years after deployment.		PTSD symptoms (PDS) Depression, anxiety and somatic symptoms (BSI)				
Greenblatt Kimron, L., et al. (2019)	To study post-traumatic stress symptoms (PTSS) and PTG and heart rate variability (HRV) among elderly Holocaust survivors and a matched comparison group, and the mediational effect of PTSS and PTG on the association between Holocaust experience and HRV.	Case-control; Israel	Subjective health PTSD symptoms (PTSDI) PTG (PTGI; Hebrew, validated) Heart rate variability (HHM)	Primary	Holocaust experiences	60 years +	Similar HRV measures were found among the Holocaust survivors compared to the comparison group. Holocaust survivors reported higher levels of PTSS and PTG as well as better HRV scores through the mediation of PTSS and PTG. Holocaust survivors with higher PTSS had worse HRV than the comparison group, but when accompanied by PTG, HRV was found to be better.
Heidarzadeh, M., et al. (2016)	To assess constructs of PTG, depression, and hope in elderly cancer patients and examine whether depression and hope contributed to variations in PTG among these patients	Cross-sectional; Iran	PTG (PTGI; Iran, validated) Depression (BDI) Hope (HHI)	Primary	Cancer (various)	1 year (39.9%) more than 1 year (60.1%)	Elderly Iranian cancer patients experience relatively high degrees of positive psychological consequences following diagnosis. PTG was negatively correlated with depression and positively correlated with hope. All dimensions of the PTG were significantly correlated with depression and hope.
Hoogland, A. I., et al. (2019)	To advance current understanding of positive psychology (PTG, well-	Cross-sectional; USA	PTG (PTGI) Well-being (FS) Coping (COPE) Quality of life (SFHS)	Primary	Cancer (various)	Diagnosis within 5 years. Average = 37 (SD 20) months	Participants reported high PTG and well-being and primarily adaptive and

	being) in older adults with cancer.						emotion-focused coping strategies. They also reported better mental quality of life but not physical quality of life compared with age-adjusted population norms. Older age was associated with less PTG but not well-being.
Knaevelsrud, C., et al. (2014)	To evaluate an internet based Integrative Testimonial Therapy for PTSD in German elderly survivors of WW2.	Intervention open trial; Germany	PTSD (PDS) Depression and anxiety (BSI) Self-efficacy (GSE) Quality of life (EUROHIS) PTG (PTGISF; German) Working alliance (WAI-S)	Secondary	War	60 years +	Integrative testimonial therapy is a well-accepted and potentially effective treatment for older war trauma survivors experiencing PTSD symptoms. A medium treatment effect size was found for PTG at posttreatment.
Kuwert, P., et al. (2014)	To compare the long-term effects of conflict-related sexual violence experienced at the end of WWII with non-sexual WWII trauma	Case-control; Germany	Posttraumatic stress (PDS) Other psychopathology symptoms (BSI) Sexual functioning PTG (PTGI; German, validated) Social acknowledgement (SAQ)	Secondary	Sexual violence during wartime	60 years + Age at the first rape experience ranged from 12 to 26 years (M = 16.1 years, SD = 3.3).	Women exposed to conflict-related sexual violence during WWII reported a higher extent of PTG, greater severity of PTSD-related avoidance and hyperarousal symptoms, as well as anxiety, and severe sexual problems, and less social acknowledgement compared to female long-term survivors of non-sexual WWII trauma.
Lev-Wiesel, R. and M. Amir (2003)	To examine the relationship between PTSD symptomatology, personal resources, and PTG in Holocaust child survivors.	Cross-sectional; Israel	PTSD (PTSDS) Personal resources (PSSS, PQ) PTG (PTGI; Hebrew, not extensively used in Hebrew)	Primary	War (Holocaust)	60 years +	PTSD arousal and PTG coexist. Personal resources were negatively correlated with PTSD symptomatology, and only social support from friends contributed positively to PTG.

López, J., et al. (2015).	To analyse the degree of PTG developed by widowed and non-widowed older adults as well as the impact of possible predicting variables such as sociodemographic characteristics, experienced or witnessed life major events, religiosity and sense of coherence.	Case control; Spain	PTSD symptoms (SPSDSS) Daily life (DLFS) Sense Of Coherence (SOC) PTG (PTGI; Spanish, validated) Religious beliefs and practices social support (SBI)	Primary	Various traumatic or life-changing experiences (e.g. death of a beloved one, illness, injury or medical intervention)	94% = more than 3 months for widow group, 79.2% = more than 3 months for control group	In spite of widowhood, elder people develop PTG in the same way that non-widowed elder people. Support of a religious community, age, life major events experienced, and the subjective meaning given to them correlated with PTG. Life major events of lower traumatic intensity experienced by elderly people, such as being widowed, can be related to high PTG levels.
Lurie-Beck, J. K., et al. (2008)	To examine the relationship between PTG and PTSD symptoms, depression, anxiety and vulnerability, as well as demographic differences in PTG in a group of Holocaust survivors.	Cross-sectional; Australia	PTG (PTGI) PTSD symptoms Depression/Anxiety (DASS) Post traumatic vulnerability (PVS)	Primary	War (Holocaust)	Approx. 60+ years	PTG *Spiritual change* was found to correlate positively and significantly with the PTSD symptom clusters of intrusion, avoidance, and hyperarousal. Numerous demographic variables were also found to relate to PTG including survivors' age during the Holocaust; the nature of their Holocaust experiences; and whether they were ever alone, without family, during their Holocaust experiences as well as survivor support group membership.
Oksuzler, B. and E. Dirik (2009)	To examine the relationship between psychosocial resources such as self-esteem, religious coping, and	Cross-sectional; Turkey	Self-esteem (RSE) Religious coping (RCS) Social support	Primary	Spousal bereavement	Average 19.3 years (SD 13.28)	Widows reported a significantly high level of growth, and being a woman predicted total growth and two subdimensions. While negative religious coping

	social support are and PTG in the bereaved elderly.		Depression (GDS) PTG (PTGI; Turkish, validated)				predicted only total growth, positive religious coping predicted total growth and two subdimensions. Perceived social support from friends predicted total growth and that from significant others predicted total growth and two subdimensions. Self-esteem was not a growth predictor.
Senol-Durak, E. and M. Durak (2018)	To investigate possible associations among socio-demographic variables, perceived social support, cognitive processing and PTG among diabetic older adults	Cross-sectional; Turkey	PTG (PTGI; Turkish, validated) PTSD (rumination, hypervigilance and avoidance) (IES-R) Perceived social support (MSPSS) Demographic information	Primary	Diabetes in later life	Average 10.8 years since prognosis (SD 8.5 years)	A higher number of children, being an outpatient and higher dietary adherence were associated with PTG. Treatment-related variables, perceived social support received from family, and avoidance (cognitive processing) were significantly related with PTG

Note: STPI = State-Trait Personality Inventory; AIS = Acceptance of illness scale; MHLCS = Multidimensional health locus of control scale; PTGI = Posttraumatic growth inventory; PDS = Post-traumatic diagnostic scale; POCQ = Powerful others and chance questionnaire; PTGISF = Posttraumatic growth inventory short form; GSE = General self-efficacy scale; BSI = Brief symptom inventory; SOC = Sense of coherence scale; SAQ = Social acknowledgement questionnaire; PTSDI = PTSD inventory; HHM = Heart Holter monitor; HHI = Herth hope index; BDI = Beck depression inventory; COPE = COPE inventory; SFHS = Short form health survey; FS = Flourishing scale; PSSS = Perceived social support scale; PQ = Potency questionnaire; SPSDSS = Severity of Posttraumatic Stress Disorder Symptom Scale; DLFS = Daily life functioning scale; SBI = Systems of beliefs inventory; IES-R = Impact of events scale – revised; DASS = Depression and anxiety stress scales; PVS = Posttraumatic Vulnerability Scale; MSPSS = Multidimensional scale of perceived social support; RSE = Rosenberg self-esteem scale; RCS = Religious coping scale; GDS = Geriatric depressions scale; BSI = Symptom Check List-90 Short Form; WAI-S = Working Alliance Inventory-Short

Table 2.4:

Participant characteristics

Authors and year of publication	Country recruited from	Participants	Sample size	Age mean (range) Gender	Education	Married status
Błaszczyński, P., &, Turek, R. (2013)	Poland	Primary group: Active members of the Stoma society	Primary group: n=21	Primary group: 67.7 (68-92) 81% female	Primary group: Majority completed secondary education	Primary group: NR
		Matched group: Active members of the University of the Third age	Matched group n=25	Matched group: 66.8 (56-82) 84% female	Matched group: Secondary and higher	Matched group: NR
Böttche, M., et al. (2016).	NR	Experienced traumatic events as a child or adolescent during WW2 & meeting PTSD criteria	n=58	71.2 (SD 4.6) 69% female	Average of 11.6 years	Married (64%) Divorced (26%) Widowed (5%) Single (5%)
Brix, S. A., et al. (2013).	Denmark	Primary group: Members of existing 'Danish diet, cancer and health cohort with BC diagnosis' group	Primary group: n=774	Primary group: 70 (63-80) 100% female	Primary Group: ≤7 years (26%) 8-10 years (52%) >10 years (21%)	Primary group: NR
		Matched group: Women asked to identify other traumatic or life-changing experiences	Matched group: n=666	Matched group: 70 (64-81) 100% female	Matched group: NR	Matched group: NR
Forstmeier, S., et al. (2009)	Germany	Deployment as a soldier in WWII and age not exceeding 18 years at onset of deployment.	n=103	78 (SD 1.8) 99% male	University degree (61.3%) Employed as skilled workers (28.1%) Unskilled workers (10.6%)	Married (79.6%) Widowed (18.4%) Divorced (1%) Single (1%)
Greenblatt Kimron, L., et al. (2019)	Israel	Primary group: Holocaust survivors	Primary group: n=159	Primary Group: 82.34 (71-97) 61.6% female	Primary group: Mean years = 10.85 years, SD=4.68 range 0-27	Primary group: Married (39%) Widow (50.9%) Single, divorced (10.1%)
		Matched group: No holocaust experience	Matched group: n=87	Matched group: 82.69 (68-100)	Matched group:	Matched group: Married (41.4%)

				67.8% female	Mean years = 13.05 years, SD=4.4, range 3-30	Widow (49.4%) Single, divorced (9.2%)
Heidarzadeh, M., et al. (2016)	Israel	Diagnosis of cancer	N=142	68.4 (60-91) 55% female	illiterate (60.6%) literate (39.4%)	NR
Hoogland, A. I., et al. (2019)	USA	Diagnosis of cancer	N=56	72.5 (62-87) 60.7% female	Not completed college (58.9%)	Married (71.4%)
Knaevelsrud, C., et al. (2014)	Germany	Experienced traumatic events as a child or adolescent during WW2 & meeting PTSD criteria	N=30	71.73 (65-85) 56.6% female	Mean years = 11.57 (SD=1.5)	Married (67%) Divorced (17%) Widowed (10%) Living in relationship (3%) Single (3%)
Kuwert, P., et al. (2014)	Germany	Primary group: Women with sexual trauma form WW2	Primary group: n=27	Primary group: 80.4 (76-89) 100% female	Primary group: NR	Primary group: Widowed (63%) Married (18%) Never married (15%) Divorced (4%)
		Matched group: Women with other (non-sexual) war trauma	Matched group: n=102	Matched group: 70+ 100% female	Matched group: NR	Matched group: Widowed (66.7%) Married (22.2%) Never married (7.4%) Divorced (3.7%)
Lev-Wiesel, R. and M. Amir (2003)	Israel	Non-clinical Holocaust child survivors	N=97	67.90 52% female	Education above high school (72%)	Married (71%)
López, J., et al. (2015).	NR	Primary group: Widows	Primary group: n=50	Primary group: 78.6 (65-97) 64.2% female	Primary group: Without studies (18 %) Elementary (40%) Secondary (28%) University (14) Doctorate (0%)	Primary group: Widowed (100%)
		Matched group: Non-widows with other major life event	Matched group: n=53	Matched group: 71.3 (65-90) 64.2% female	Matched group: Without studies (13.2%) Elementary (30.2%) Secondary (22.6%)	Matched group: Married (77.4%) Single (15.1%) Separated (7.5%)

					University (32.1%) Doctorate (1.9%)	
Lurie-Beck, J. K., et al. (2008)	European	Jewish Holocaust survivors	N=23	75.13 (62-94) 44% female	High school (47%) Tertiary education (48%) Elementary or primary school education level only (4%)	Married (61%) Widowed (26%) Divorced or separated (13%)
Oksuzler, B. and E. Dirik (2009)	Turkey	Experience of spousal bereavement	N=163	78.73 (65-96) 54.7% female	Mean 5.08 years, range 0-17 years	NR
Senol-Durak, E. and M. Durak (2018)	Turkey	Older adults with diabetes	N=191	69.16 (65-81) 58.6% female	Primary school graduates (82.7%)	Married (74.9%).

2.4.2.4 Outcome characteristics relating to PTG

2.4.2.4.1 Main findings relating to PTG.

All studies reported PTG occurring within their samples. Half (n=7) reported on trauma that occurred early in life during the Second World War (WW2). The remaining studies (n=7) reported on traumas that occurred later in life or across the lifespan. However, the time since trauma for these studies was often reported using only general time frames.

Both Heidarzadeh, Dadkhah, and Gholchin (2016) and Hoogland, Jim, Schoenberg, Watkins, and Rowles (2019) studied PTG in cancer patients in cross-sectional studies within different cultural contexts and claimed that their samples of older adults reported relatively high levels of PTG compared to other population samples. Heidarzadeh et al. (2016) used a substantial sample (n=142), however a cross-sectional design means that these findings tell us less about the timing of developing PTG i.e. whether this was before or during later life, particularly as it is only stated that 60% of the sample had a cancer diagnosis for more than one year. Hoogland et al. (2019) used a smaller sample (n=56), however reported a cancer diagnosis within five years. Oksuzler and Dirik (2019) also used a cross-sectional design and examined PTG in bereaved elderly using a substantial sample (n=163). They found that widowers also showed a significantly high level of growth, and reported an average of 19 years since bereavement for their sample of a mean age of 78 years, suggesting that this trauma was also likely to have occurred in later life,

However, López, Camilli, and Noriega (2015), also examining PTG in widowers but using a more informative case-control design, found that PTG did not significantly differ in widows compared to non-widows. All participants were asked to report on growth from their chosen most traumatic experience across their lives, with death of a loved one and illness or injury most represented in the non-widowed group. Their findings suggest that a variety of major life events can contribute to the development of PTG, as equivalent to widowhood.

Again, these events were potentially across the lifespan (the majority reported as more than 3 months ago), meaning that timings of PTG are difficult to interpret.

Blaszczynski and Turek (2013) and Brix et al. (2013) also used a case-control design to compare levels of PTG in specific later life trauma related groups to other groups, finding that individuals living with stoma and women with breast cancer respectively also did not demonstrate significant differences in PTG levels than controls. Brix et al. (2013)'s study of women with breast cancer is notable for using a large sample (primary n=774) and matched group, as well as robust methods for managing missing data. They too allowed participants to rate levels of PTG according to any chosen traumas, but across their entire lives. They concluded for their study that breast cancer might not overshadow other past traumas and may instead be contextualised within a broader lifespan of multiple challenging experiences. Błaszczyński's study used much smaller samples (primary n=21) and found that PTG in individuals with stoma did not significantly differ to those with other various traumatic events, with both groups matched as being part of supportive social organisations.

In contrast, the other two case-control studies included (Greenblatt Kimron, Marai, Lorber, & Cohen, 2019; Kuwert et al., 2014) explicitly examined PTG from early life trauma and found that holocaust survivors and women with sexual trauma from WW2 did demonstrate higher levels of PTG than those with no holocaust experience or non-sexual trauma, despite these being traumas from early life. Greenblatt Kimron et al. (2019) used a substantial sample (n=159) of Holocaust survivors, whilst Kuwert et al. (2014) studied a smaller sample (n=27) of women with sexual trauma and measured PTG as a secondary outcome to negative effects of trauma.

Alongside Greenblatt Kimron et al. (2019), an additional two studies examined PTG in holocaust survivors. The first of these studies was conducted by Lev-Wiesel and Amir (2003), who looked specifically at PTG in holocaust child survivors. Lurie-Beck, Liossis, and

Gow (2008) then explored further demographic variables relating to PTG in Jewish holocaust survivors, with Greenblatt Kimron et al. (2019) most recently examining PTG alongside physical health via heart rate variability (HRV). Lev-Wiesel and Amir (2003) and Lurie-Beck et al. (2008)'s small sample sizes reflect the difficulties of studying this diminishing population. But taken together, these studies provide unique evidence of the presence and significance of PTG in this particularly traumatised group in later life. However, it is also noted that due to the observational nature of these studies, it is difficult to interpret whether such PTG processes occurred near to the event, later in life or as an ongoing process. Lurie-Beck et al. (2008) concluded that it may be impossible to know whether PTG levels have changed or remained stable since the war time traumas and highlights the difficulties in generating reliable conclusions about this population due to the reduced numbers of survivors still alive. Interestingly, Lev-Wiesel and Amir (2003) reported that the levels of PTG they found were significantly lower than that of a sample of college students, concluding that growth may be more restricted for this group due to their experiences of a wide range of traumatic experiences.

Knaevelsrud et al. (2014) trialled an internet-based Integrative Testimonial Therapy (ITT), which combines elements of CBT, narrative exposure therapy and life story work with individuals who experienced traumatic events as a child or adolescent during WW2. They measured PTG as a secondary outcome but saw increased PTG alongside decreased PTSD symptoms as a result of the intervention. Whilst this clinical trial did not use a control group, Böttche, Kuwert, Pietrzak, and Knaevelsrud (2016)'s larger RCT of the same intervention used a six-week delayed treatment group design and six-month follow-up. Their focus was on the role of resource-oriented variables in predicting treatment outcomes and found that PTG predicted better outcomes for participants. Both used a short form version of the PTGI. Whilst these are preliminary findings, they suggest an important role for PTG in PTSD

therapy outcomes for early life traumas in older adults, of which larger trials may illuminate further.

2.4.2.4.2 Social processes associated with PTG

Several studies presented findings of social processes associated with PTG in older adults. Senol-Durak and Durak (2018) examined associations between PTG and perceived social support, amongst other socio-demographic variables, in diabetic older adults (n=191) in a cross-sectional study. 41% of their sample were inpatients but severity of condition varied, with the average time since prognosis being 10 years. They found that PTG was greater for those with higher perceived social support from family and that the older person's number of children related with higher PTG. The authors concluded that older people may have a higher reliance on the help of children in supporting them through diabetes treatment and in developing PTG. Oksuzler and Dirik (2019)'s study of widows also found that perceived social support from friends and significant others predicted PTG.

A reliance on supportive others was found to be key in a number of studies, such as in Hoogland et al. (2019)'s study of cancer patients, and in Blaszczynski and Turek (2013)'s small study of those living with a stoma whilst being part of supportive organisations, where social support and the PTG domain of *reliance on others* strongly correlated with utilising the assistance of others.

Heidarzadeh et al. (2016)'s study of cancer patients found that a sense of closeness with others and increased emotional support occurred for both hopeful and hopeless patients experiencing PTG. They concluded that older cancer patients are less likely to have social support systems, more isolation and therefore increased risks of depression, anxiety and difficulties coping with mental health.

Religion was found to have some impact on PTG in bereavement. Oksuzler and Dirik (2019) found that PTG in the bereaved elderly was enhanced with religious coping and López

et al. (2015) found a positive relationship between support offered by religious or spiritual communities and psychological growth.

The role of social processes was also reported in those studies looking at early war traumas, with social support from friends contributing to PTG and new possibilities in Lev-Wiesel and Amir (2003)'s small sample of childhood Holocaust survivor, and survivor support group membership related to PTG in Lurie-Beck et al. (2008)'s study of Jewish holocaust survivors.

Forstmeier, Kuwert, Spitzer, Freyberger, and Maercker (2009)'s cross-sectional study of PTG in former WW2 child soldiers (n=103), contained a specific focus on social acknowledgement as a survivor by significant others, finding that this was key for the development of PTG. They considered how a supportive close environment might be more important for older people than society in general and considered its role in buffering the specific historical context of societal disapproval for former German WW2 soldiers. These findings highlight an importance of considering historical social contexts that might have impacted on one's ability to develop PTG following certain traumas and how shifts in cultural and social views may open up new opportunities for PTG processes in later life.

2.4.2.4.3 Specific domains of PTG

Several studies reported on specific domains of PTG. The PTG domain *appreciation of life* (AL) was found to be significant in a number of studies: dominant in both groups of Blaszczynski and Turek (2013)'s living with stoma study, significantly higher in Brix et al. (2013)'s large sample group with breast cancer, compared to those without, and also high in Hoogland et al. (2019)'s participants with cancer, a finding consistent with other adult studies of PTG in cancer patients. There was also a large effect size for AL in holocaust survivors (Greenblatt Kimron et al., 2019), and this was the PTG domain most associated with holocaust experience in Lurie-Beck et al. (2008).

The domain *relating to others* (RO) was also notable in both Brix et al. (2013)'s breast cancer group compared to controls, and Hoogland et al. (2019)'s cancer patients. Contrary to other cancer studies, Heidarzadeh et al. (2016) found that RO had the highest mean domain score for their sample of cancer patients, but consistent with their findings on social support. RO also had a small effect size in Greenblatt Kimron et al. (2019)'s study of holocaust survivors. Other significant findings on specific domains of PTG were varied across studies.

2.4.2.4.4 Psychological processes associated with PTG

Psychological processes associated with PTG were not reported in many studies. A relationship between PTG and PTSD symptoms of arousal was found in child holocaust survivors (Lev-Wiesel & Amir, 2003) and with avoidance in those with diabetes (Senol-Durak & Durak). Acceptance of illness was associated with PTG in those with stoma (Blaszczynski & Turek, 2013), whilst internal locus of control, alongside PTG, predicted better outcomes in Böttche et al. (2016)'s ITT trial.

López et al. (2015) found that the subjective meaning of events correlated with PTG. Meaningfulness was found to be important for those seeking growth from being a child soldier (Forstmeier et al., 2009) as well as endorsing positive-emotion focused strategies (more than problem-focused strategies) in cancer patients (Hoogland et al., 2019).

2.4.2.4.5 Positive or negative outcomes associated with PTG

Hoogland et al. (2019) found that high levels of wellbeing and mental quality of life was associated with high levels of PTG when compared to age-adjusted population norms.

Some findings demonstrated a relationship between PTSD severity and PTG in historical traumas. Greenblatt Kimron et al. (2019) concluded that a certain level of PTSD was needed for PTG and Lev-Wiesel and Amir (2003) found that PTSD contributed significantly to PTG. Lurie-Beck et al. (2008) found that PTSD symptoms were related to

spiritual change, with other symptoms, and with hyper-arousal positively related to PTG dimensions. However, Forstmeier et al. (2009) found that PTSD severity, depression and anxiety were not correlated with PTG in their sample of former soldiers.

A number of studies found that PTG negatively correlated with anxiety and depression (Blaszczynski & Turek, 2013; Heidarzadeh et al., 2016), but the latter also found that some of those individuals with high scores of depression also scored highly on levels of PTG. Lurie-Beck et al. (2008)'s study of Jewish holocaust survivors found that depression negatively correlated with *personal strength*.

2.4.2.4.6 Demographic factors associated with PTG

Some studies found demographic factors associated with PTG. Of particular interest was the finding that age was negatively associated with PTG, in relation to a range of events across life (Brix et al., 2013; López et al., 2015), and survivor age during WW2 (Lurie-Beck et al., 2008). This study, whilst a small sample, found that survivor age was more important than the nature of holocaust experiences in predicting PTG, but that being separated from family was more important than survivor age. Lev-Wiesel and Amir (2003) reported that age of survivor contributed significantly to PTG. In contrast, Forstmeier et al. (2009) found that age of onset at deployment, or at time of study was not associated with PTG, although this study reported a small age range for its sample. Only Oksuzler and Dirik (2019) reported notable gender differences, with women reporting higher levels of PTG than men in their study of bereaved elders.

2.4.2.4.7 Additional factors associated with PTG

A number of the studies reported additional factors associated with PTG. One particularly interesting finding came from Greenblatt Kimron et al. (2019)'s case-control study of WW2 survivors, where they found an association between posttraumatic stress symptoms and PTG, but that PTG played a mediating role in PTSD symptoms and better

heart rate variability (HRV), suggesting a positive impact on physical health from PTG. In addition. Senol-Durak and Durak found that for those with diabetes, higher diet adherence and being an impatient were significantly related with higher PTG.

Furthermore, a number of factors found to relate to PTG related to those factors that appeared to increase the severity of trauma. Brix et al. (2013) found that severity of cancer and time since operation was positively associated with PTG. Lurie-Beck et al. (2008) found that the nature of holocaust experiences and whether survivors were alone during the holocaust were significantly related to PTG. López et al. (2015) also found that those traumas where the physical integrity of another person was threatened was associated with higher PTG.

2.5 Discussion and implications

2.5.1 PTG in older adults: what does the research show?

This systematic review intended to investigate what research has found regarding PTG in older adults. The review included a variety of studies presenting evidence of older people experiencing PTG within a range of traumas and challenging situations.

A strength of the included studies is a good general standard of methodology, use of appropriate definitions and measures of PTG, and entire older adult samples, meaning that findings specifically relate to older adults. The studies also cross a number of cultures and trauma types, and so provide a broad view of different contexts. However, many of the studies use small samples, may be culturally specific and utilise cross-sectional designs, meaning that it is difficult to generalise results.

2.5.1.1. Types of trauma relating to PTG

Findings demonstrate a duality in studying PTG in older adults, with studies that examine PTG in later life from early life traumas, particularly war-related, and those examining PTG relating to challenging situations that occur within or closer to later life.

This also highlights the varied nature of what might constitute trauma for this population. In particular, later life health conditions or other significant changes in one's life or relationships, such as bereavement, can mean more specifically impactful consequences for older adults who in their daily lives may have poorer health, less support and less independence or access to resources, which may leave them more vulnerable to challenges to their beliefs, but also growth. So, whilst these studies do follow much of the PTG literature's focus on chronic diseases, major accidents or war time trauma, examining PTG in more common later life stressors may be particularly relevant for older adults.

2.5.1.2. Levels of PTG

Evidence in this review suggests that older people do indeed experience significant levels of PTG, including from traumas that occurred during later life, as well as those across the lifespan and from early life traumas. Although it is difficult to compare these levels across all studies due to their diversity, an interesting finding was that these were often equivalent amongst varying types of trauma or later life stressors within studies, as demonstrated by the three later life or lifespan trauma case-control studies reviewed. Whilst clearly a limited number of studies within varied contexts, such results may indicate this interesting nuance for PTG in older adults. The absence of longitudinal data, and often non-specificity in time frames, makes it difficult to establish why this might be. But it could be that such findings are due to an effect of perspective when taking an overall reflection on past events or a lifetime of experiences. Brix et al. (2013), whose study had the largest sample, hypothesised along these lines: that older adults may simply be able to contextualise new stressful experiences within their lifespan.

Hoogland et al. (2019) considers this as relating to a lifetime of developing coping strategies and resilience in response to stress. However this might suggest a distinct process to that of PTG identified in these studies, which specifically defines a process where a

significantly disruptive event challenges one's basic beliefs and goals to trigger the process of growth, rather than a broader form of resilience, which has been defined as an ability to bounce back from difficulties or resist the effects of difficulties without experiencing prolonged negative effects (Rutter, 1995).

An exception to this finding was found in Greenblatt Kimron et al. (2019) and Kuwert et al. (2014)'s early life trauma case-control studies, which indicated higher levels of PTG for their samples of war trauma survivors, perhaps suggesting that certain early life traumas may result in a capacity for greater PTG when assessed in later life. One could posit that this specific experience or the long-term effects of time since event might be implicated, but this is of course difficult to generalise without further studies, particularly as Lev-Wiesel and Amir (2003) found the opposite when comparing their PTG results with an external sample.

2.5.1.3. Timing of PTG

A notable limitation in the studies reviewed is a frequent lack of detail in reporting the time since trauma for those occurring later in life. This can make it difficult to determine whether the PTG measured is related to a trauma that occurred during later life or significantly before, as well as when the PTG processes are likely to have occurred i.e. before or during later life and thus how an older age might impact on how PTG is experienced. Whilst some studies do clearly relate to traumas occurring in later life, as a group it is difficult to draw conclusions on any such distinction between developing PTG before and after reaching older adulthood, and therefore the relationship between time of trauma, age and PTG. In addition, a lack of longitudinal data means that identifying whether PTG processes have occurred closer to a historical trauma or later in life is also challenging. Identifying these relationships between PTG and the timing of both trauma and PTG processes are key questions for studying PTG in older people and these studies do not tell us enough about this.

This may be particularly important as previous research has found that the course and severity of PTSD symptoms in older adults depends on the time the trauma occurred (early versus late life) (Böttche, Kuwert, & Knaevelsrud, 2012) and that PTG is a process that can develop over time (Prati et al., 2009). Lower prevalence rates and symptom severities of acute trauma are generally observed in older than in younger populations and it has been suggested that in the case of early-life traumatization, a decline in PTSD symptom severity can be observed over the life course (Böttche et al., 2012). Findings on whether PTG follows a similar or different trajectory are mixed (Prati et al., 2009), although the two studies in this review that assessed PTG from traumas across the lifespan do support the notion that age is negatively associated with PTG, as found elsewhere (Manne et al., 2004).

This review therefore points to the need for studies to be more specific about the timing of traumatic events, as well as longitudinal studies that examine PTG into older adulthood and those that look exclusively at PTG related to traumas occurring in later life.

2.5.1.4. Later life psychology and PTG

In addition, it has been argued that older people experience gerotransendence, that is positive psychological change and growth, through the challenging of one's core beliefs, throughout later life as part of the normal ageing process. As outlooks and understandings of life naturally change, this may lead to a more transcendent view of life, accompanied by increased life satisfaction. (Tornstam, 2011). PTG differs conceptually to gerotransendence in that it specifically involves growth from traumatic experiences rather than those of the normal ageing process; although it is considered that the presence of PTG may accelerate the gerotransendence process (Weiss, 2014). To this extent, it may be hard to disentangle from these studies what constitutes genuine PTG processes from those outside of the normal psychological ageing process. Future studies that take into account an older person's general stage and growth in life, would therefore be of particular interest.

However, what these studies do tell us is how PTG is experienced from the vantage point of later life, across a range of settings and contexts. As such they provide interesting information on the profile of PTG experienced in later life and indicate what may be important for considering when working with older adults following trauma.

2.5.2. Social processes in PTG for older adults

The PTG model indicates that self-disclosure within a social context is a key mechanism for PTG, and that PTG is related to the degree to which this context provides support. But this review suggests that social support may be a particularly important factor in PTG with older people, whether in the case of survivor groups, social acknowledgement, or when being supported by others through an illness. This finding would be consistent with notions that independence usually decreases as individuals get older. Indeed it has been previously found that emotional support offsets the effects of trauma on feelings of life satisfaction in the old-old and the oldest–old (Krause, 2004). It may be that a parallel process occurs for PTG, although further research on this would be required to generate more meaningful conclusions. This review also highlights how shifts in social attitudes and acknowledgement over time may open up more opportunities for PTG relating to past traumas in later life.

2.5.3. Additional findings related to PTG in older adults

Whilst a number of additional findings are notable, it is admittedly difficult to draw generalisations due to the amount of evidence reviewed and variation of contexts. In addition, those studies that report more details on PTG may be unfairly weighted within these findings. It is worth noting, however, that such variation is often consistent within the PTG literature.

A number of the findings already associated with PTG were found to be supported with older adults but may too take on additional significance for this population. In particular, the relationship between severity of trauma or PTSD symptoms and increased PTG supports

previous findings (Dekel, Ein-Dor, & Solomon, 2012). Evidence is being developed regarding the possibility of increasing PTG as a result of psychological interventions for PTSD in older adults, as well as the role that PTG can play in predicting better treatment outcomes.

Findings that depression was negatively associated with PTG also supports previous findings and theories that depressive symptoms might inhibit the processes of PTG (Linley & Joseph, 2004). As depression can have more significant impacts on older people's cognitive functioning (Wilkinson, Ruane, & Tempest, 2018) this notion may be particularly important for older adults.

The domains of PTG found to be most significant across these studies were AL and RO, with both notably high within cancer studies. Whilst consistent with previous PTG cancer research, AL may have particular meaning for older people, who have both experienced more of life and are closer to the end of life than younger adults. The importance of RO may reflect a tendency in later life for a reduction in number, but increased choice of more meaningful relationships.

Finally, PTG in older people may also have implications for physical health benefits, such as findings relating to HRV in Greenblatt Kimron et al. (2019)'s study of holocaust survivors. Whilst the only study to directly examine this, it's findings may have important implications for older people. There is some evidence for positive physical health implications from PTG such as reductions in physiological arousal (Katz, Flasher, Cacciapaglia, & Nelson, 2001). Given the particular importance of changing health in later life and effects of late life trauma on health (Durai et al., 2011), this is likely to be a topic of particular interest for future studies.

2.5.4. Conclusions and clinical implications

As far as these authors know, this is the first systematic review to review studies relating to PTG specifically in older adults. PTG has many benefits and this review suggests that older adults can experience significant levels of PTG and in many ways similar to younger adults. This review shows that PTG is being studied with older adults in diverse settings that examine growth related to traumas across the lifespan, including those occurring in early life, across the lifespan and during later life. As such, these studies provide a view of how older adults may experience PTG across a range of traumas but do not indicate how PTG may develop or change over time, if this is different for traumas occurring in early vs later life and thus whether PTG differs significantly between younger and older adults, who can be considered a distinctly different and resilient group with a unique psychological profile. However, they do provide information on the profile of PTG experienced in later life and indicate what may be important for considering when working with older adults following trauma.

Clinicians working with older adults should be sensitive to the types of experiences older people may find traumatic and may experience growth from, taking specific factors relating to later life into account, such as the meaning and impact of later-life stresses, as well as early life trauma and the historical context of traumas. It may be that equivalent levels of PTG can be identified from a range of traumas across the lifespan when examined from the perspective of later life, but this may be different for certain early life traumas. Interventions looking to support PTG in older people might want to focus on the utilisation of social support, which could have particular bearings on growth for older adults, as well as bearing in mind the potential impacts of any depressive symptoms, social contexts, and the natural psychological growth that can occur during later life.

This review presents initial evidence from an emerging field. However, due to diverse studies and limited designs, with some small samples, these findings may not be widely

generalisable and much further research looking at PTG specifically in the context of later life is warranted.

2.5.5. Directions for future research

Future research on PTG in older adults might want to further explore how PTG differs in older adults to younger adults, as well as whether PTG differs for traumas occurring during later life, by more accurately describing times of trauma and measuring their impact across the lifespan and within later life.

Further research examining implications of PTG for physical health and the role of social support may also generate useful findings for understanding PTG within the specific context of later life, as well as further investigations into interventions for PTG/PTSD. Furthermore, the relationship between older adults demonstrating resilience yet experiencing PTG requires further examination, through further studies looking at more diverse types of challenging and traumatic experiences and considering the presence of growth that may occur during the normal ageing process.

2.5.6. Limitations of review

There are inherent challenges of studying both older people and PTG, which should be noted when interpreting the findings of this study. This review used a strict inclusion criterion with the entire sample of each study required to contain adults aged 60 or over. The authors acknowledge that such a criterion differs or may not exist for a number of different cultures, as the age at which someone becomes an older adult is clearly defined by social and cultural norms. Whilst this decision was intended to add a level of precision to conclusions, it is noted that a number of papers which might provide useful findings relating to older adults were therefore not included in this review. In addition, this review excluded qualitative studies which often provide important insights for less studied populations. A further review looking at these studies would be desirable.

Finally, this study used a strict definition of PTG and excluded other possibly equivalent terms in its search terms, in order to stay as close to the concept as possible. Whilst this too allows for precision, it may also mean that other studies examining equivalent concepts of growth after trauma under different terms were missed. Perhaps more thought on disentangling what these terms can mean within the older adult context is needed and which may open up more possibilities for understanding what it means for psychological growth to be experienced in later life.

2.5.7 Role of funding sources

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2.5.8 Contributors

AK and AL designed the study and wrote the protocol. AK conducted literature searches and provided summaries of previous research studies. AK and AL conducted quality assessments. AK wrote the first draft of the manuscript and AL contributed to and approved the final manuscript.

2.5.9 Conflict of Interest

The authors report no conflicts of interest.

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Chapter 3: Systematic Review Extended Methodology and Results

This chapter provides additional methodological and results information for Chapter 2.

3.1. Search methods and results full details

During stage 1 screening, all studies' titles and abstracts, as well as full text demographic information where necessary, were assessed for their relevance to the review.

- 307 papers were removed that were clearly not related to older people and/or PTG
- 344 further papers were excluded where older people formed part of a mixed sample but were not specifically delineated.
- 23 papers (14 x conference abstracts, 4 x dissertations, 2 x meta-analyses and 2 x theoretical studies. 1 x study not in English) were removed that did not meet the format requirements.
- 9 x qualitative studies were removed, as these were not part of the inclusion criteria.

In stage 2 screening, full texts of the remaining 71 studies were obtained where possible and subject to the inclusion criteria. Where there was any doubt about a paper's eligibility this was discussed with the other author and all decisions agreed upon. Where it was not clear that a paper met the eligibility criteria for full (primary) sample over 60 years of age, attempts were made to contact the author for clarity. Where no response was received and eligibility remained in doubt, those papers were excluded from review.

- 14 papers that included mixed samples or compared older and younger samples but delineated some results for older adults were excluded due to none or insufficiently drawn conclusions for older adults.
- An additional 14 papers were found not to meet the age criteria.

- 4 papers could not be determined if meeting the age criteria and no response from the author was received.
- 25 papers were excluded as the topic of PTG was not satisfactorily being addressed (even in some cases where the study aimed to do this.) For example, one study was excluded as it asked participants to report perceived growth over time, rather than following an identified traumatic event.

Following all screenings, 14 papers met eligibility for review and were agreed on between the authors.

3.1. Quality rating tool

A copy of the quality tool is in appendix C. A summary of quality assessment for each study is shown in Table 3.1.

3.2 Outcome characteristics

The full table of outcome characteristics and characteristics relating to PTG for included studies is shown in Table 3.2

Table 3.1.

Study quality ratings

Paper	Selection					Study design						Outcomes			Relevance to review			Comparator		Intervention		
Quality item	1	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
Błaszczyński, P., &, Turek, R. (2013)	2	1	0	0	2	1	0	2	2	2	2	1	2	2	2	1	2	0	2	n/a	n/a	n/a
Böttche, M., et al. (2016).	2	1	1	1	2	2	0	1	2	2	2	1	2	2	0	2	1	0	2	2	1	1
Brix, S. A., et al. (2013).	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	1	2	n/a	n/a	n/a
Forstmeier, S., et al. (2009)	1	2	1	1	2	2	0	2	2	1	2	2	2	2	2	2	2	2	n/a	n/a	n/a	n/a
Greenblatt Kimron, L., et al. (2019)	2	2	2	2	2	2	0	2	1	2	2	2	2	2	2	2	2	1	2	n/a	n/a	n/a
Heidarzadeh, M., et al. (2016)	1	1	1	2	2	1	0	2	0	2	2	1	2	2	1	0	2	2	n/a	n/a	n/a	n/a
Hoogland, A. I., et al. (2019)	2	1	2	2	2	2	0	2	0	2	2	1	2	2	2	1	2	2	n/a	n/a	n/a	n/a
Knaevelsrud, C., et al. (2014)	2	1	1	1	2	2	0	1	2	2	2	1	2	2	1	2	1	2	n/a	2	1	0
Kuwert, P., et al. (2014)	2	1	1	2	2	2	1	2	0	2	1	1	2	2	1	2	2	2	1	n/a	n/a	n/a

Lev-Wiesel, R. and M. Amir (2003)	1	1	0	0	2	2	0	2	0	1	2	1	2	2	1	1	1	1	n/a	n/a	n/a	n/a
López, J., et al. (2015)	2	1	1	2	2	2	0	2	0	2	2	2	2	2	2	1	2	2	1	n/a	n/a	n/a
Lurie-Beck, J. K., et al. (2008)	1	1	2	2	2	2	0	2	0	2	2	1	2	2	2	2	2	2	n/a	n/a	n/a	n/a
Oksuzler, B. and E. Dirik (2009)	2	1	1	1	2	2	0	2	1	2	2	1	2	2	2	1	2	2	n/a	n/a	n/a	n/a
Senol-Durak, E. and M. Durak (2018)	1	1	0	0	2	1	0	2	0	1	2	1	2	2	1	0	2	1	n/a	n/a	n/a	n/a

Key of paper quality items: 1 = Is the sample well defined (e.g. demographics, inclusion criteria, and ≥60 years)?; 2 = Is the sample representative (and non-biased) of the intended study population?; 3 = Is the setting (e.g. location, time) well described?; 4 = Is enough detail provide about the recruitment strategy?; 5 = Were the research aims clear?; 6 = Were outcomes and measures well described?; 7 = Was there an appropriate sample size calculation?; 8 = What was the total attrition numbers? 9 = What was the treatment of missing data? 10 = Does the study methodology provide enough information to allow replication?; 11 = Are any conclusions made justified by the results?; 12 = Are any findings generalisable?; 13 = Does the statistical analysis conducted allow the research question to be answered?; 14 = Was an appropriate statistical analysis used?; 15 = Is PTG clearly defined?; 16 = Is the time period since trauma well defined/clearly stated?; 17 = Has a validated measure of PTG been used?; 18 = Are any findings specifically interpreted within the context of later life?; 19 = Is any control/matched group appropriately representative/similar to the target group? (Baseline between group comparisons); 20 = Is the intervention properly defined or described?; 21 = Has the intervention been standardised across all participants and delivered as intended?; 22 = Was there a randomisation process?
Quality ratings: 2 = Good; 1 = Acceptable; 0 = Poor or not reported. See appendix C for full details for each item.

Table 3.2

Outcomes characteristics

Authors and year of publication	**Main findings regarding PTG for older adults**	**Dimensions of PTG associated with OA**	**Social processes associated with PTG in OA**	**Psychological processes associated with PTG in OA**	**Positive or negative outcomes associated with PTG in OA**	**Demographic factors associated to PTG with OA**	**Other factors associated with PTG in OA**	**Specific notable conclusions made associating PTG in OA**
Błaszczyński, P., &, Turek, R. (2013)	Similar levels of posttraumatic growth found in both groups. PTG levels were higher than in most other clinical groups.	*Appreciation of life* dominant in both groups	Social support In stoma group, *growth within relationships* was strongly correlated with using other people's assistance within health control.	Acceptance of illness	Positive emotions correlated with *self-perception*s and internal locus of control Total PTG was negatively correlated with anxiety and depression traits	NR	Curiosity negatively correlated with *spiritual growth*	NR
Böttche, M., et al. (2016).	Greater locus of control and post-traumatic growth was associated with greater improvement in PTSD symptoms following Internet based CBT.	NR	NR	Internal locus of control	PTG predicted better treatment outcomes for PTSD intervention	NR	NR	NR
Brix, S. A., et al. (2013).	No significant difference in overall PTG between women with BC and those without. Severity of disease features were positively associated with overall PTG and/or specific PTG domains.	Women with BC experienced significantly more PTG in *appreciation of life* and *relating to others* compared to	NR	NR	NR	Age was negatively associated with PTG	Severity of disease and time since operation positively associated with PTG	BC may not overshadow other possible traumas, with women reporting a range of different traumas. BC may have been contextualised within greater lifespan. This may help explain the absence of a

		BC free women.						difference in PTG according to BC status.
Forstmeier, S., et al. (2009)	Social acknowledgment as a survivor by significant others and belief that the world is meaningful are important factors contributing to PTG.	Intrusive symptoms related to *new possibilities*	Social acknowledgement	Meaningfulness	PTSD severity, depression, anxiety, and somatization not found to correlate with PTG	Age at onset of deployment, age at the time of the study, and education not associated with PTG	NR	The close environment may to be more important to elderly people than society in general. Societal disapproval may have been a common experience for German soldiers after WWII and might prompt victims to seek personal growth and acknowledgment as survivors by significant others. Elderly people could benefit from psychotherapies that support biographic integration of the trauma into their life and that facilitate finding meaning in adversity.
Greenblatt Kimron, L., et al. (2019)	Similar HRV measures were found among the Holocaust survivors compared to the comparison group. Holocaust survivors reported higher levels of post-traumatic stress symptoms and post-traumatic growth, as well as better heart rate variability scores through	Effect sizes of the subscales as well as the total score were mostly medium. Small effect sizes were found for *relations with others*	NR	NR	A certain level of post-traumatic symptoms are required in order for posttraumatic growth to occur.	NR	Post-traumatic growth played a partial mediating role between post-traumatic stress symptoms and HRV.	Association between PSS and PTG exists among elderly survivors of early life trauma. Early childhood trauma is associated with better HRV in older adulthood, but not when coupled with higher post-traumatic stress symptoms. However, when accompanied by

	the mediation of post-traumatic stress symptoms and post-traumatic growth. Holocaust survivors with higher post-traumatic stress symptoms had worse HRV than the comparison group, but when accompanied by post-traumatic growth, HRV was found to be better.	and *spiritual change*; large effect size was found for *appreciation of life*.						posttraumatic growth, HRV was found to be better once again suggesting that post-traumatic growth may be a path to physical health.
Heidarzadeh, M., et al. (2016)	Elderly Iranian cancer patients experience relatively high degrees of positive psychological consequences following diagnosis. PTG was negatively correlated with depression and positively correlated with hope. All dimensions of the PTG were significantly correlated with depression and hope.	*Relating to others* and *spiritual changes* were rated highest. *Relating to others* in items concerned with a sense of closeness with others and increased emotional support showed poor correlations with hope	A sense of closeness with others and increased emotional support occurs for both hopeful and hopeless elderly cancer patients.	NR	PTG was negatively correlated with depression However patients with high BDI scores also reported high PTG scores.	NR	Hope has a direct (positive) relationship with PTG	Elderly cancer patients may experience different sets of concerns compared to non-elderly adults with cancer. Older cancer patients are also less likely to have social support systems and more likely to experience isolation, increasing the risks of depression, anxiety, and difficulties coping with mental health issues.
Hoogland, A. I., et al. (2019)	Participants reported high posttraumatic growth and well-being and primarily adaptive	PTGI scores were highest for *appreciation*	Through open-ended questions, participants also noted a	Participants endorsed positive emotion-	Participants reported high levels of PTG, well-being, and	Increased age was associated with	NR	Findings suggest the potential for positive psychological change

	and emotion-focused coping strategies. They also reported better mental quality of life but not physical quality of life compared with age-adjusted population norms. Older age was associated with less posttraumatic growth but not well-being.	*of life*. *Spiritual change* scores were slightly lower than other subscales, and *new possibilities* was significantly lower than all subscales.	reliance on faith and supportive others.	focused coping strategies more than problem-focused coping.	mental quality of life in comparison to age-adjusted population norms.	decreased PTG.		following a cancer diagnosis in old age. Positive changes post-diagnosis may reflect increased resilience in later life.
Knaevelsrud, C., et al. (2014)	Integrative testimonial therapy is a well accepted and potentially effective treatment for older war trauma survivors experiencing PTSD symptoms. A medium treatment effect size was found for posttraumatic growth at posttreatment.	NR	NR	NR	PTG increased whilst PTSD symptoms decreased	NR	NR	NR
Kuwert, P., et al. (2014)	Women exposed to conflict-related sexual violence during WWII reported a higher extent of PTG, greater severity of PTSD-related avoidance and hyperarousal symptoms, as well as anxiety, and severe sexual problems, and less social acknowledgement compared to female long-term survivors of	NR	NR	NR	NR	NR	NR	NR

	non-sexual WWII trauma.							
Lev-Wiesel, R. and M. Amir (2003)	PTSD arousal and PTG coexist. Personal resources were negatively correlated with PTSD symptomatology, and only social support from friends contributed positively to PTG.	PTG subcategories were found to be positively associated with the subcategory of arousal.	Social support from friends significantly contributed to PTG Social support contributed to *new possibilities.*	PTSD related arousal	PTSD contributed significantly to PTG	Age of survivor contributed significantly PTG. Holocaust survivors' growth is far lower than that of students, more than could be expected from age differences.	NR	Possibly, the growth of this group, with its wide range of traumatic experiences, is more restricted.
López, J., et al. (2015).	In spite of widowhood, elder people develop PTG in the same way that non-widowed elder people. Support of a religious community, age, life major events experienced, and the subjective meaning given to them correlated with PTG. Life major events of lower traumatic intensity experienced by elderly people, such as being widowed, can be related to high PTG levels.	NR	Positive relationship between social support offered by religious or spiritual communities and psychological growth.	NR	NR	Age negatively correlated with psychological growth.	Events in which the physical integrity of another person was threatened showed higher levels of PTG. SOC domain ''significance'' positively associated with PTG.	Older people are highly capable of experiencing PTG after a struggle process developed when enduring traumatic events in extensive life. PTG is important for elders because it is positively related to health, physical and cognitive functioning, interpersonal flourishing and social support. Achieving personal growth after the loss of a beloved strengthens personal control, self-efficacy and self-esteem.

Lurie-Beck, J. K., et al. (2008)	PTG *Spiritual change* was found to correlate positively and significantly with the PTSD symptom clusters of intrusion, avoidance, and hyperarousal. Numerous demographic variables were also found to relate to posttraumatic growth including survivors' age during the Holocaust; the nature of their Holocaust experiences; and whether they were ever alone, without family, during their Holocaust experiences as well as survivor support group membership.	*Appreciation of Life* was most associated with Holocaust experience, followed by *personal Strength*. *Relating to Others*, and *New Possibilities*. *Spiritual Change* was significantly lower than other growth aspects.	Survivor support group membership was related to PTG	NR	PTSD symptoms significantly related to *spiritual change* PTSD symptoms, particularly hyperarousal, positively related to PTG dimensions. Negative correlation between *personal strength* and depression.	Survivor age during the Holocaust, older age and less PTG related. Survivor age is more of a determinant than the nature of the survivor's experiences during the Holocaust. However, impact of being separated from family members during the Holocaust is a stronger determinant than survivor's age.	Nature of Holocaust experiences, whether the survivor was ever alone during his or her Holocaust ordeal	It is impossible to know whether these symptom and growth levels have remained stable since the Holocaust or have fluctuated during the intervening years. With the aging of the survivor population, it is now very difficult to obtain Holocaust survivor samples of a sufficiently large enough size to overcome the relationship between small sample size and achieving statistical significance.
Oksuzler, B. and E. Dirik (2009)	Widows reported a significantly high level of growth, and being a	NR	PTG enhanced with religious coping and	NR	NR	Being a woman associated	NR	Definition of trauma that in older age can be more diverse than more

	woman predicted total growth and two subdimensions. While negative religious coping predicted only total growth, positive religious coping predicted total growth and two subdimensions. Perceived social support from friends predicted total growth and that from significant others predicted total growth and two subdimensions. Self-esteem was not a growth predictor.		receiving support from family and significant others. Social support from friends and significant others predicted PTG.			with greater PTG.		traditional trauma e.g. spousal bereavement may be more impactful in elderly people where they can have significant impact on everyday life, economics and identity roles.
Senol-Durak, E. and M. Durak (2018)	A higher number of children, being an outpatient and higher dietary adherence were associated with PTG. Treatment-related variables, perceived social support received from family, and avoidance (cognitive processing) were significantly related with PTG	NR	individuals having higher family support had higher PTG.	Avoidance was associated with PTG.	NR	Number of children was significantly associated with PTG.	higher diet adherence was associated with higher PTG. Inpatients had higher PTG compared with outpatients.	Older adults might need the help of their children related to involvement to treatment

Chapter 4: Theoretical Bridging Chapter

4.1. From PTG to wisdom

Chapter 2 reviewed the current evidence for older adults experiencing posttraumatic growth (PTG). Whilst the review points towards the need for further research in developing this understanding, the notion that negative experiences might be utilised in order to enhance well-being is important for older adults in developing the psychological resources for managing both trauma and the inevitable stressors and challenges of later life. Wisdom and PTG have been discussed as overlapping concepts that have clear theoretical links. Indeed, Weiss (2014) claims that it was, "Tedeschi's original interest in wisdom that led him to the focus on PTG and the possibility that rumination in the aftermath of a traumatic event might yield growth as well as wisdom" (Weiss, 2014, p. 217). Tedeschi et al. (2018) indicate that wisdom might be theorised as a potential outcome for those experiencing PTG, due to the exploratory mechanisms implicated in both processes as well as the necessity to engage in dialectical thinking (such that negative events might yield positive outcomes), which may be more likely for wise individuals. They claim that the growth narrative reflects a wisdom that recognises the complexity of life rather than simple notions of depression and happiness, a recognition that is likely to come with age and experience. Both concepts also prepare individuals for better managing future difficulties. The key conceptual difference between wisdom and PTG is that wisdom does not require highly traumatic situations to develop and so may have wider utility for more older adults.

There is, however, little empirical evidence on the links between wisdom and PTG. One study examined relationships between PTG, wisdom, and quality of life in cancer survivors aged over 50 years. It found that wisdom and PTG were associated with significant improvements in social and family well-being (Yang & Ha, 2019). Webster & Deng (2015)

examined the relationship of traumatic events to worldview beliefs when asking individuals to write trauma narratives. They found that both PTG and wisdom were positively associated and both contributed to intrapersonal strength (Webster & Deng, 2015). However, perhaps most interestingly, their study provided some evidence that changes in worldview as a result of trauma strongly predicted levels of wisdom. Such findings indicate that there are likely to be similar cognitive processes implicated in both processes.

4.2. Wisdom: an emerging empirical literature

As previously mentioned, wisdom does not have an agreed singular definition, although distinctions can be made between general wisdom and personal wisdom, that is wisdom-based knowledge applied to one's own life. There are a number of definitions and operationalisations of wisdom that have been developed through empirical study. Some of the most established models include: the Berlin Wisdom Paradigm (P. Baltes & Smith, 1990; Paul B Baltes & Staudinger, 2000), Wise Reasoning (Grossmann et al., 2010), The Bremen Wisdom Paradigm (Mickler & Staudinger, 2008) the 3D Wisdom model (Ardelt, 2003), the HERO(E) model of wisdom (Webster, 2003), Self-transcendence (Levenson, Jennings, Aldwin, & Shiraishi, 2005) and the MORE wisdom model (Glück & Bluck, 2013). A detailed overview of these models is beyond the scope of this portfolio, but a comprehensive overview can be found in Sternberg and Gluck (2019).

Kunzmann and Glück (2019) identify that there are broadly two directions of wisdom research. One conceptualises wisdom as a competence; a "highly developed form of knowledge or reasoning, (which uses) performance-based tests to assess the characteristics of wisdom-related knowledge" (Kunzmann & Glück, 2019, p. 576). Another has conceptualized wisdom as an attitude or mature form of personality. This has been described as, "a way of experiencing and reflecting on life that includes a desire to achieve meaning and growth rather than closure and satisfaction, (as well as) an open, compassionate stance toward others

and a willingness to reflect deeply and self-critically" (Weststrate & Glück, 2017, p. 1396). For the second, researchers have developed self-report questionnaires to assess such traits. However, there are clear converging trends in these directions. Bangen, Meeks, and Jeste (2013) summarise that most definitions of wisdom include qualities such as good social-decision making, pragmatic knowledge of life, holding pro-social values, self-reflection and self-understanding, and competence in acknowledging uncertainty, as well as emotional-regulation.

Erikson (1982)'s psycho-social theory was one of the first psychological models to consider the psychological profile of later life. He described wisdom as the desired outcome for the final stage of human development (the conflict of ego integrity vs despair). Whilst the relationship between wisdom and age is mixed, there is agreement that its development requires life experiences (Paul B. Baltes, Glück, & Kunzmann, 2002; Paul B Baltes, Staudinger, Maercker, & Smith, 1995) or as some have specifically described, *critical* life experiences (Webster, 2007). Weststrate and Glück (2017) suggest that it is in fact self-reflection (on experience) which is the key to developing wisdom and what indicates why some might develop wisdom where others do not. Whilst wisdom can develop across the lifespan, the accumulation of life experiences means that older people will have had more opportunities to develop and utilise wisdom for application in their lives.

4.3. Wisdom, Clinical Psychology and depression

Regardless of the definition, wisdom has been consistently related to a number of highly positive and desirable qualities. Such qualities range from personality growth (e.g. orientation towards personal growth, purpose/meaning in life, autonomy, and emotional competence/regulation) to indicators of personality adjustment (e.g. better social relations, greater self-acceptance, self-efficacy, mastery and general psychological and social well-being) and overall subjective well-being (general and subjective well-being, life satisfaction,

positive affect, and happiness) (Ardelt, 2019). Wisdom has also been found to be positively related to subjective well-being in the later years, partially mediated by purpose in life, both directly and via a sense of mastery (Ardelt & Edwards, 2016). Whilst this is admittedly a complex picture, such findings suggest that targeting wisdom with psychological interventions is likely to be highly beneficial.

Chapter two provided some evidence for older adults, consistent with other studies of PTG, that the presence of depression is negatively associated with PTG. One explanation for this is that meaning making requires specific ruminative and analytic cognitive processes which depression, due to its impact on cognitive functioning, inhibits (Linley & Joseph, 2004). Depression is therefore a condition that poses a significant threat to meaning making and growth, and consequently the development of wisdom. It is in turn likely that impaired wisdom will result in a reduced ability to manage life stressors and so act as a maintaining factor in depression.

It stands to reason therefore that interventions that target the wisdom process may well be effective in reducing depression, but that they need to be sensitive to the ways in which depression might impact on one's ability to utilise their wisdom. Psychotherapy is likely to provide good opportunities for eliciting and developing wisdom, where individuals engage in cognitive and affective work beyond that of their normal lives (Laidlaw, 2014).

4.4. Cognitive behavioural wisdom enhancement

Laidlaw developed a 'wisdom enhancement' technique as an augmentation for cognitive behavioural therapy (CBT) for older adults (Laidlaw, 2010b; Laidlaw & Kishita, 2015). CBT has efficacy for treating depression in older adults (Cuijpers, Karyotaki, Pot, Park, & Reynolds III, 2014) but it has been suggested that treatment effects can be enhanced through the addition of age appropriate techniques (Knight & Laidlaw, 2009).

A specific tool to aid CBT wisdom enhancement involves asking individuals to create a timeline of their life to support reviewing life events in a highly structured and focused manner, drawing on cognitive restructuring and behaviour change methods. This approach draws on the dialectics of wisdom by encouraging individuals to recognise the multifaceted nature of life, rich with complexities, compromises, and inevitable mistakes (Laidlaw, 2014).

This normalising strategy also helps individuals recognise their resilience across the lifespan as well as the value of learning from setbacks; that surviving challenges may have required emotional regulation and that individuals may have coped with situations as best as they could at the time. It is argued that this is likely to lead to other highly beneficial positive psychological qualities such as self-acceptance and self-compassion (Germer & Siegel, 2012; Laidlaw, 2014). Self-compassion, in particular, has been associated with well-being in later life and it has been argued that interventions that promote self-compassion are likely to improve quality of life among older adults (Allen, Goldwasser, & Leary, 2012).

This approach then leads to a focus on managing current difficulties, such that, "(individuals) are able to deal with ambiguity by recognising the similarities and differences in challenges they face, and being able to discriminate between possible coping strategies" (Laidlaw, 2014, p. 148). Thus, a major purpose of the intervention is helping individuals both understand the value of and develop the skill of using past experiences in order to better meet new challenges.

Laidlaw's wisdom enhancement technique appears to therefore follow the conceptualisation of wisdom as a highly developed form of knowledge or reasoning. However, It's focus on the utilisation of an individuals' critical life experiences, through reflection, to enact cognitive and behavioural change also draws links with Webster's definition of wisdom as, "the competence in, intention to, and application of, critical life

experiences to facilitate the optimal development of self and others" (Webster, 2007, p. 164), a trait based approach to wisdom.

The wisdom enhancement timeline technique may also draw similarities to other narrative based interventions for depression in older adults which have shown efficacy, such as life review therapy (E. Bohlmeijer, Roemer, Cuijpers, & Smit, 2007; E. Bohlmeijer, Smit, & Cuijpers, 2003; Haight & Burnside, 1993) and reminiscence narrative therapy (E. Bohlmeijer, Kramer, Smit, Onrust, & van Marwijk, 2009; E. T. Bohlmeijer, Westerhof, & Emmerik-de Jong, 2008), where individuals are asked to review the stages of their life story in detail to reappraise negative experiences and give positive meaning to their lives. Narrative therapy also involves helping people to develop a more agentic story to their life where they can take responsibility for their desired ways of living.

However, Laidlaw's technique differs from these approaches through its emphasis on cognitive restructuring and behavioural change in the here and now. Such qualities are clear hallmarks of the CBT approach, but it uniquely utilises an individual's life events and wisdom-based processes as the resource for change.

4.5. Objectives for chapter 5

The wisdom enhancement timeline technique has so far not been empirically tested and there are very few studies that have explicitly examined whether interventions can increase wisdom. This author found evidence of wisdom being taught in an educational setting (Bruya & Ardelt, 2018) and in a faith community (McLaughlin et al., 2018). Another study tested components of the MORE model: openness, reflective thinking, and emotional regulation through an intervention of mindfulness training, journal writing, narrative simulation, and case discussion on leadership virtues; however results were mixed (Sharma & Dewangan, 2017). This is therefore a novel field.

Chapter 5 presents an empirical examination of Laidlaw's CBT wisdom enhancement technique in order to assess its effectiveness in older adults with depression and its impact on wisdom and self-compassion.

Chapter 5. Quantitative Research Paper

Can life's wisdom help counter depression? Evaluating the cognitive behavioural therapy wisdom enhancement timeline approach with older adults experiencing depression. A series of N-of-1 trials.

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Journal requirements: (appendix B)

Articles should be no more than 5000 words (excluding the abstract, reference list, tables and figures)

This study been reported in accordance with SCRIBE 2016 (Single-Case Reporting guideline In BEhavioural interventions) (appendix E)

Paper word count: 4998

5.1 Abstract

Objectives: An ageing population means that effective psychological treatments for depression in older adults should be well-evaluated. Engagements with the field of wisdom psychology have produced techniques for augmenting cognitive behavioural therapy (CBT) for older adults. This study investigated whether a CBT wisdom enhancement timeline technique for older adults reduced depression, as well as increase self-compassion and wisdom. **Design:** An N-of-1 trial series with non-concurrent multiple baseline AB design was conducted. **Methods**: Older adults experiencing depression, recruited from mental health service waiting lists, were randomly assigned to baseline conditions. Participants received five individual sessions of the examined intervention, offering a structured way of utilising one's life experiences to evolve the psychological resource of wisdom within a cognitive behavioural framework, in order to improve mood. Participants completed idiographic daily measures and self-report standardised measures of depression, anxiety, self-compassion and wisdom during baseline and intervention phases, and at one month follow up. **Results:** Six participants competed the study and were subject to single-case data analyses. Four participants were deemed responders and saw reliable changes in depression post-intervention with changes coinciding with intervention onset. Two participants saw clinically significant changes in depression scores at follow up. Only one responder saw significant changes in measures of self-compassion and wisdom. **Conclusions:** The examined technique is a feasible and acceptable intervention and shows promise as an effective technique for depression in older adults. However, there is insufficient evidence to suggest that wisdom and/or self-compassion are significant mechanisms of change. Clinical/theoretical implications are discussed. ClinicalTrials.gov Identifier: NCT04015505.

Key words: Older adults, Depression, Wisdom, Cognitive Behavioural Therapy, CBT

5.1.2 Acknowledgements

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5.1.3 Practitioner points

- This is the first study to empirically evaluate a CBT technique that utilises wisdom psychology principles with older adults
- The technique shows promise as an effective intervention for depression in older adults
- Further research is needed to determine how wisdom can be empirically utilised in psychological interventions
- Further exploration of this technique and topic may lead to enhanced outcomes for later life mental health

5.2 Introduction

5.2.1 Background

The United Kingdom (UK) population is getting older, with those over 65 predicted to reach 24% of the population by 2037 (Office for National Statistics, 2017). With improved quality of life and advances in healthcare, there is increased pressure on services to cater for the wellbeing of older adults. Depression, in particular, is a significant mental health condition for older adults, affecting one in five older people in the community (UK Government, 2017) and is often under-detected in mild to moderate forms. Later life depression carries with age an increased risk of chronicity, as well as risks to functional and cognitive impairment (Wilkinson et al., 2018). There is therefore a growing need for effective and well evaluated treatments for later life depression.

UK guidelines for treating depression recommend cognitive behavioural therapy (CBT) (National Institute for Health and Care Excellence, 2009). Evidence has suggested that CBT is effective for depression in older adults, but that more could be done to enhance treatment outcomes (Cuijpers et al., 2014; Gould, Coulson, & Howard, 2012; Laidlaw et al., 2008). It has been argued that traditional CBT techniques be augmented for older adults through the adjunction of 'age-appropriate' techniques, developed from lifespan developmental models and gerontological theory. One of these techniques is described as, 'wisdom enhancement'. (Knight & Laidlaw, 2009; Laidlaw, 2010a).

5.2.2 Wisdom and Clinical Psychology

Wisdom is an ancient concept with large theoretical literatures, however a large empirical study of the psychology of wisdom has emerged over the last few decades. Whilst there is no singular accepted definition for wisdom, Bangen et al. (2013) summarise that most psychological definitions of wisdom include qualities such as good social-decision making, pragmatic knowledge of life, holding pro-social values, self-reflection and self-

understanding, and competence in acknowledging uncertainty, as well as emotional-regulation.

Empirical researchers have begun to operationalise wisdom in terms of cognitive, affective and reflective capabilities through the development of a number of psychological models and measures. They have found that wisdom is related to a number of positive psychological qualities ranging from personality growth, indicators of personality adjustment, and overall subjective wellbeing, as well as better overall health, well-being, happiness, life-satisfaction and resilience (Ardelt, 1997, 2019; Etezadi & Pushkar, 2013; Jeste & Lee, 2019; Sternberg & Gluck, 2019).

Personal wisdom has been theorised to develop through the critical experiences and challenges one faces as part of life (Bluck & Glück, 2004; Gluck, Bluck, Baron, & McAdams, 2005). Although experience is important, it has been suggested that self-reflection on experience is a fundamental process, indicating why some might develop more wisdom than others (Weststrate & Glück, 2017). This makes the context of psychotherapy particularly fruitful for wisdom development.

This theoretical integration of life experiences and the meaning, or growth from difficult experiences through reflection has been empirically supported through other literatures such as narrative psychology, where the ways in which one reflects on and (re)frames their past experiences can lead to greater well-being and optimism (McAdams, Reynolds, Lewis, Patten, & Bowman, 2001).

5.2.3 Wisdom and later life

Utilising wisdom as a principle for later life mental health clinicians draws theoretical links with psychological models of successful ageing and the unique psychological profile of later life (Woods & Clare, 2008). This includes a more nuanced emotional well-being, that emphasises an acceptance of the co-existing of positive and negative emotions (Carstensen et

al., 2011) and the psychological growth or 'gerotransendence' that can occur as part of the normal ageing process in later life (Tornstam, 2011). However, there is currently a striking dearth of research exploring the potential applications of wisdom to Clinical Psychology.

5.2.4 Wisdom enhancement timeline technique

Laidlaw (Laidlaw, 2010b; Laidlaw & Kishita, 2015) theorises that the ability to utilise one's life wisdom to help manage current difficulties is hindered in depression through mood-congruent biases and an over-generalised and vague autobiographical memory. The resulting clinical model of CBT wisdom enhancement aims to counter this by asking individuals to reflect on difficult life experiences in a structured way that encourages a wise perspective on past experiences, with its recognition of the complexities of life, the co-existence of both negative and positive outcomes and seeing challenges as opportunities for growth. It is a recognition that older people have a lifetime of experiences and resources with which they can draw upon to help manage their current difficulties.

Laidlaw developed a clinical tool, described here as the 'timeline technique', which is recommended for use as part of a broader CBT intervention. During therapy, individuals are asked to produce a timeline of their life, which contains all their important or meaningful life experiences. Individuals are supported to recognise their resilience and coping across their lifetime, including the dealing with uncertainty, foster self-acceptance for challenges faced in the past where one coped 'the best they could', and derive new meanings from life experiences. This method utilises traditional cognitive restructuring techniques but in ways that draw upon the rich narrative of one's life, which may have particular resonance due to the personal meaning and lived experience attached to these events. Individuals are then supported to utilise this experience ('the wisdom of your years') to develop and practise behavioural change methods for managing their current difficulties and moving towards their goals.

The timeline technique can be seen as an innovative and structured way of utilising an individual's life experiences as a resource to evolve the psychological resource of wisdom, in a way that incorporates elements of life experience and wise self-reflection, within a cognitive behavioural framework that is time-limited and present focused. It is theorised that this approach will lead to improved mood through mechanisms of increasing self-acceptance/self-compassion and wisdom.

The timeline technique is recommended in UK guidelines for CBT interventions for older adults (Laidlaw, Kishita, & Chellingsworth, 2016), meaning that it will be routinely used in National Health Service (NHS) settings in England. However, the technique itself has received little empirical study and has so far not been evaluated.

5.2.5 Study aims

This study aimed to:

- Evaluate the wisdom enhancement timeline technique as an intervention for depression in older adults
- Provide an empirical examination of an individual psychological technique
- Contribute to empirical links between the fields of wisdom and Clinical Psychology

The following research questions are addressed:

- Does the timeline approach with older adults experiencing depression reduce negative affect, and result in increased self-compassion and wisdom for managing current difficulties?
- Are any changes maintained following one month after the intervention?

5.3 Materials and Methods

5.3.1 Trial design

This study employed a series of N-of-1 trials to measure the effects of the timeline technique on older adults experiencing depression. An N-of-1 series allows the intervention

to be tested through an established and cost-effective method of examining the potential effectiveness of novel interventions with individual participants and within small samples (Hayes, 1981; Kazdin, 2011; Morgan & Morgan, 2001). Specifically, this study utilised a non-concurrent multiple baseline across-participants AB design with follow up (Figure 5.1).

Group 1 participants

Pre-B/L assessment	B/L assessment 2 weeks	Pre-intervention assessment	Intervention: 5 sessions over 4 weeks Ongoing assessment	Post-intervention assessment	1 month follow up

Group 2 participants

Pre-B/L assessment	B/L assessment 3 weeks	Pre-intervention assessment	Intervention: 5 sessions over 4 weeks Ongoing assessment	Post-intervention assessment	1 month follow up

Group 3 participants

Pre-B/L assessment	B/L assessment 4 weeks	Pre-intervention assessment	Intervention: 5 sessions over 4 weeks Ongoing assessment	Post-intervention assessment	1 month follow up

Figure 5.1: multiple baseline study design

A multiple baseline design varies the intervention onset across participants and allows greater control for determining when changes in the target variables might be attributed to the intervention (Smith, 2012; Watson & Workman, 1981). This study design followed recommendations by Christ (2007) to increase validity for non-concurrent designs including,

prior specification of hypotheses, pre-set baseline lengths, pre-determined randomised allocation of participants to baselines, and maintaining a formative measurement schedule with equitable difference between measurements.

Each participant was randomly assigned to three pre-determined baseline phases (two, three, or four weeks in length). Following the baseline phase, participants completed a five-session psychological intervention phase over four weeks. During both phases, participants completed weekly standardised measures of mood and daily idiographic measures of mood, self-acceptance and wisdom. Participants completed additional standardised measures of self-compassion and wisdom at pre-baseline, pre-intervention and post-intervention time points. Finally, participants completed a follow up assessment one month following the end of the intervention phase.

5.3.2 Measures

5.3.2.1 Standardised measures

Depression, the study's primary outcome, was assessed weekly using the 9-item Patient Health Questionnaire; PHQ-9 (Kroenke, Spitzer, & Williams, 2001). Higher scores indicate greater severity of depression. The PHQ-9 has excellent reliability and validity, including with the older adult population (Kroenke, Spitzer, Williams, & Löwe, 2010; E. Phelan et al., 2010a). This measure was also used as the study screening tool with a score above 5 (indicating mild depression; (Kroenke et al., 2001) set as the cut-off for eligibility. Anxiety was assessed weekly using the 10-item Geriatric Anxiety Scale; GAS-10 (Mueller et al., 2015a). Higher scores indicate greater severity of anxiety.

Self-compassion was measured with the Self-compassion scale; SCS (Neff, 2003), a well-validated and extensively used 26-item measure of self-compassion with good construct validity, internal consistency and test-retest reliability (Neff, 2003; Neff & Vonk, 2009). Wisdom was measured with the Self-Assessed Wisdom Scale; SAWS (Webster, 2007). This

40-item self-report measure of personal wisdom is based on Webster's definition of wisdom as, "the competence in, intention to, and application of, critical life experiences to facilitate the optimal development of self and others" (Webster, 2007, p. 164). It measures five subscales of wisdom: critical life experience, reminiscence and reflectiveness, openness, emotional regulation, and humour. Whilst there are many measures of wisdom (Glück et al., 2013), this measure was chosen as it is appears to tap those aspects of wisdom the timeline technique is expected to affect. The SAWS is also positively related to self-related and other-related correlates of wisdom and has excellent reliability and high construct validity (Glück et al., 2013).

5.3.2.2 Idiographic visual analogue scale (VAS)

Idiographic measures were used as a repeatable and efficient measurement of specific target constructs to help determine the timing and nature of any change. The VAS asks participants to indicate on a 10cm line how much they agree with each of three statements:

1. Today, I feel that my mood is good (VAS_mood)
2. Today, I feel accepting of myself (VAS_SA)
3. Today, I feel that I can use the wisdom of my life to help me deal with my current difficulties (VAS_wisdom)

Participants were asked to complete these questions at the same time each day.

5.3.2.3 Change interview questionnaire

This brief questionnaire, adapted from Elliott (2012) asks participants to reflect on what they think any benefit of the intervention is due to, to help rule out non-specific therapy effects. Participants were asked:

1. What has changed for you over the course of the study?
2. Why do you think these changes occurred?
3. What has been helpful?

A summary of timepoints for measures used is shown in Table 5.1.

Table 5.1

Summary of timepoints for measures completed

Measure	Timepoint administered for each participant
PHQ-9	Every seven days during baseline and intervention phases, including pre-baseline/screening, pre-intervention, post-intervention, and once at one month follow-up.
GAS-10	Every seven days during baseline and intervention phases, including pre-baseline, pre-intervention, post-intervention, and once at one month follow-up.
VAS	Daily throughout baseline and intervention stages
SCS	Pre-baseline, pre-intervention, post-intervention, follow-up
SAWS	Pre-baseline, Pre-intervention, post-intervention, follow-up

5.3.3 Participants

Participants were older adults aged over 60 years (World Health Organisation, 2018), currently on a waiting list for psychological therapy for depression within an NHS mental health service and meeting the PHQ-9 screening cut-off. They were deemed eligible if they were able to speak and understand English, considered low risk for suicide or self-harm and absent of cognitive impairment or substance abuse. They were not eligible if currently receiving any other active treatment for depression, aside from a stable dose (at least three months) of anti-depressant medication. These exclusions were made to increase study safety and help determine whether any observed changes may be due to the intervention.

Six participants took part in the study, to help determine the reliability of any conclusions. Proposed N-of 1 study standards state that at least three demonstrations of an intervention's effect are required in to order to determine causality (Kratochwill et al., 2010; Tate et al., 2013), whilst acknowledging that conclusions will be tentative.

5.3.4 Procedure and settings

Eligible participants were identified via clinical teams across UK mental health care services and volunteered to take part. All further research activities, including delivery of the intervention, were conducted by the first author, trainee clinical psychologist and chief investigator of the study, and under the clinical supervision of the second author, clinical psychologist. Following informed consent procedures, participants completed pre-baseline measures and were given baseline measure to complete at home. All participants were pre-randomised to baseline conditions via an online random number generator. No blinding took place. Participants next met face to face with the researcher weekly for five weeks to receive each session of the intervention. Sessions took place either within the NHS or the participant's home, depending on their preference. Participants continued to complete daily and weekly measures during the intervention phase and were given follow-up measures at the end of intervention to return via post.

5.3.5 Intervention

The timeline intervention was based on Laidlaw's (2010; 2014) and Laidlaw & Kishita's (2015) guidelines and adapted by the study team. The intervention comprised of five one-hour sessions of structured talking therapy and participants were asked to complete worksheets and try out new strategies between sessions.

Session one assessed the individual's difficulties, set client-focused goals and introduced the task of creating a timeline of their life, which was completed for homework. Sessions two introduced active change ingredients and focused on reviewing the timeline and using structured discussions and worksheets to reflect on specific difficult life events to encourage the recognition of resilience, meaning and develop qualities of self-compassion and self-acceptance over past events. This could involve identifying a challenging past event

and exploring how one coped, or a past event of regret and exploring this through what had been known at the time rather than in hindsight, and what meaning can now be derived.

Sessions three and four focused on applying this wisdom to develop thought challenging and behavioural strategies to manage current difficulties, referring back to the timeline to help facilitate this. This could involve prompting participants to recognise if they had undergone similar experiences in the past and how they might utilise wise qualities and learning from their new reflections to try new strategies. Session five reviewed learning and new perspectives gained.

An intervention checklist for each individual was completed by the therapist. Sessions were audio recorded and fidelity checks completed to determine the intervention's implementation and delivery as consistent across participants.

5.3.6 Ethics and registry

The UK Health Research Authority (HRA) gave approval for the study and West of Scotland Research Ethics Committee 5 gave ethical approval (REC ref: 19/WS/0076.) The study was registered on *ClinicalTrials.gov* (ClinicalTrials.gov Identifier: NCT04015505).

5.3.7 Statistical methods

Data from each participant was analysed using a combination of single-case visual and statistical techniques (Manolov & Moeyaert, 2017; Morley, 2017). Based on primary outcome findings, each participant was deemed either a responder or non-responder to the intervention.

Significant change in the primary outcome of mood across the study was determined via reliable change index (RCI) (Jacobson & Truax, 1992) calculations of the PHQ-9 and GAS-10 between average baseline and post-intervention scores. Determining whether this change was due to the intervention was considered by analysing the VAS data. This was mainly conducted using visual analysis, paying specific attention to baseline stability, timing

of any change, and the magnitude and slope of any change (Kazdin, 2011). Statistically, VAS data baseline stability was assessed using Kendall's Tau. Test of non-overlap of all pairs (NOAP) was used to statistically evaluate differences between phases, by comparing each point in one phase to every point in the succeeding phase. Tau-U provided this statistic for cases with significant baseline trend. (R. I. Parker & K. Vannest, 2009; R. I. Parker, K. J. Vannest, J. L. Davis, & S. B. Sauber, 2011a). These same techniques were applied to outcomes of self-compassion/self-acceptance and wisdom. Clinically significant change (CSC) (Jacobson & Truax, 1992) was measured for mood outcome measures, and RC and SCS were calculated at follow-up to assess whether any changes were maintained.

5.4 Results

5.4.1 Participant flow

Figure 5.2 shows the flow of participants enrolled in the study.

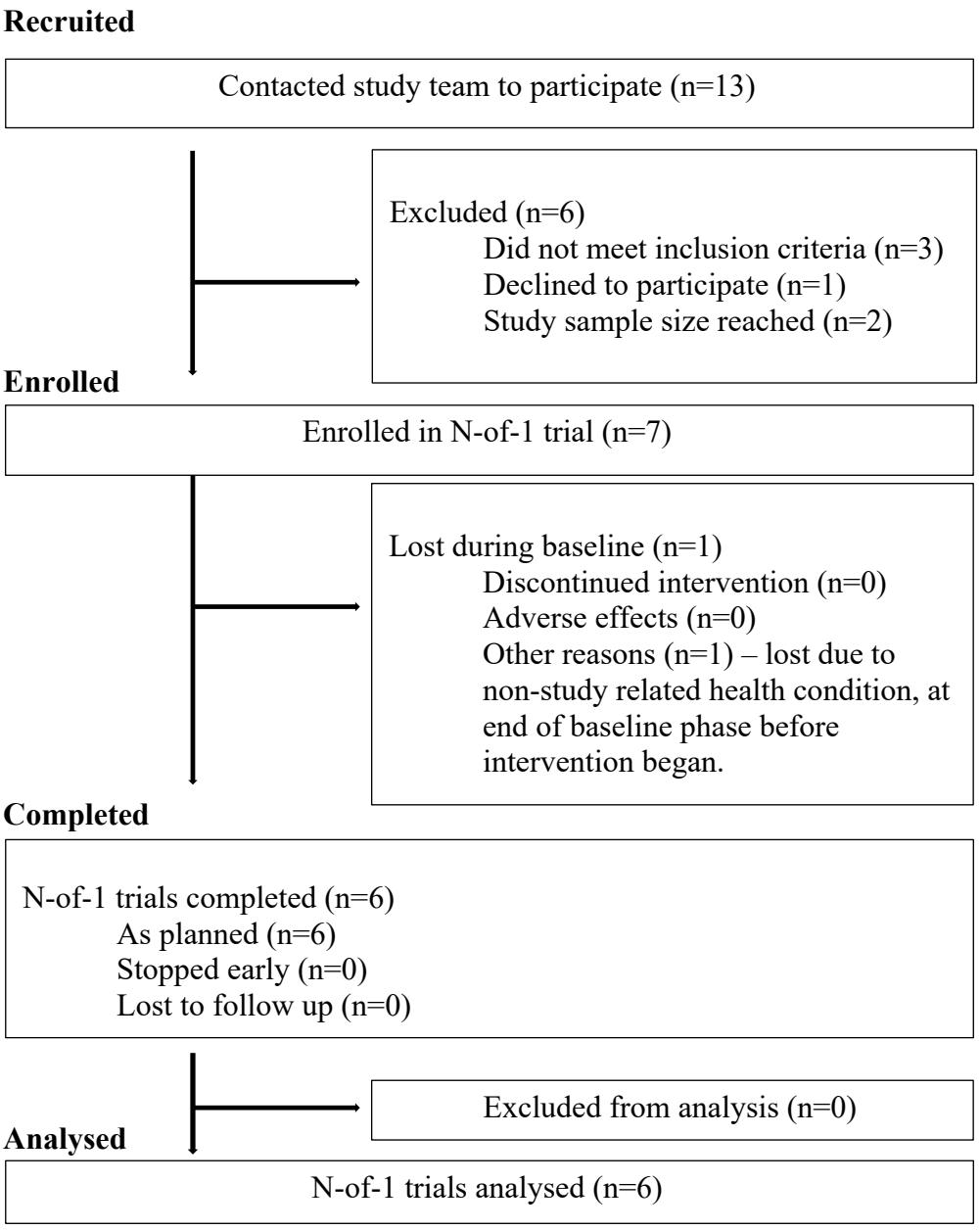


Figure 5.2 Participant flow diagram

5.4.2 Demographics

Participant characteristics are shown in table 5.2.

Table 5.2

Participant characteristics

Participant	Age	Gender	Baseline Condition	Service recruited from
1	69	Female	2 weeks	Primary care mental health
2	68	Female	2 weeks	Older people secondary care mental health
3	76	Female	3 weeks	Older people secondary care mental health
4	84	Female	3 weeks	Older people secondary care mental health
5	71	Female	4 weeks	Primary care mental health
6	70	Male	4 weeks	Older people secondary care mental health

5.4.3 Participant data

Graphical presentation of participant data, as subject to visual analysis, is shown in Figure 5.3.

Figure 5.3 key

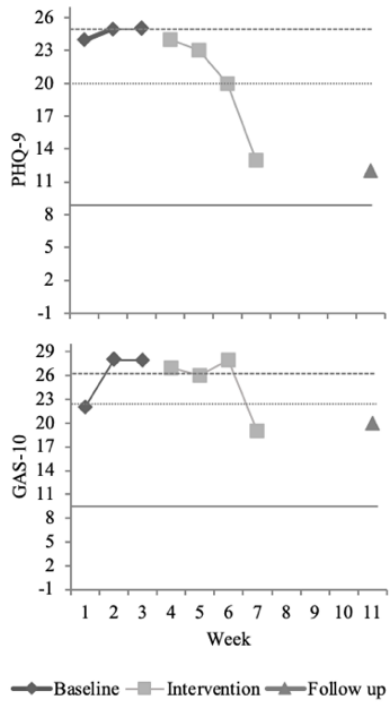
PHQ-9 and GAS-10

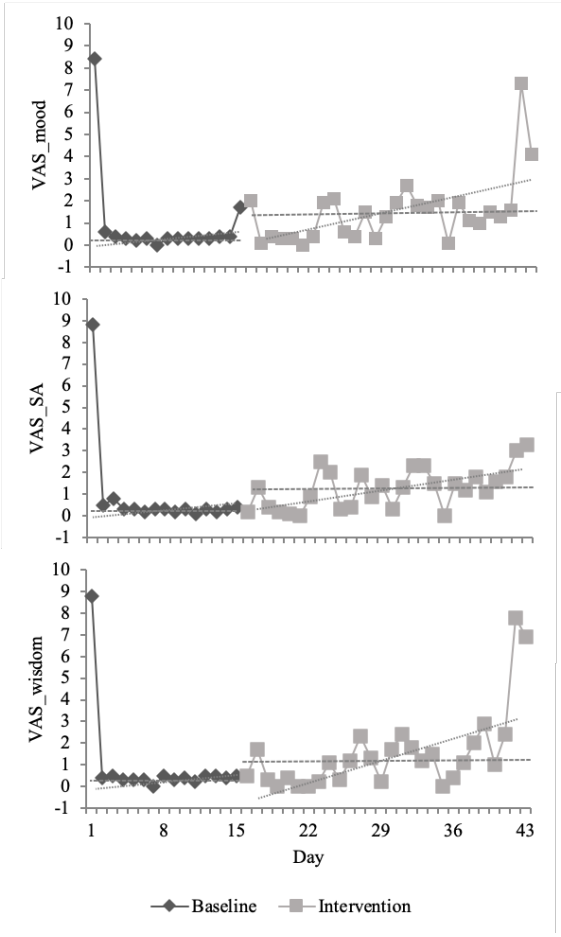
Mean baseline score ----------
Reliable change ....
Clinically significant change ——————

VAS

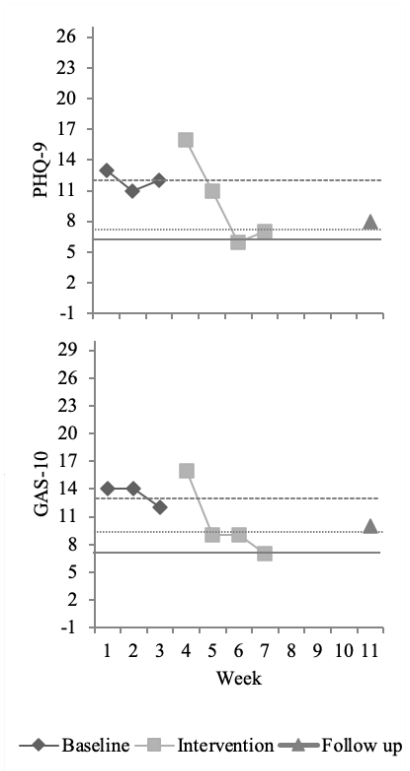
Phase broadened median ----------
Phase trend ....

Participant 1 (responder)





Participant 2 (responder)



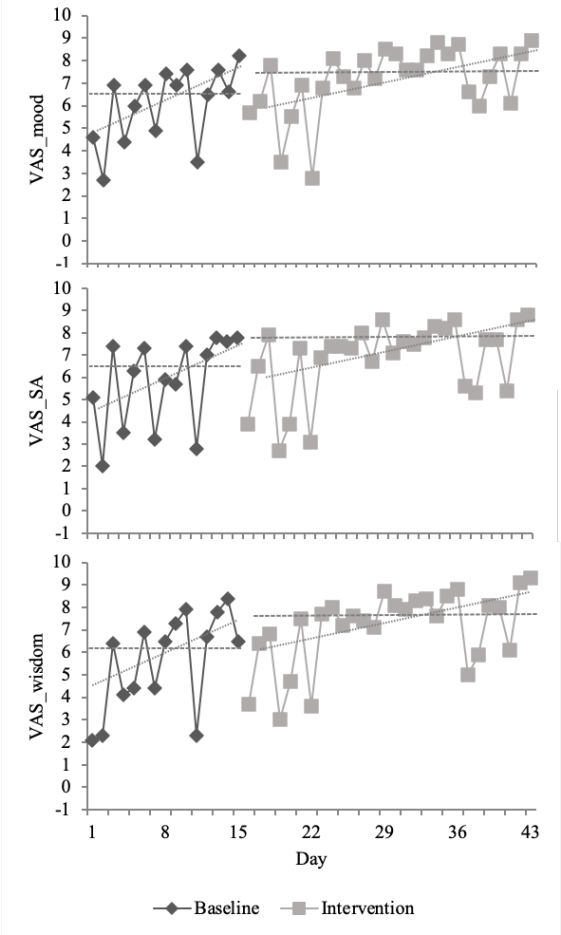
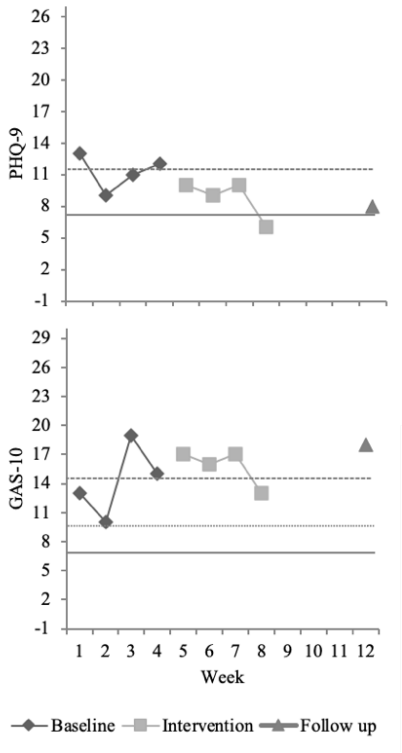
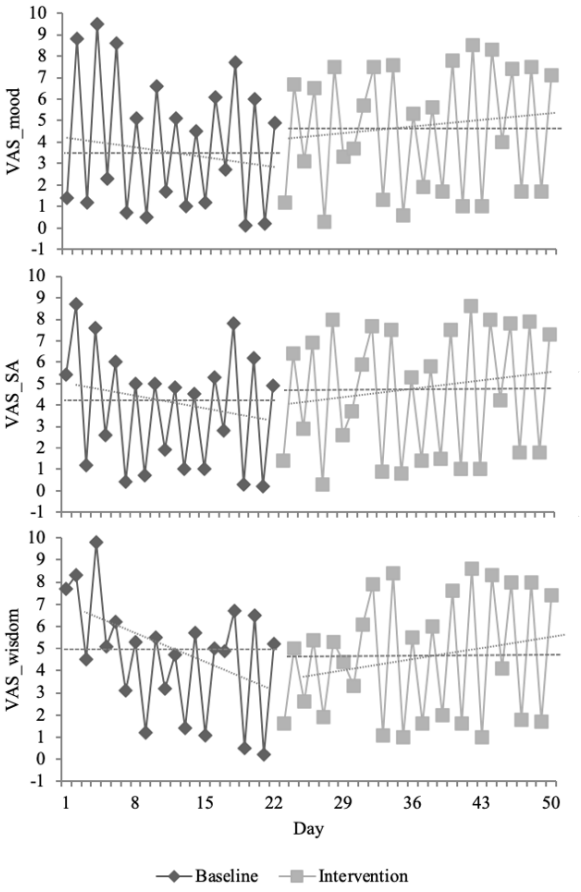


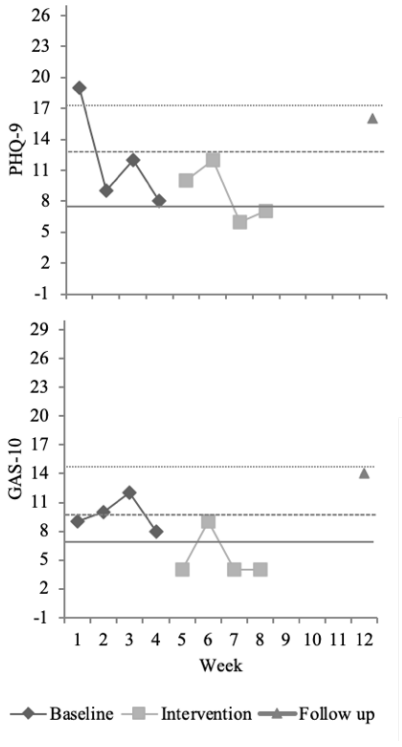
Figure 5.3: participant data

Participant 3 (non-responder)





Participant 4 (non-responder)



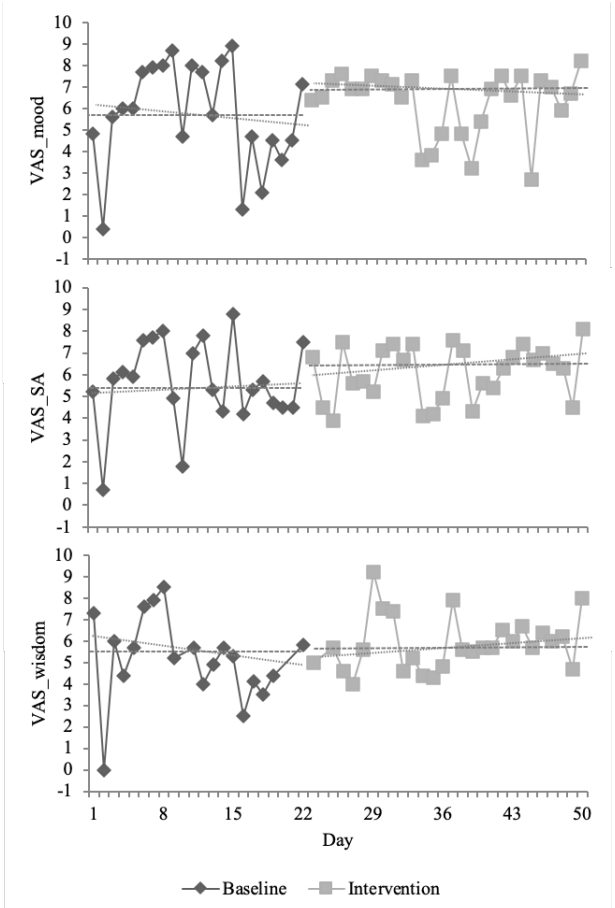
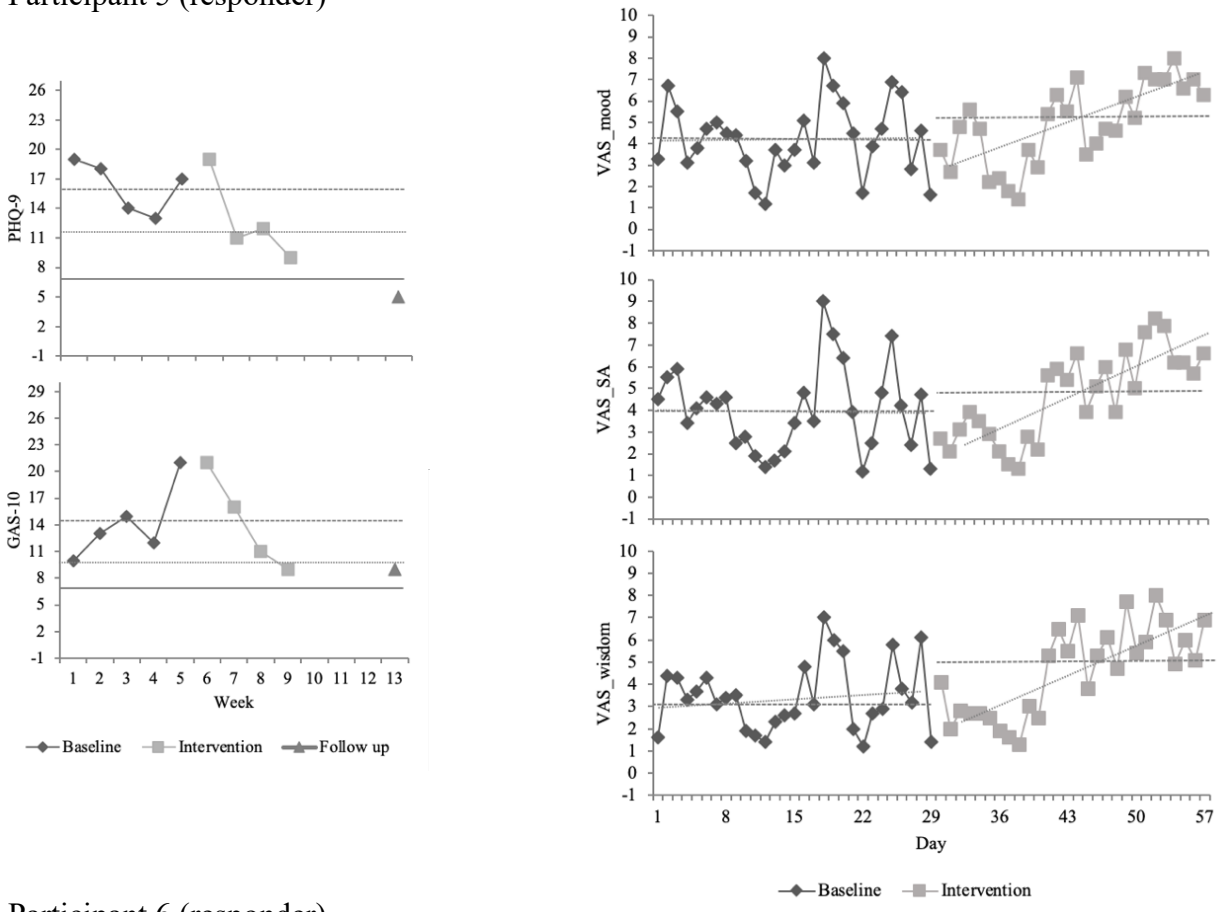


Figure 5.3 (continued)

Participant 5 (responder)



Participant 6 (responder)

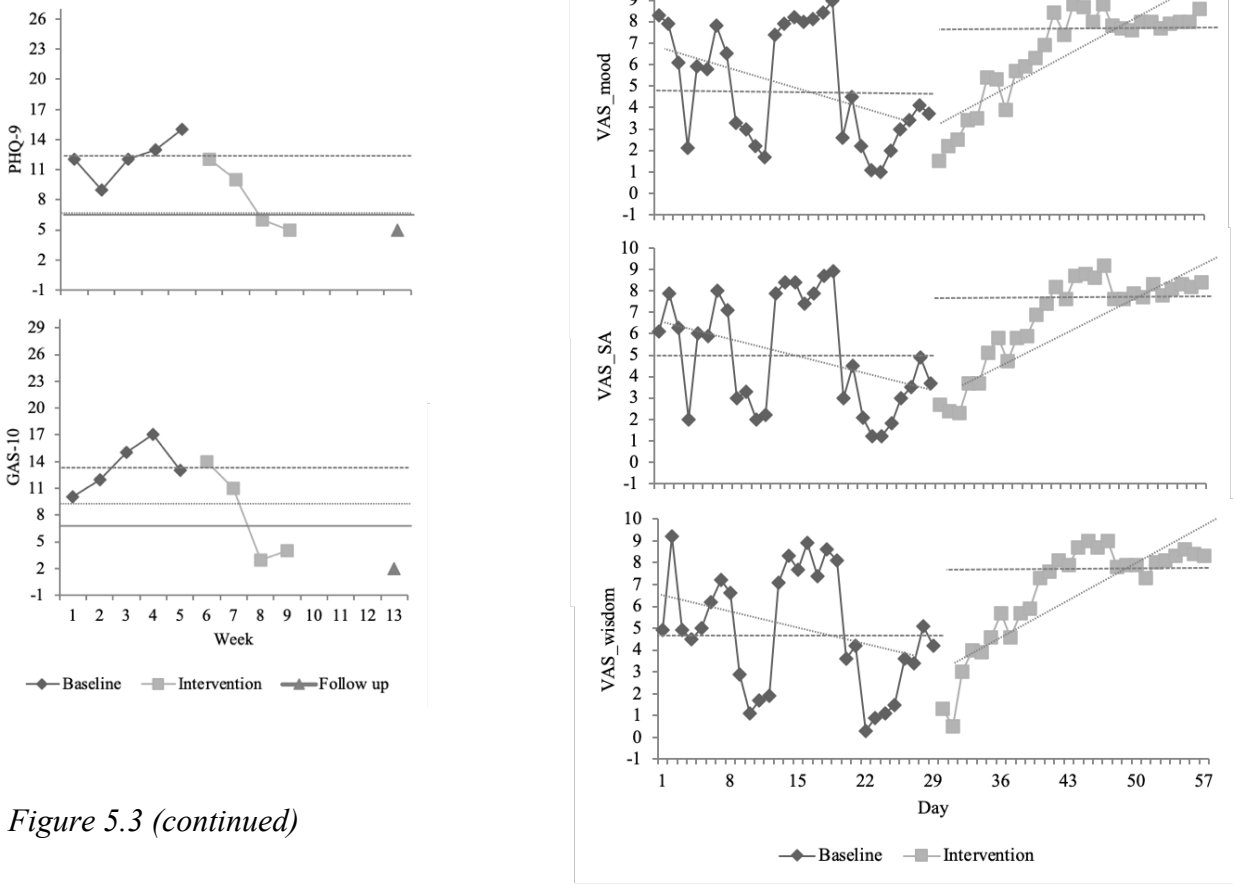


Figure 5.3 (continued)

5.4.4 Analysis of depression and daily mood scores

Four of the six participants (1,2,5,6) were deemed as having responded to the intervention as intended; that is they demonstrated RC in standardised measures of depression, as well as anxiety, between baseline and post-intervention with significant differences in idiographic daily scores between phases, and indications that these changes coincided with the onset of the intervention.

The other two participants (3,4) also showed reliable change in standardised measures of depression at post-intervention, however a full interpretation of the idiographic data meant that this could not clearly be attributed to the intervention.

5.4.4.1 Participant 1 (responder)

Participant 1 was characterised as having severe depression on both standardised and idiographic baseline measures. Visual analysis shows a clear and rapid trend in reduction of PHQ-9 scores across the intervention phase, consistent with RC. Vas_mood scores appear stable and consistently low during baseline (*tau* = .03, *p* = 0.874). Following session 2, an increase in mood scores with increased variability and a small increasing trend of mood, with fewer lower mood days throughout the intervention phase can be observed (*tau* = .32, *p* = .02). NOAP (*NOAP* = .73, *p* = 0.01) suggests a significant medium effect sized difference of non-overlap between phases. Whilst daily mood scores remain relatively low, given Participant 1's severe depression and changes made during the intervention, overall results suggest the intervention had a large positive effect on mood scores, relative to baseline.

5.4.4.2 Participant 2 (responder)

Visual analysis shows a decreasing trend of PHQ-9 scores across the intervention phase, consistent with RC. Vas_mood baseline scores show an increasing trend of scores (*tau* = .44, *p* = 0.025) with high variability. The intervention phase shows a reduction in variability and stabilisation of scores following session 2 (*tau* = .38, *p* = .005). Due to the presence of baseline trend, Tau-U was calculated for non-overlap phase differences. When

controlling for baseline trend, Tau-U (*tau-U* = .31, *p* = 0.093) was non-significant. However, a sensitivity analysis comparing baseline phase with post-session 2 intervention phase (*tau-U* = .49, *p* = 0.014) found this reach significance, suggesting an intervention effect following session 2. Overall results suggest a positive impact on, and stabilisation of, daily mood scores.

5.4.4.3 Participant 5 (responder)

Visual analysis shows a clear decrease in PHQ-9 scores across the intervention phase, consistent with RC. VAS_mood baseline scores reveal large variation with a pattern of increasing and decreasing mood scores. Kendall's tau suggests no significant trend across baseline (*tau* = -.01, *p* = 0.94) but a significant trend during intervention phase (*tau* = .48, *p* < .001). Visual analysis suggests an overall increasing trend in mood scores following session 2, fewer low mood days and consistently high mood scores in the final week suggesting later intervention effects. NOAP (*NOAP* =0.614, *p*=0.14) was non-significant between phases. However, a sensitivity analysis comparing baseline post-session 2 intervention phase showed a medium significant non-overlap between phases (*NOAP = .68, p* = 0.032), suggesting intervention effects following session 2. Overall results suggest a significant positive impact on mood with a more stable increase of daily mood scores.

5.4.4.4 Participant 6 (responder)

Visual analysis shows a stable decrease of PHQ-9 scores across the intervention phase, consistent with RC. VAS mood baseline scores show a large variation of scores. However, Kendall's Tau (*tau* = -.18, *p* = 0.171) confirmed no specific trend. At onset of intervention, there starts a steady and consistent upward trend (*tau* = .661, *p* < .001) of mood scores that settles, following session 3, into a relatively stable high level of mood which is maintained. NOAP (*NOAP* = 0.65, *p* = 0.0496) suggests a medium effect of non-overlap

between phases. Overall results suggest a significant impact on mood, reducing variation and increasing levels of mood scores.

5.4.4.5 Participant 3 (non-responder)

Vas_mood scores show a consistent trend of extreme high and low scores alternating each day (*tau* = -.13, *p* = 0.413) throughout baseline, which is not significantly altered by the intervention. NOAP revealed no significant non-overlap between phases (*NOAP* = .60, *p* = 0.41). Overall results suggest that the intervention did not have a significant impact on overall mood.

5.4.4.6 Participant 4 (non-responder)

Analysis of baseline PHQ-9 scores suggests a downwards trend making interpretations unreliable. Vas_mood scores show an initial increasing trend, which drops in the third week, suggesting no clear pattern (*tau* = -.053, *p* = 0.74). Intervention phase is characterised by an initial stabilising of mood scores. Following session 2, scores reach a stable average with occasional dips in level, with less variation than baseline. NOAP (*NOAP* = .53, *p* = 0.717) suggests no significant non-overlap differences between phases. Overall results suggest a small impact on overall depression and variability of moods scores, but interpretations are unreliable.

5.4.4.7 Clinically significant change

Of those responders, CSC in depressions scores at post-intervention was obtained for participant 6 and was borderline for participant 2. CSC was obtained at follow up for participant 5. Whilst CSC was not established in PHQ-9 scores for Participant 1, a notably large (11 point) decrease in PHQ-9 depression scores, indicates a clinically meaningful, if not statistically significant change. In addition, non-responding participants 3 and 4 did demonstrate CSC in measures of depression at post-intervention, however conclusions cannot be reliably drawn on whether these changes were due to specific intervention effects.

5.4.4.8 Anxiety

For all responders, RC was also obtained on the GAS-10 measure of anxiety at post-intervention, with Participant 6 obtaining CSC. In addition, participant 4 demonstrated RC and CSC in GAS-10 scores at post-intervention.

5.4.5 Self-compassion and wisdom

Increased RC on the SCS was only established for participant 4 at post-intervention, and for participant 5 at follow-up. Increased RC on the SAWS was only established for participants 3 and 5 at follow up. Therefore, only participant 5 obtained RC on both SCS and SAWS at follow-up, consistent with their slower but significant response to the intervention.

Visual analysis show that VAS_mood, VAS_SA and VAS_wisdom scores were very closely comparable for each participant. Kendall's tau of all VAS variables showed consistent large significant correlations with each other for each participant (*tau* ranges from .37 to .91, $p < .001$), indicating a significant dependent relationship between VAS variables.

5.4.6 Follow up

Of the four responders, three (1,5,6) maintained RC in depression PHQ-9 and anxiety GAS-10 scores at follow up, with participant 2's scores reaching borderline significance for PHQ-9 scores (and almost for GAS-10). Participants 5 and 6 obtained CSC, identifying them as the two clearest responders, and indicating the potential for longer lasting or slower developing effects of the intervention. Participant 5 was the only participant to obtain RC and/or CSC on standardised measures of mood, self-compassion and wisdom by follow-up, suggesting that the intervention worked as intended for this participant with changes continuing to occur following intervention. Participants 3 and 4 did not maintain changes at follow-up.

A summary of results is shown in table 5.3. Change interview questionnaire responses are reported in table 5.4.

Table 5.3

Summary of participant results

P	Mood			Self-compassion /acceptance		Wisdom		Designation
	PHQ-9	GAS-10	VAS_mood	SCS	VAS_SA	SAWS	VAS_wisdom	
1	PI, FU	PI, FU	Yes		Yes		Yes	Responder
2	PI	PI	Yes		Yes		Yes	Responder
3	PI*		No		No	FU	No	Non-responder
4	PI*	PI*	No	PI	No		No	Non-responder
5	PI, FU*	PI, FU	Yes	FU	Yes	FU	Yes	Responder
6	PI*, FU*	PI*, FU*	Yes		Yes		Yes	Responder

Note: P = participant; PI = reliable change at post-intervention; FU = reliable change at follow-up; * = clinically significant change; Yes/No = determined change in VAS scores between phases, as described in the results section

Table 5.4

Change interview questionnaire responses

Question	Response
What has changed for you over the course of the study?	*P1: "I have come to realise that I am not as useless as I feel. I seem to be able to cope with whatever life throws at me. I feel more hopeful that I will overcome my difficulties although it may take some time."*
	P2: "My ability to look at myself and how I cope with situations that occur. Not to be so critical of myself."
	P3: "I'm more aware of my self-critic, that I am very judgemental, approach situations with more positive attitude."
	P4: "I have now found that I am now stronger than I thought I was."
	P5: "I have been more open about myself, challenged events in my life, looked at my feelings and how to deal with them."
	P6: "An insight into how parts of yesterday can affect how life is today. My knowledge has increased in regard to many topics."
Why do you think these changes occurred?	*P1: "Talking about how my life has been, bringing up memories that were buried, and needed to be brought up, as they helped me realise I could cope."*
	P2: "I have been able to see how I coped in the past. To look at things in the past and realise I am not stupid or useless but can progress."
	P3: "Through having the above pointed out to me. I've learnt to look at my situation positively, more mindfully."
	P4: "By learning to accept and understand how I now feel."
	P5: "Talking them through, understanding my thoughts and the way I think."
	P6: "A free exchange of ideas. Demonstrating the good and bad parts of my personal history."
What has been helpful?	*P1: "Talking about it. Hearing someone else's point of view as to what sort of person I am. I'm not that bad!"*
	P2: "The ability to look at what I have achieved not what I have failed in, and that I can find solutions and it doesn't harm to congratulate yourself on the achievements."
	P3: "Looking at past accomplishments and seeing that I have succeeded in the past more than I thought, giving me positive feedback."
	P4: "Just the talking and understanding that is how it means to me. I will always do my best to be more stronger as I go on."
	P5: "Talking most definitely, not bottling things up, confronting things head on."
	P6: "To see a wider side of life and understand that many parts I have concerned myself are really not that important."

5.5 Discussion

5.5.1 Effectiveness of the intervention

This study presents the first examination of the CBT wisdom enhancement timeline technique, which is theorised to utilise wisdom-based principles within a CBT framework. Results indicate that the intervention was effective in reducing depression for the majority of older adult participants. Analysis of daily mood scores for responding participants 2, 5, and 6, where their depression was characterised as high variabilities in daily mood, suggests that the intervention helped bring stability to higher levels of mood. Conversely, participant 1, whose more severe depression was characterised by a persistent low mood, indicates that the intervention's increasing of variation in mood and higher mood scores was clinically meaningful. Concurrent significant decreases in anxiety scores suggest a global impact on mood, despite co-morbid anxiety being found to predict poorer outcomes when treating depression in older adults (Tunvirachaisakul et al., 2018). Attributing these changes to the intervention is supported by differences between phase patterns in daily mood scores, as well as the observation that notable changes in responder daily mood scores occurred following session 2, where active treatment effects would be expected to occur. Data from the change interview questionnaire indicate that reflecting on past events was a helpful part of the intervention and suggests particular benefits of recognising resilience and gaining new perspectives. This and the VAS data indicate particular benefits for the timeline work in session 2. These responses put less emphasis on behavioural change, indicating that this is something that could be developed in further use of the technique, which might lead to enhanced outcomes.

Maintained or increased effects at follow-up suggest that the intervention's effects have the potential to be longer lasting. This, and the finding that CSC was obtained or maintained at follow-up for two participants is notable, particularly as this technique is

recommended as part of a larger CBT intervention. Whilst clearly a small sample, this study suggests that this intervention has potential to be effective as a stand-alone technique for reducing depression, and that it is a feasible and acceptable intervention that was well-tolerated with little attrition.

5.5.2 Implications for wisdom in Clinical Psychology

Asking individuals to reflect on life experiences in a structured and practical way appears to have utility for improving mood. Despite this, there is insufficient evidence in this study to confirm that wisdom and/or self-compassion, as measured here, are significant mechanisms of change. Whilst participant 5 did demonstrate significant changes in both constructs, three other participants improved mood despite these changing and both non-responders demonstrated significant change in either self-compassion or wisdom following the intervention.

Whilst these findings are difficult to interpret, one explanation might be that changes on these measures take longer to occur, such that increased SAWS scores were only found at follow up. Alternatively, these constructs may not be effectively targeted by the intervention. An interesting finding was the significant correlations between all idiographic daily measures, that were consistent across participants. It could be that increased mood leads to feeling more self-accepting and better able to manage daily difficulties. However, the discrepancy between results for daily measures of self-acceptance and wisdom, and standardised measures suggests that they may not be valid measures of the target constructs.

One participant saw increased wisdom at follow up alongside clinically significant improved mood and one saw increased wisdom without improved mood, which may indicate that wisdom and depression scores are in this case not clearly related to each other. Whilst wisdom has consistently been related to well-being, this may not have equivalence with the

absence of depression. Clearly, due to the singular cases involved, this cannot be generalised, but alternative ways of measuring wellbeing across this intervention could be informative.

There is very little evidence on psychological interventions increasing wisdom, particularly in clinical populations (Jeste & Lee, 2019). Although one small study by Daniels, Boehnlein, and McCallion (2015) found that a life review intervention, when provided before a PTSD group therapy intervention for Vietnam war veterans, demonstrated clinical benefits for reducing symptoms of depression and increasing self-assessed wisdom, indicating this potential. It is also worth noting that the current study's participant 5 did demonstrate significant changes in wisdom and mood, indicating the intervention may have acted differently, but as intended, for that participant.

Kunzmann and Glück (2019) identify two broad directions of wisdom research. One conceptualises wisdom as a competence or highly developed form of knowledge or reasoning, assessed using performance-based tests. Another has conceptualized wisdom as an attitude or mature form of personality, where traits are assessed using self-report questionnaires. Whilst there is a strong case for the examined technique being theoretically driven by wisdom-based principles, one might theorise that it is not necessarily an increase (or outcome) in wisdom that the intervention is attempting to deliver, but the utilisation (or process) of wisdom, that has otherwise been blocked by depression. Such that if wisdom can be measured as a mechanism of change, one might not expect to observe quantitative changes in trait-based measures of wisdom, particularly as this is a short intervention and wisdom can ordinarily be considered a relatively stable trait. Other performance-based ways of measuring wisdom may better determine whether wisdom, as empirically measured, is being utilised by the technique. This would also put more emphasis on the behavioural element of the intervention, consistent with the CBT framework. Explorative research on the qualitative

experience of receiving this intervention may also help to provide more clarity and insights into its utilisation of wisdom principles.

The implications for empirical wisdom in therapy is therefore an area still rich for exploration. The study tested a novel approach to treating later life depression where there have been limited empirical links between wisdom and Clinical Psychology. One reason for this might be that wisdom's reputation as an elusive and seemingly impenetrable concept may deter empirical clinicians from trying to derive use from it. However, as the work of Laidlaw and Kishita (2015) has shown, it is readily possible to package some of its applications into an accessible and practical format. Psychotherapy provides a clear context for the development of wisdom and it is promising that this brief intervention technique may be effective for older adults, particularly as early interventions for older adults with depressive symptoms can help prevent more severe depression (Cuijpers et al., 2014) and there is a clear need for effective psychological interventions for older adults.

Later life presents both challenges and opportunities for growth in psychological wellbeing. Whether or not wisdom can be empirically implicated, utilising the rich resources of a life lived is a promising way of countering depression, towards supporting the psychological growth of later life.

5.5.3 Limitations of study

In addition to the small sample, one individual completed all research and therapy activities without blinding, increasing risk of bias for therapy effects. Longer baseline and follow-up periods may have provided more reliable information on the magnitude and longevity of intervention effects. As the discussion indicates, measuring mechanisms of change may be more complex than considered here, such that conclusions should be treated with caution. As an individual component of therapy taken out of context, this study may not accurately represent how the technique is used in routine practices.

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Chapter 6. Quantitative Research Paper Extended Methodology

This chapter provides additional details of the quantitative paper's methods, not contained in chapter 5, including further details on the study's design, procedure, intervention and analysis methods.

6.1 Single case experimental trial design

Single case experimental designs (SCEDs) or N-of-1 studies are a long-standing tradition in psychology research, harking back to its roots in behavioural psychology. However, there is a general lack of consensus on methodological guidelines for these designs (Smith, 2012). This study sought to develop a design that balanced methodological rigour, constraints of the ClinPsyD thesis, and burden to participants.

The study utilized a non-concurrent multiple baseline across-participants AB design with follow up. In accordance with AB designs, a period of baseline stability (phase A) where primary outcomes are frequently measured, was obtained before the intervention was introduced (phase B), such that any observable change might be determined by the onset of the intervention. The multiple baseline design is the most frequent design used in psychology single case studies (Smith, 2012) and allows for greater control for determining when changes in the target variable are attributed to a specific study phase. Multiple baseline designs also account for the impossibility of reversal stages in traditional ABAB designs, where an intervention is subsequently withdrawn such that if measures return to baseline levels, change can be interpreted as having resulted from the intervention. ABAB designs can have difficulties when measuring psychological interventions, as their effects are not expected to resume to baseline levels (Kazdin, 2011). Such that for this study, the recipient of the intervention would not have been able to forget they had received the intervention and stop using any learned techniques.

6.1.1 Non-concurrent multiple baseline design

The study used a non-concurrent multiple baseline design (Watson & Workman, 1981). This design allows greater flexibility for researchers as participants can be processed as soon as they are available, rather than waiting for all participants to be processed simultaneously. As the intervention was being delivered by a single person there were also practical reasons for using a non-concurrent multiple baseline as it would not have been possible to enrol and deliver the intervention to all participants simultaneously.

As with concurrent multiple baseline designs, non-concurrent designs can help to rule out history as a threat to internal validity (Watson & Workman, 1981). Non-concurrent multiple baseline studies are considered to be as reliable as concurrent multiple baseline studies if certain conditions are met. This study design therefore followed the aforementioned recommendations by Christ (2007). Christ concludes that, "(such conditions), are more critical than concurrent data collection in terms of evaluating internal validity and demonstrating experimental control. The actual number of replications across data series might also be a factor in the case of nonconcurrent designs" (Christ, 2007, p. 458).

Each participant was randomly assigned to three pre-determined baseline phases (two, three, or four weeks in length). Therefore, the start point of the intervention phase was decided a priori and allocation of participants to baseline length conditions was randomised. Three baseline lengths is considered the minimum amount to help interpret intervention effects within a multiple baseline design (Kazdin, 2011). Whilst there is debate over the minimum number of baseline measurements needed, the vast majority of SCEDs use at least three measurement points (Smith, 2012). The *What Works Clearing House* (Kratochwill et al., 2010) states that three data points per phase are needed to meet the 'standard with reservation' and five data points are needed to meet the standard. A minimum baseline length of two weeks allowed for idiosyncratic measures to be taken a minimum of 14 times to help

determine baseline stability. Standardized measures of mood were taken a minimum of three times during baseline to help check for fluctuation in the baseline and to consider the role of regression to the mean, when analysing standardized measures (Morley, 2017). In addition, a two week minimum baseline allowed for depression to be measured, according to the DSM-5 criteria of two weeks for depressive symptoms (American Psychiatric Association, 2013).

6.1.2 Validity of design

Frequent measurement and intervention consistency across participants allow a non-concurrent multiple baseline AB design to be informative, whilst acknowledging that conclusions may be tentative. Internal validity of the design was increased by having multiple participants, varying the intervention onset across participants (multiple baseline design) and pre-randomizing participants to onset groups (Smith, 2012; Christ, 2007). Each participant was randomly assigned to baseline phases using an online random algorithm generator (RANDOM.ORG). An intervention checklist for each individual was completed by the therapist, allowing a consistent record of tasks completed to be recorded. To increase treatment integrity, the intervention phase sessions were audio recorded and fidelity checks completed to determine the treatment's implementation and delivery as intended across all participants. In addition, the trial was registered on an appropriate clinical trials registry (see 5.3.6) in order to demonstrate an avoidance of any post-hoc changes to the study.

6.2 Participants and sample size

Participants were a volunteer sample of those eligible to take part. There is no general agreement on sample size for a single case multiple baseline design (Kazdin, 2011; Morley, 2017). This study aimed to recruit up to six individuals, to meet standards and help determine the reliability of any conclusions. Six individuals is also in line with other recommendations for single case series designs (Gerring, 2006; Kazdin, 2011; Rowley, 2002).

6.3 Development of project

6.3.1 Patient and Participant Involvement (PPI)

The chief investigator contacted service users through INSPIRE: the mental health focussed scheme within Norfolk and Suffolk which engages service users, carers and the general public in NSFT research activities. A brief of the project and a copy of the information sheet and consent form were circulated to members through INSPIRE and their feedback was incorporated into the final versions. Contributions from the PPI group were:

- Study information on the PIS was clarified to help address potential concerns around the study purpose
- PIS information on time commitments for taking part were clarified
- PIS eligibility requirements were clarified
- Suggestions were made for helping make the language clearer and more appropriate for the target audience.
- The study's tagline, 'Can life's wisdom help counter depression?' was a suggestion from a PPI member.

6.4 Procedure: settings, schedule of events and data collection

A detailed record of the recruitment process and participant progress was as follows:

6.4.1 Phase 1: identifying eligible participants

Participants were recruited via clinical teams across primary and secondary mental health care services in Cambridge and Peterborough NHS Foundation Trust (CPFT) and Norfolk and Suffolk NHS Foundation Trust (NSFT). Those individuals who were thought to meet the criteria for the study were given information packs from clinicians, either face to face or via post. Information packs included a copy of the participant information sheet (PIS) (appendix K) and consent form (appendix M), which they could read and consider for at least 24 hours before choosing to contact the study team. Those who were interested in taking part then contacted the named researcher with the details provided on the PIS. During initial contact,

the researcher briefly discussed the study on the phone to screen out eligibility and if appropriate arranged a formal meeting to discuss the study further.

Third sector mental health organisations were also involved in circulating study information to eligible potential participants. Study publicity material (i.e. poster/leaflet) (appendix P) was also made available in waiting areas of the above mental health services and third sector mental health organisations, where appropriate, for those who wished to self-refer. The first point of contact for a self-referral was when an individual responded by email or telephone to the study advert, providing their contact details. The study team member could then check their potential eligibility and provide the potential participant with the participant information sheet and consent form.

If an interested potential participant was informed about the study in person by clinicians, they could have also chosen to complete a 'consent to contact form' (appendix L), which clinicians could then pass on to the research team. This form effectively registered the potential participant's interest in the study and provided the research team with their name and contact details, and permission to contact them directly to discuss the study further.

6.4.1.2 Participant numbers.

Although detailed information on how many eligible potential participants were approached by clinicians across services was not kept, details of numbers of participants is in Figure 5.2. The reasons for non-eligibility were: not reaching the depression cut-off (n=1) and complexity/risk issues (n=2), which meant they would not be suitable for the study in line with ethical considerations.

6.4.2 Phase 2: screening eligible participants

All participants had time to read and consider the information sheets and consent form for at least 24 hours before they contacted the researcher. After the potential participant made first contact with the researcher, a screening appointment was arranged either at a nearby NHS

services location, or the participant's home depending on their preference. In the case of the latter, local trust and university lone working policies were adhered to by the researcher. Here the researcher introduced themselves and gave any further information about the study, including the necessary commitments, and the potential participant had the opportunity to ask any further questions. They then completed the Patient Health Questionnaire (PHQ-9) to assess eligibility. The researcher was also able to assess capacity if deemed necessary and risk levels for the participant, which were part of the eligibility criteria. Capacity was assumed (Department of Health, 2005), however if there was any reason to doubt, a capacity assessment could have been considered using published guidance from the Mental Capacity Act (2005) around capacity to make decisions around treatment. Anyone deemed not to have capacity would not have been invited to take part in the study. Those eligible for the study were invited to take part. Following all eligibility criteria met and participant willingness to take part, they signed the consent form.

Once consent was taken, the individual was then randomised to one of the three baseline conditions and given a personalised study calendar detailing the timings for phases of the study. This included a schedule of dates to attend therapy sessions, which were arranged with the researcher. They were then asked to complete the set of pre-baseline measures (PHQ-9, GAS-10, SCS, SAWS, VAS). Participants were given a copy of the baseline measures pack to complete during the baseline phase and offered a reminder text message, email or telephone or none. A professional in the participant's service, as well as their GP was informed of their involvement via letter (appendix O). If the potential participant was not able to be included in the study, this was explained to them, and they were thanked for their time. A professional in the service was also informed.

6.4.3 Phase 3: baseline phase (2-4 weeks)

During the baseline phase, participants were asked to complete weekly self-report standardised measures of mood (PHQ-9 and GAS 10), taking approximately 10 minutes, and daily idiographic measures of mood, self-compassion and wisdom (VAS), taking approximately 2 minutes. These were clearly laid out in the baseline measures pack. In addition, there was a weekly 'check in' phone call to the participant to monitor their involvement. These calls were kept brief in order not to add therapeutic content. Although this was a risk of therapeutic effects, it was deemed necessary in order to reduce dropout and monitor participant safety. If the participant chose to withdraw from the study at any point, they were able to do so and without the care they received from the service being affected.

6.4.4 Phase 4: intervention period (4 weeks)

Following the baseline phase, all participants received five 60-minute sessions of the timeline intervention. Each session was delivered weekly with the first session commencing immediately after the end of the baseline phase. The participants met face to face with the therapist for these sessions, which either took place at a local NHS building or at the participant's home, depending on their preference. At each meeting, the participant received one session of the intervention, until all five sessions were completed. They were also asked to complete appropriate worksheets between the sessions, which took approximately 20-30 minutes each week.

At the first session, participants were asked to complete the pre-intervention set of measures (PHQ-9, GAS-10, SCS, SAWS, VAS). They were also given the intervention phase measures pack and asked to continue completing the VAS every day throughout this phase in their own time. At the start of sessions 2-4, they completed the PHQ-9 and GAS-10 with the researcher. At the end of session five, participants completed the post-intervention set of measures (PHQ-9, GAS-10, SCS, SAWS, VAS, change interview questionnaire). Participants were then debriefed and thanked again for their time. They were then given the follow up

pack of measures in a pre-paid envelope and asked to complete these in one month's time and post them back to the researcher. The researcher informed the relevant service about the participant finishing the study.

6.4.5 Phase 5: follow up

One month after the completion of the intervention phase, participants were given a reminder phone call to complete the follow up measures pack (PHQ-9, GAS-10, SCS, SAWS, VAS) and post them back to the researcher. The researcher checked their wellbeing and whether they had received any further intervention for their mood following the end of the intervention. Participants were offered the choice to receive a written summary of the results of the study when ready.

6.5 Measures

Detailed information about measures not included in Chapter 5 are as follows:

6.5.1. 9-item Patient Health Questionnaire; PHQ-9 (Kroenke et al., 2001)

The PHQ-9 is a brief and widely used nine-item tool for measuring depression, with good reliability ($\alpha = 0.89$) and validity, including with the older adult population (Kroenke et al., 2010; E. Phelan et al., 2010a). It asks individuals to rate the frequency of depressive symptoms within the last two weeks. Total scores range from 0 to 27 with higher scores suggesting higher severity of depression.

6.5.2. 10-item Geriatric Anxiety Scale; GAS-10 (Mueller et al., 2015a)

The GAS-10 is a brief 10 item scale is a short form scale adapted from the 30-item Geriatric Anxiety Scale (Segal, June, Payne, Coolidge, & Yochim, 2010). It is a self-report questionnaire designed to measure severity of anxiety for older adults. It asks individuals to rate their anxiety symptoms within the last week. Total scores range from 0 to 30, with higher total scores meaning higher levels of anxiety. The GAS-10 has excellent internal consistency

(α = 0.89), and significant positive correlations with the GAS total scale (r = 0.96). The GAS-10 was used as a supporting primary outcome measure.

***6.5.3. Self-compassion Scale*;** SCS (Neff, 2003)

This 26-item measure of self-compassion measures overall self-compassion as well as six subscales, thought to represent the components of self-compassion: self-kindness versus self-judgment, sense of common humanity versus isolation, and mindfulness versus over-identification. Means from each subscale are averaged to create a total self-compassion score with higher total mean scores representing higher levels of self-compassion. The SCS is a well-validated and extensively used measure of self-compassion with good construct validity, internal consistency (from α = .80 to α = .62 on the six subscales) and test-retest reliability (>.90) (Neff, 2003, 2009).

6*.5.4. Self-Assessed Wisdom Scale*; SAWS (Webster, 2007)

This 40-item self-report measure of personal wisdom is based on Webster's definition of wisdom as, "the competence in, intention to, and application of, critical life experiences to facilitate the optimal development of self and others" (Webster, 2007, p. 164). It measures five subscales of wisdom: critical life experience, reminiscence and reflectiveness, openness, emotional regulation, and humour. Whilst there are many measures of wisdom (Glück et al., 2013), this measure was chosen as it is appears to tap those aspects of wisdom the timeline technique is expected to affect. The SAWS is positively related to ego integrity, forgiveness, personal well-being, generativity, and positive psychosocial values (Gluck et al., 2013). The SAWS is also positively related to self-related and other-related correlates of wisdom (Gluck et al., 2013), and has excellent reliability (α = .9) and high construct validity (Webster, 2007).

6.5.5. Idiographic visual analogue scale (VAS)

Idiographic measures were used in combination with standardised measures to allow for a repeatable and efficient measurement of specific target constructs and to help determine the

timing of any change. The VAS consists of a ten-centimeter line anchored at either end with maximal and minimal extremes of the dimension being measured (McCormack, David, & Sheather, 1988). Participants put a mark on the line, with the mark closer to the right side indicating stronger agreement of that statement. A numerical measurement of the line gives a score for each statement based on length (between 0 and 10, to one decimal point.) Participants were asked to complete these questions within the same time period each day. The VAS contained three questions, developed in accordance with the study hypotheses:

4. Today, I feel that my mood is good (VAS_mood)
5. Today, I feel accepting of myself (VAS_SA)
6. Today, I feel that I can use the wisdom of my life to help deal with current difficulties (VAS_wisdom)

6.5.6 Additional measures

The following measure was not included in any formal analysis but provided additional information in helping to evaluate results for each case.

6.5.6.1 Change interview questionnaire. Adapted from CIQ; (Elliott, 2012)

Elliot (2012) proposed a change interview questionnaire to be included in single-case studies where the validity of intervention effects may be in question due to the possibility of non-specific therapeutic effects. The questionnaire asks participants to reflect on what they think any benefit is due to. To reduce burden on participants, the adapted CIQ used in this study included three brief questions, referring to Elliot's three key points. Questions asked were:

4. What has changed for you over the course of the study?
5. Why do you think these changes occurred?
6. What has been helpful?

6.6. Ethical Issues and Considerations

6.6.1 Informed consent

All participants who agreed to take part in the study gave informed consent to do so, based on the information provide in the PIS as well as the opportunity to ask questions during the screening phone call and initial meeting. Consenting procedures were made clear in the consent form (appendix M). Participants had as much time as they wanted and at least 24 hours, after receiving study information and following meetings with the researcher, to consider the information.

6.6.2 Therapist competence and safety

The therapist operated under clinical supervision of their primary supervisor and supervision was regularly held to discuss intervention progress for each participant. All therapy was completed by this author, a trainee clinical psychologist with training in CBT for older adults, having completed an older adults secondary care placement as part of training and with three years pre-training experience working in older adults dementia research, and delivering psychosocial interventions in care homes and with family carers. The primary supervisor was a qualified clinical psychologist with 18 years of experience working with older adults. The researcher adhered to all local NHS and UEA lone working guidelines when lone working during the study.

6.6.3 Data Protection and Personal Information

Use of personal information was clearly outlined to participants in the participant information sheet. The following personal information, with consent, was taken: name, gender, date of birth, address and contact number, for means of contact. Initials only and phone numbers were entered onto a study telephone and deleted at the end of the study. Once consent was gained, participants were assigned an identification number to be used in place of names on all response sheets to record data anonymously. No participant's names were used during supervision.

Good research practices as well as UEA and local trust policies were followed throughout the study to ensure confidentiality of electronic and hard copy data, in keeping with the Data Protection Act (2018). Data was stored securely at research sites during the study and securely transferred to UEA following study completion. Recordings of interventions sessions were taken on an audio recording device, immediately and directly transferred to an encrypted and password protected memory stick, and subsequently deleted from the device. All such recordings were compliant with the General Data Protection Regulation (GDPR). Study data was archived in line with UEA policy, to be destroyed after 10 years.

6.6.4 Participant burden and duty of care

Burden for participants, in terms of time commitments was considered during the study design, kept to a minimum and communicated upfront to participants. A duty of care to participants was in place throughout the study and priority given to their safety and wellbeing. A named professional within the service recruited from was aware and kept informed of their involvement in the study, which participants consented to during informed consent. Regular contact during the baseline phase helped to monitor participant's mood and fatigue levels and wellbeing was monitored during the intervention phase. An eligibility criterion for the study was low risk for suicide or self-harm. However, any significant risk issues that arose during the study could have been communicated to the service and a contingency plan was in place to terminate the study for that participant in case of significant risk concerns. Despite this process being in place, it never needed to be used and no issues regarding risk emerged during the intervention. Participants were also free to withdraw at any point without giving reason and without their routine care being affected.

6.6.5 Delay of routine treatment

Participants were asked not to begin any new psychological treatment whilst taking part in the study in order to help identify if any changes were due to the intervention rather than routine care. This meant that taking part in the study contained a risk of delay to the participant's routine treatment. However, this was made clear to the participant in the PIS and during the screening and initial meeting. Otherwise, the participant remained on their usual waiting list for therapy and resumed this following the end of the intervention phase. Taking part did not affect their routine treatment in any other way. Whilst participants took part in the study, only one participant was invited to begin routine treatment during the course of the study, with this participant choosing to delay this in order to complete the study.

6.7 Details of intervention

The author of the technique, Professor Laidlaw, contributed to the early stages of this project's development to ensure the intervention being delivered was consistent with the technique. The intervention protocol was shown to Professor Laidlaw and Dr Naoko Kishita (UEA), who contributed to his work. Their feedback was incorporated into the final version. Details of each session's tasks are in appendix Q. A breakdown of the content of the intervention is as follows:

6.7.1. Session 1: Introduction to the timeline

The first session focused on developing rapport and a strong therapeutic alliance with the client and introducing the concept of making a timeline of one's life. Main tasks completed were building rapport and therapeutic alliance, developing an understanding of the individual's difficulties and setting goals for the intervention, introducing the timeline technique and setting the task for homework.

6.7.2. Session 2: Examining the timeline

The second session focused on reviewing the timeline, understanding the client's response to the task and beginning to help the client make meaning, recognise resilience and

build self-compassion. Main tasks completed were reviewing the timeline with the client, encouraging self-reflection with the client to recognise across the lifetime themes, strengths and the facing of adversity and difficult experiences. They were then asked to choose two difficult past experiences and complete structured worksheets on these for the purpose of recognising resilience or developing self-acceptance/compassion, with one completed for homework.

6.7.3. Session 3: Using wisdom to cope in the here and now

The third session focused on reviewing new perspectives and beginning to apply wisdom to current difficulties. Tasks involved reviewing the homework tasks and any new perspectives, reviewing current difficulties and beginning to apply their wisdom to current difficulties through structured worksheets and trying out new strategies and/or completing an additional worksheet for homework.

6.7.4. Session 4: Using wisdom to cope in the here and now continued

The fourth session focused on reviewing the application of the client's wisdom for coping with current difficulties and building on this. Main tasks were reviewing how applied techniques had gone, exploring any barriers to dealing with problems identified and continuing to use strategies that draw on the client's wisdom to manage current difficulties, as in session three.

6.7.5. Session 5: Review

The final session focused on reviewing progress made and consolidating learning. Main tasks included: reviewing and/or problem-solving new strategies for managing current difficulties, reviewing new perspectives, self-narratives and coping strategies, and promoting confidence in continuing to implement these in the future.

6.7.6. Fidelity of intervention

As previously described, an intervention checklist for the intervention was produced in order to maintain a consistent record of tasks completed and to monitor intervention consistency across all participants (appendix Q). The intervention comprised of a 50-point checklist. Each session task allocated either 2 points (for task fully completed), 1 point (for task partially completed) or 0 points (for task not completed). To calculate an overall fidelity score, individual sessions were scored, and a total score was doubled to create a percentage. Whilst containing a task list, the intervention also required flexibility to be built into it in order to cater for the variation of individuals receiving the intervention.

Each session checklist was completed immediately following each session to be as accurate as possible. In addition, 20% of all intervention sessions, randomly selected to include at least one of each session and one recording from each participant, was listened back to by AK and re-rated to ensure accuracy. Finally, one third of these recordings were listened to again by a second rater (AL) to ensure accuracy ratings. No discrepancies were found.

6.8. Analysis plan

6.8.1. Research questions and study hypotheses

The study aimed to test the research question: *Does the timeline approach with older adults experiencing depression reduce negative affect, and result in increased self-compassion and wisdom for managing current difficulties?* In order to evaluate the effects of the intervention, a detailed analysis plan was created. Data from each participant was analysed separately. Analysis of each participant's data tested the study hypotheses as to whether the intervention had a significant effect on each participant: primarily mood, and also self-compassion/self-acceptance and wisdom. Conclusions about the impact of the intervention were made on the basis of:

- Any change that is evident across the intervention from standardised measures

- Whether any change is evident from the intervention onset from idiographic measures

Based on these analyses, each participant was deemed either a responder or non-responder to the intervention. If the intervention had a significant positive effect, we would expect to see significant decreases in standardised depression scores between baseline and post-intervention time points. We would also expect to see idiographic daily measures of mood to start to improve following the introduction of the intervention, and for daily mood scores to be higher in the intervention phase. This change may also be reflected in changes in variability of daily mood scores. We would expect to see the same changes in measures of self-compassion and wisdom if they are affected by the intervention. The secondary hypotheses tested whether any changes were maintained by seeing if any changes on standardised measures were maintained at one month follow up.

6.8.2. Sensitivity analyses

Due to the nature of psychological interventions, we would not expect an immediate effect following the onset of intervention but would be looking for changes in a positive direction that coincided with the introduction of the intervention or revealed as the intervention progressed. It is worth noting that as session one of the intervention primarily involves an assessment of difficulties and setting of the timeline task, it is reasonable not to expect to see significant effects of the intervention until session two onwards. Therefore, for those participants who appeared (via visual analysis) to show significant effects following session two, a sensitivity analysis was carried out, comparing baseline and post-session two intervention phases (IP2) in order to see whether the results were sensitive to including session one or not. This is because most statistical techniques measuring effect sizes comparing baseline and intervention phases treat the phases as a whole, and so may not detect genuine differences where change has been slower to occur, despite this being a potential likelihood when intervention active ingredients are introduced later in the phase.

6.8.3. Analysis techniques

There are no fixed guidelines on how to analyse single case data and long standing debates around the validity of both visual and statistical methods (Kazdin, 2011). Whilst visual analysis remains the most common method and the most supported by those providing standards (Smith, 2012), most experts advocate a combination of visual and statistical analyses in order to corroborate with each other and provide an overall analysis that takes into consideration contextual factors and matters of clinical significance. This analysis therefore used a combination of visual and statistical approaches, as well as incorporating contextual information about the participant's experience of the intervention in order to help draw conclusions. Whilst numerous statistical approaches have been developed for single case data, no single method that has been identified as clearly superior to others (Smith, 2012) and therefore the approaches used here were chosen for their ease and utility in application to this specific data set.

6.8.3.1 Reliable change index (RCI) and Clinically Significant Change (CSC).

RCI and CSC was calculated for all standardised measures. RCI determines whether the magnitude of change for a given standardised measure is statistically reliable accounting for measurement error. This approach utilises the formula by Jacobson and Truax (1992) which takes into account the standard deviation and reliability of the measure. This calculation produces a range of change scores, including 95% of change scores that would occur by chance, such that any score which falls outside the range is regarded as a reliable change for that measure. To calculate RCI for this study, the Leeds Reliable Change Index Calculator (Morley & Dowzer, 2014) was used.

CSC determines whether a reliable change is clinically significant by comparing score changes to clinical and non-clinical population normative data, and according to a selected criterion (Jacobson & Truax, 1992). For this study, CSC was also calculated using the Leeds

Reliable Change Index Calculator (Morley & Dowzer, 2014) for standardised measures of mood, using normative data where possible. The criteria set for CSC was based on information derived about the measure being examined.

6.8.3.2. Patient Health Questionnaire - 9 item (PHQ-9).

RCI and CSC scores for the PHQ-9 were calculated from mean of baseline to end of intervention timepoint, and from mean of baseline to follow up to determine if any changes were maintained for longer. The mean of the baseline phase was used in order to enable a measure of control across baseline scores (such as regression to the mean) and the range of baseline length groups. The internal reliability estimate (Cronbach's alpha) of 0.89 for the PHQ-9 reported in the original validation study was selected to make this calculation (Kroenke et al., 2001). We used pre-treatment data (n=248) from Bosanquet et al. (2017)'s RCT of collaborative care for older adults with depression (mean=12.4, SD=5.43) for clinical norms and data from Kocalevent, Hinz, and Brähler (2013)'s standardisation of the measure within a German population (n=791) to provide the non-clinical mean (3.3) and SD (3.6) for participants aged 64-74 years and non-clinical mean (n=389) of (4.4) and SD (3.9) for those aged >75 years. These norms are equivalent with non-clinical norms provided in the measure's original validation study (Kroenke et al., 2001). Findings indicate that the distribution of PHQ-9 total scores remains stable against age (Tomitaka et al., 2018) and performs well for older adults as a tool for measuring depression (E. Phelan et al., 2010b).

Criterion C for CSC was used, based on recommendations by McMillan, Gilbody, and Richards (2010): where criterion C is recommended as the most appropriate strategy when the clinical and non-clinical distributions overlap as they frequently do for psychological measures, including the PHQ-9.

6.8.3.3. Geriatric Anxiety Scale – 10 item (GAS-10).

As with PHQ-9 analysis, RCI and CSC scores for the GAS-10 were calculated from the mean of the baseline phase to the end of intervention timepoint, and from mean of baseline to follow up, to determine if any changes were maintained at 1 month follow up. Reliability for the GAS-10 was taken from Mueller et al. (2015b)'s development of the GAS-10, where they identified a reliability alpha of .89. They also generated norms from a mixed sample, which identified a standard deviation of 4.64.

As specific clinical and non-clinical norms could not be identified for the GAS-10, an external criterion of scores below 7 (indicating minimal anxiety, according to the measure's instructions) was used to determine CSC.

6.8.3.4. Self-compassion scale (SCS).

Total scores of self-compassion were calculated as a mean average of the six means of the measure's six subscales (in line with the measure's instructions) and range between 0 and 5. RCI was calculated between baseline average and post-intervention timepoints, as well as baseline average and follow up. RCI was calculated using a reliability coefficient and population norms as found in Allen et al. (2012)'s study of (n=132) older adults: reliability alpha (0.87), mean (3.69), SD (0.52). As the SCS is not a clinical measure, CSC was not calculated for this measure. Neff (2003) gives the following approximate guidelines for interpreting SCS: scores of 1-2.5 indicate low self-compassion, 2.5-3.5 indicate moderate self-compassion, and 3.5-5.0 indicate high levels of self-compassion.

6.8.3.5. Self-assessed wisdom scale (SAWS).

Total SAWS scores were calculated within a possible range of 40 – 240. RCI was calculated between baseline average and post-intervention timepoints, as well as baseline average and follow up. RCI was calculated using a reliability coefficient and population norms as found in Webster, Westerhof, Bohlmeijer, and Sciences (2014): reliability alpha (0.91), mean (171.88), SD (21.91). As the SAWS is not a clinical measure, CSC was not

calculated for this measure. No specific guidance on scores to relative wisdom amounts is given for the measure.

6.8.3.6. Visual analysis.

Data from idiographic measures were graphically represented and subjected to a visual analysis. Visual analysis was used to describe the central tendency, trend and variability of idiographic data within and between study phases. Attention was initially given to assessing the relative stability of the baseline phase in helping to determine how reliable observed changes in the intervention phase are. Particular attention was paid to the rate and magnitude of any observed changes following introduction of the intervention (Kazdin, 2011), according to study hypotheses and with considerations to the clinical meaning of any change. When graphically representing VAS data, a visual measure of central tendency was plotted via a broadened median (Morley, 2017; Rosenberger & Gasko, 1983), which can be considered more resistant to outliers and represents more of the data than a traditional mean or median. Trend was plotted as a line of best fit for each phase.

6.8.3.7. Statistical analyses.

6.8.3.7.1. Kendall's Tau.

Kendall's Tau analysis was conducted on both baseline and intervention phase VAS scores to determine the relative stability or trend within phase, particularly that of the baseline. Kendall's Tau can be considered as describing, "the percent of data that improve over time" (Parker, Vannest, et al., 2011a, p. 288) and for this data, measured the rank correlation between day (time) and VAS scores, to determine whether time and score values ordered data points in the same way (Brossart, Laird, & Armstrong, 2018). As stable baselines are not easily obtained in clinical settings (Morley, 2018), attention was paid to both the significance and effect size of any correlations in combination with the visual analysis.

6.8.3.7.2. Variance ratio (F) test.

The variance ratio or F-test was used to test for significant differences in variation between phases, in cases where this was deemed clinically meaningful to calculate.

6.8.3.7.3. Simulation Modelling Analysis (SMA).

The primary methods of statistical analyses used were those that compare central tendency and trend between phases whilst controlling for autocorrelation (SMA) and those that compare percentage of non-overlapping data (NOAP/Tau-U). SMA (Borckardt & Nash, 2014) was used to compare level and slope differences between the baseline and intervention phases. SMA is an inferential statistics test, that tests for statistical significance in single-subjects case series using bootstrapping techniques in order to help control for the autocorrelation found in single case series data, which violates the assumption of independence of observations. SMA helps to determine whether the baseline intervention pattern explains the data better than sampling fluctuation and autocorrelation alone. SMA answers the question, "how likely is it for a completely random data-stream of the same length as yours, with the same amount of autocorrelation as yours, to evidence a correlation with your phase vector as large as your data stream did?" (Borckardt & Nash, 2014, p. 496). SMA has been developed to analyse short amounts of autocorrelated data, typically 5-30 points per phase and is therefore appropriate for the study's data, where each phase has a maximum amount of 28 data points. If differences between mean phases are significantly different, with a decline over time, it could be argued that the intervention is responsible. SMA was calculated using a software package developed by Clinical Researcher Solutions. SMA is a promising, yet relatively new technique, meaning that conclusions were treated with caution and in context with other analyses.

6.8.3.7.4. Non-overlap all pairs (NOAP).

Test for NOAP (R. I. Parker & K. J. B. T. Vannest, 2009) is an index of data overlap between phases in single-case data sets, allowing a pairwise comparison of individual data points across different phases, to determine the 'dominance' of one score set over the other (Parker, Vannest, & Davis, 2011). NOAP is a more advanced index than many non-overlap tests as it tests for differences between phases by testing how many of the baseline points overlap with those of the intervention points by comparing every point in one phase to every point in the succeeding phase (Parker & Vannest, 2009). NOAP therefore equals the percent of non-overlapping data between phases and helped supplement visual analysis in determining the relative effect size and significance of any observed changes. NOAP is a useful alternative to SMA as it does not rely or base its analysis on the difference between the central tendency of data phases, but rather the "separation of the two data clouds, giving equal attention to all data points" (R. I. Parker & K. Vannest, 2009, p. 285). In this regard, NOAP is particularly applicable to data sets where there are non-linear relationships between variables and non-normal distributions. It is also robust to outliers. The following NOAP effect size guides are provided by Parker & Vannest (2009): weak effects: 0–.65; medium effects: .66–.92; large or strong effects: .93–1.0. There are limitations to NOAP, including insensitivity to trend and so this technique was used in conjunction with other analyses. NOAP was calculated using Parker & Vannest's online calculator (Vannest, Parker, Gonen, & Adiguzel, 2016).

6.8.3.7.5. Tau-U.

Tau-U (R. I. Parker, K. J. Vannest, J. L. Davis, & S. B. J. B. T. Sauber, 2011b) has been developed as an equivalent form of NOAP that allows analyses to control for baseline trend when assessing the strength of dominance across two phases. Tau-U is a family of tau coefficients that together demonstrate the effects of an intervention on within-phase (Tau-U trendA and Tau-U trendB) and between-phase differences (Tau-U AvsB). Of particular interest is Tau-U (AvsB – trendA), which allows one to control for pre-existing baseline trend

by subtracting it from the across phase calculation and therefore more fairly represents any actual effect brought on by an intervention. Tau-U was therefore used to calculate the non-overlap effect size between phases where there is established significant trend in the baseline phase. Where Tau-U is significant, one may be able to conclude that scores between the phases are significantly independent of each other, when controlling for baseline trend. As there have been some noted concerns around the reliability of Tau-U calculations in comparison to visual analysis (Brossart et al., 2018) this was interpreted with some caution.

6.8.3.1. Group analyses.

In order to supplement individual analyses, group analyses were used. However, due to small sample sizes these were strictly exploratory and interpreted with caution. Due to such sample sizes and the likely violation of parametric assumptions, non-parametric tests were used, where appropriate, for these exploratory analyses. Repeated measures ANOVA or Friedman's test and, where appropriate, Wilcoxon signed rank tests (tests of two related samples) were used to test for differences in PHQ-9, GAS-10, SCS and SAWS scores between baseline and post-intervention, and baseline and follow-up.

6.8.3.1.1 Combined NOAP.

A combined, weighted effect size for NOAP (baseline vs intervention) across participants was calculated on participant VAS data. This was done using R. I. Parker and K. Vannest (2009)'s online software.

Chapter 7. Quantitative Research Paper Extended Results

This chapter contains extended results of data analysis not contained in Chapter 5. Visual analyses of participant data refers to Figure 5.3 (Chapter 5).

7.1. Participant 1

7.1.1. Participant 1 details

Participant 1 was a 69 year old woman recruited from primary care mental health services. She reported a life-long history of depression, with chronic physical health conditions, affecting mobility, and complex social needs. At the time of study, she had recently come to the end of a long-term relationship, which she described as abusive, and was facing uncertainty in her living situation. The intervention focussed on utilising her life experiences to challenge negative perceptions of herself and coping skills.

Participant 1 was randomly assigned to the two-week baseline condition and completed all five weekly sessions of the intervention. Sessions took place in the NHS.

7.1.2. Additional analysis of standardised measures

Reliable change (RC) was not obtained on the SCS between baseline and post-intervention, or at follow up. Baseline SCS score was 2.47, indicating low self-compassion. RC was not obtained on the SAWS between baseline and post-intervention, or at follow up. However, it is notable that the baseline SAWS score was 219, which is a standard deviation (SD) above the normal population range.

7.1.3. Additional analysis of idiographic measures

7.1.3.1. VAS_mood additional analyses.

SMA showed no significant change in VAS_mood level (r = .15, p = 0.45) but a small significant change in slope (r = -.46, p = 0.017) between baseline and intervention phases. However, an exploratory SMA controlling for outliers (by replacing data points over

two standard deviations from the mean with phase medians) revealed a small significant level (r = .47, p = 0.027) and slope change (r = -.50, p = 0.018) between phases, suggesting outliers may be impacting on conclusions. Variation between the baseline and intervention was non-significant; $F(14,27) = 2.02$, p = 0.057, but reached significance when adjusting for outliers (as described): $F(14,27) = 0.16$, $p < .001$.

7.1.3.2. VAS_mood sensitivity analyses.

Sensitivity analyses on VAS_mood scores found that non-overlap between phases increased when comparing baseline to intervention (*NOAP* = .73, p = 0.01) and baseline to intervention post-session 2 (IP2) (*NOAP* = .83, $p < 0.01$). However, SMA of level and slope changes did not significantly differ from those already reported.

7.1.3.3. VAS_SA analyses.

VAS_SA scores followed a similar pattern to mood, remaining mostly stable throughout baseline (*tau* = -.36, p = .082). The intervention phase was characterised by an increase in variability of scores, a trend of increasing and decreasing scores with higher than baseline scores present, appearing to stabilise into an increasing trend after session four. Kendall's Tau (*tau* = .38, p = .005) indicates a significant positive trend throughout the intervention phase.

There was a significant medium effect size of non-overlap between phases (*NOAP* = 0.74, p = .011), which increased when comparing baseline to IP2 (*NOAP* = 0.84, $p < .001$). Consistent with VAS_mood, SMA showed no significant change in VAS_SA levels (r = 0.12, p = 0.508) but a small significant change in slope (r = -0.42, p = 0.013) between baseline and intervention phases. Exploratory SMA controlling for outliers revealed a small significant level change (r = 0.52, p = 0.045) and slope change (r = -0.63, p = 0.0098) between phases. Sensitivity analyses comparing baseline with IP2 found no significant differences to those comparing baseline and intervention phase.

7.1.3.4. VAS_wisdom analyses.

VAS_wisdom scores were also consistently very low scores with little variation. Kendall's Tau (*tau* = .021, *p* = .918) confirmed a stable baseline. The intervention phase saw an increase in variation of scores, marked by an upwards and downwards pattern and an increasing trend towards end of intervention phase. Kendall Tau (*tau* = .428, *p* = .002) suggests a small significantly increasing trend in the intervention phase.

There was a significant medium effect size of non-overlap between phases (*NOAP* = 0.66, *p* = .085) which increased when comparing baseline to IP2 (*NOAP* = 0.759, *p* < .001). Consistent with VAS_mood, SMA showed no significant change in VAS_wisdom levels (*r* = .15, *p* = 0.489) but a small significant change in slope (*r* = -.535, *p* = 0.007) between baseline and intervention phases. Exploratory SMA controlling for outliers (as above) revealed a small significant level change (*r* = 0.52, *p* = 0.045) and slope change (*r* = -0.63, p = 0.01) between phases. Sensitivity analyses comparing baseline with IP2 found no significant differences to those comparing baseline and intervention phase.

7.1.3.5. Across VAS analyses.

Daily mood, self-acceptance and wisdom were highly and significantly correlated with each other throughout the study. (VAS_mood vs VAS_SA: *tau* = .857, *p* < .001; VAS_mood vs VAS_wisdom: *tau* = .908, *p* < .001; VAS_SA vs VAS_wisdom: *tau* =.818, *p* < .001).

7.1.4. Change interview questionnaire responses

Change interview questionnaire responses for participant 1 are shown in Table 5.4. Responses indicated that participant 1 had found the intervention helpful in helping her to recognise positive and meaningful events in her past, that challenged negative beliefs about herself as well as recognising resilience and coping skills for her current difficulties.

7.2. Participant 2

7.2.1 Participant 2 details

Participant 2 was a 68 year old woman recruited from older people secondary care mental health services. Participant 2 has a long-term history of anxiety, which has led her to spend most of her adult life living with her parents. Their bereavement within the last five-ten years has led to a persistent depressed mood. The intervention focussed on using new perspectives on past experiences to develop wisdom for managing uncertainty and developing a more self-compassionate approach to dealing with anxiety and her actions.

Participant 2 was randomly assigned to the two-week baseline condition and completed all five weekly sessions of the intervention. Sessions took place in the NHS.

7.2.2 Additional analysis of standardised measures

RC was not obtained on the SCS between baseline and post-intervention, or at follow up. Baseline SCS score was 2.04, indicating low self-compassion. RC was not obtained on the SAWS between baseline and post-intervention, or at follow up. Baseline SAWS score was 155, which is within the population range.

7.2.3. Additional analysis of idiographic measures

7.2.3.1. VAS_mood additional and sensitivity analyses.

Variation between baseline and intervention phases was non-significant (F (14,27) = 1.2, p = 0.319). A sensitivity analysis saw SMA of phase level differences (r = .33, p = 0.08) increase and reach significance (r = .56, p = 0.007), concordant with Tau-U analyses. However, this became a small significant difference when comparing baseline and IP2 $F(14,20) = 2.23$, $P < 0.05$). In combination with visual analysis, this suggests that participant 2 is overall experiencing less lower mood days following the onset of intervention.

7.2.3.2 VAS_SA analyses.

VAS_SA scores followed very similar trends to those found in the VAS_mood scores throughout both baseline and intervention phases. Kendall's Tau confirmed significant trend during baseline (*tau* = 0.41, *p* = 0.03) and intervention (*tau* = .382, *p* = .005) phases.

Non-significant non-overlap between phases, when controlling for baseline trend (*tau-U* = .25, *p* = 0.177) became significant when comparing baseline and IP2 (*tau-U* = .39, *p* = 0.047). Concordantly, SMA revealed a non-significant change in level (*r* = .28, *p* = 0.097) and slope (*r* = -.30, *p* = 0.068) between phases. SMA of phase levels reached significance when comparing baseline and IP2 (*r* = .49, *p* = 0.006).

7.2.3.4 VAS_wisdom analyses.

VAS_wisdom scores followed very similar trends to those found in the VAS_mood scores throughout both baseline and intervention phases. Kendall's Tau also confirmed significant trend in during baseline (*tau* = .54, *p* = .005) and intervention (*tau* = .44, *p* = .001) phases.

Non-significant non-overlap between phases, when controlling for baseline trend (*tau-U* = .32, *p* = 0.090) became significant when comparing baseline and IP2 (*tau-U* = .48, *p* = 0.015). Concordantly, SMA revealed a non-significant change in level (*r* = .37, *p* = 0.066) and slope (*r* = -.36, *p* = 0.086) between phases. SMA of phase levels reached significance when comparing baseline and IP2 (*r* = .59, *p* = 0.010).

7.2.3.5. Across VAS analyses.

Daily mood, self-acceptance and wisdom were highly and significantly correlated with each other throughout the study. (VAS_mood vs VAS_SA: *tau* = .793, *p* < .001; VAS_mood vs VAS_wisdom: *tau* = .703, *p* < .001; VAS_SA vs VAS_wisdom: *tau* =.704, *p* < .001).

7.2.4. Change interview questionnaire responses

Change interview questionnaire responses for participant 2 are shown in Table 5.4. Responses indicated that participant 2 had found the intervention helpful in being able to examine and reframe more positively how she has managed past difficult experiences, recognise strengths and resilience and to begin to develop self-compassion and self-acceptance for when dealing with current anxieties.

7.3 Participant 3

7.3.1 Participant 3 details

Participant 3 was an 84 year old woman recruited from secondary care older people mental health service. She reported experiencing severe depression a number of times across her life and has temporarily needed to live in supported residential care during previous episodes of depression, the most recent being within the last ten years. Following a recent hip operation and reduced mobility, she felt less able to engage in previous strategies for managing her mood. The intervention focussed on recognising resilience across the lifespan and developing self-compassion when engaging in developed strategies for managing her mood.

Participant 3 was randomly assigned to the three-week baseline condition and completed all five weekly sessions of the intervention. Sessions took place in the participant's home.

7.3.2 Additional analysis of standardised measures

RC was not obtained on the SCS between baseline and post-intervention, or at follow up. Baseline SCS score was 3.05, indicating moderate self-compassion. RC was not obtained on the SAWS between baseline and post-intervention. However, RC was obtained on the SAWS at follow up. SAWS scores increased from 188 to 206, indicating an increase in self-reported wisdom above the normal population SD range.

7.3.3 Additional analysis of idiographic measures

7.3.3.1 VAS_mood additional and sensitivity analyses.

SMA also confirmed no significant phase level differences between baseline and intervention phases (r = .01, p = 0.084), though a slight significant change in slope (r = -.14, p = 0.017), suggesting a slight change in trend direction. However visual analysis shows this does not change the alternating mood pattern or reduce low mood scores. Sensitivity analysis comparing differences between baseline and IP2 found no significant changes in non-overlap, level or slope compared to baseline and intervention phases.

7.3.3.2 VAS_SA analyses.

VAS_SA scores followed very similar trends to that of VAS_mood, demonstrating consistent patterns of extreme alternating daily scores in both baseline (*tau* = -.17, p = 0.413) and intervention (*tau* = .125, p = 0.353) phases.

Non-overlap differences were non-significant between baseline and intervention phases (*NOAP* = .59, p = 0.29) and IP2 (*NOAP* = .60 , p = 0.27). SMA revealed a small but significant level change (r = .13, p = 0.049) and slope change (r = -.17, p = 0.013) between phases suggesting a small change in directional increase in scores of self-acceptance, however the pattern of alternating extreme scores remains unaffected. These SMA were consistent when comparing baseline and IP2.

7.3.3.3 VAS_wisdom analyses.

VAS_wisdom scores followed similar trends to VAS_mood but appear to show more of a downward trend during baseline to that of VAS_mood and VAS_SA scores. Kendall's Tau suggests that this is approaching significance (*tau* = -.22, p = 0.096). No trend was detected during the intervention phase is (*tau* = .13, p = .332).

Non-overlap differences were non-significant between baseline and intervention phases (*NOAP* = 0.55, p = 0.60) and IP2 (*NOAP* = 0.51 , p = 0.93). SMA revealed a significant change in slope between baseline and intervention phases (r = -.28, p = 0.008), as

well as IP2 (r = -.26, p = 0.003) but no changes in level (r = -.02, p = 0.8). This suggests that the intervention has a small positive impact on the direction of daily wisdom scores, within the alternating pattern. Such findings are consistent with the SAWS follow up changes.

7.3.3.4 Across VAS analyses.

Daily mood, self-acceptance and wisdom were highly and significantly correlated with each other throughout the study. (VAS_mood vs VAS_SA: *tau* = .863, p < .001; VAS_mood vs VAS_wisdom: *tau* = .738, p < .001; VAS_SA vs VAS_wisdom: *tau* =.786, p < .001).

7.1.5. Change interview questionnaire responses

Change interview questionnaire responses for participant 3 are shown in Table 5.4. Responses indicated that participant 3 found that the intervention had been helpful in helping her to recognise her self-critical thought patterns and to begin to look at her situations more positively, recognising that this had been the case in past experiences.

7.4 Participant 4

7.4.1 Participant 4 details

Participant 4 was a 76 year old woman recruited from secondary care older people mental health services. She reported a long-term history of moderate and severe depression, most recently triggered by the death of her husband within the past 10 years, leading to significant agoraphobia and social isolation. The intervention focussed on recognising strengths and wisdom from the past to help improve daily quality of life. However, the presence of complex grief meant that behavioural changes were difficult to make.

Participant 4 was randomly assigned to the three-week baseline condition and completed all five weekly sessions of the intervention. Sessions took place in the participant's home.

7.4.2. Additional analysis of standardised measures

RC was obtained on the SCS between baseline and post-intervention. Follow up SCS data was incomplete meaning that follow up comparisons could not be made. Score increased from 3.37 to 3.89 indicating a change from moderate to high levels of self-compassion. RC was not obtained on the SAWS between baseline and post-intervention. Follow up SAWS data was incomplete meaning that follow up comparisons could not be made. SAWS baseline scores were 189, within the normal population range.

7.4.3. Additional analysis of idiographic measures

7.4.3.1 VAS_mood additional analyses.

Variation of mood scores was significantly lower during the intervention phase, compared to baseline (F (14,27) = 2.6, p = 0.009), indicating that the intervention appears to have had a small positive impact on variability of mood scores. SMA revealed no significant level (r = .15, p = 0.42) or slope (r = -.03, p = 0.87) changes between phases.

7.4.3.2. VAS_mood sensitivity analyses.

Sensitivity analysis comparing differences between baseline and IP2 found no significant changes in non-overlap, level or slope compared to baseline and intervention phases.

7.4.3.3. VAS_SA analyses.

VAS_SA scores follow a similar pattern to VAS_mood with an initial increasing trend in scores, followed by a large variation in scores with significant increases and decreases. Kendall's Tau (tau = .048, p = 0.756) suggests no significant trend within the baseline phase. This pattern of variation appears to remain unaffected by the intervention (tau =.12, p = .373).

Non-overlap differences were non-significant between baseline and intervention phases ($NOAP$ = .55, p = 0.59) and IP2 ($NOAP$ = .58, p = 0.39). SMA revealed no significant changes in level (r = .15, p = 0.339) or slope (r = -.10, p = 0.518) between phases. SMA

results were consistent when comparing baseline and IP2. However, there was significantly less variation within the intervention phase compared to baseline ($F = 2.58$, $p = 0.01$), suggesting a small impact of the intervention on variation of VAS_SA scores.

7.4.3.4. VAS_wisdom analyses.

VAS_wisdom baseline scores appear to rise quickly before starting to settle into an overall downwards trend. Kendall's Tau suggests no overall significant trend across baseline (*tau* = .22, $p = 0.149$) or intervention phases (*tau* = .248, $p = 0.072$). The intervention phase is characterised by a reduction in variation and stabilising of scores following session 2 (*tau* = .23, $p = 0.126$).

Non-overlap differences were non-significant between baseline and intervention phases (*NOAP* = .61, $p = 0.23$) and IP2 (*NOAP* = .63, $p = 0.16$). SMA revealed no significant changes in level ($r = .26$, $p = 0.15$) or slope ($r = -.14$, $p = 0.43$) between phases. SMA results were consistent when comparing baseline and IP2.

7.4.3.4 Across VAS analyses.

Daily mood, self-acceptance and wisdom were moderately and significantly correlated with each other throughout the study. (VAS_mood vs VAS_SA: *tau* = .519, $p < .001$; VAS_mood vs VAS_wisdom: *tau* = .405, $p < .001$; VAS_SA vs VAS_wisdom: *tau* =.374, $p < .001$).

7.4.4. Change interview questionnaire responses.

Change interview questionnaire responses for participant 4 are shown in Table 5.4. Responses indicate that participant 4 had found that the intervention helped her to recognise her own resilience and the wisdom of acceptance in helping her manage her daily mood, and that reflection had primarily been helpful. At follow up it was indicated that Christmas was a particularly difficult time for her, which may partly explain the rise in depression and anxiety scores at follow up.

7.5. Participant 5

7.5.1. Participant 5 details

Participant 5 was a 71 year old woman recruited from primary care mental health services. She reported a long-term history of moderate depression and that she has struggled to come to terms with a number of past events. Her current low mood was related to interpersonal difficulties with family members. The intervention focussed on helping her to draw on experiences from the past to help contextualise the anxieties she was having and develop new strategies for managing her relationships.

Participant 5 was randomly assigned to the 4-week baseline condition and completed all five weekly sessions of the intervention. Sessions took place in the participant's home.

7.5.2 Additional analysis of standardised measures

RC was not obtained on the SCS at post-intervention but was obtained at follow-up. Scores increased from 2.8 to 3.4 (indicating moderate self-compassion). RC was not obtained on the SAWS at post-intervention but was obtained at follow-up. SAWS scores increased to 156 (within the normal population range).

7.5.3. Additional analysis of idiographic measures

7.5.3.1. VAS_mood additional and sensitivity analyses.

SMA of level (r = 0.184, p = 0.46) and slope differences (r = -0.323, p = 0.165) were non-significant between phases. Sensitivity analyses on VAS_mood scores found that non-overlap differences between phases (*NOAP* = 0.61, p = 0.14) increased and reached significance when comparing baseline and IP2 (*NOAP* = 0.68, p = 0.032). SMA level and slope differences between phases increased when comparing baseline to intervention baseline to intervention post session 2 did not significantly differ.

7.5.3.2. VAS_SA analyses.

VAS_SA scores follow a very similar pattern to VAS_mood scores. Kendall's Tau indicated no significant trend during baseline (*tau* = -.01, *p* = 0.947) and a significant upward trend during intervention phase (*tau* = .56, *p* < .001).

Sensitivity analyses on VAS_SA scores found that non-overlap differences between phases (*NOAP* = 0.61, *p* = 0.17) increased and reached significance when comparing baseline and IP2 (*NOAP* = 0.70, *p* = 0.017). SMA did not detect any significant changes in level or slope between phases

7.5.3.3. VAS_wisdom analyses.

VAS_wisdom scores follow a very similar pattern to VAS_mood scores. Kendall's Tau demonstrated no significant trend during baseline (*tau* = .04, *p* = 0.791) and a significant upward trend during intervention phase (*tau* = .48, *p* < .001).

Sensitivity analyses on VAS_wisdom scores found that significant non-overlap differences between phases (*NOAP* = 0.66, *p* = 0.042) increased when comparing baseline and IP2 (*NOAP* = 0.76, *p* = 0.019). SMA detected a significant change in levels between phases (*r* = .47, *p* = 0.049) when comparing baseline and IP2. No other significant changes in level or slope was detected. Results suggest that wisdom scores were most significantly impacted on by the intervention, compared to mood and self-acceptance scores.

7.5.3.4. Across VAS analyses.

Daily mood, self-acceptance and wisdom were significantly correlated with each other throughout the study. (VAS_mood vs VAS_SA: *tau* = .748, *p* < .001; VAS_mood vs VAS_wisdom: *tau* = .650, *p* < .001; VAS_SA vs VAS_wisdom: *tau* =.742, *p* < .001).

7.5.4. Change interview questionnaire responses.

Change interview questionnaire responses for participant 5 are shown in Table 5.4. Responses indicate that participant 5 had found the intervention helped her to be more open about herself, challenge past events and develop new ways of managing emotions. She

identified that talking about difficulties had been helpful, as well as understanding her thinking patterns.

7.6 Participant 6

7.6.1 Participant 6 details

Participant 6 was a 70 year old man recruited from older people's secondary care mental health service. He reported a history of re-occurring depression. As a former successful businessman, a recent period spent in prison and following a family breakdown had triggered a new phase in his life which he was struggling to come to terms with. The intervention focussed on developing self-acceptance for past events, as well as the positive results that came from his experiences, and how these could be applied in his daily life and relationships with himself and others.

Participant 6 was randomly assigned to the four-week baseline condition and completed all five weekly sessions of the intervention. Sessions took place in the NHS.

7.6.2. Additional analysis of standardised measures

RC was not obtained on the SCS between baseline and post-intervention or at follow up. Baseline SCS score was 1.8, indicating low self-compassion. RC was not obtained on the SAWS between baseline and post-intervention or at follow up. Baseline SAWS score was 189 (within the normal population range).

7.6.3. Additional analysis of idiographic measures

7.6.3.1. VAS_mood additional analyses.

SMA revealed no significant changes in phase levels (r = .30, p = 0.42), however this is likely affected by the presence of high scores in the baseline phase. SMA slope analysis (r = -.55, p = 0.077) suggest slope differences were approaching significance. Variation between the baseline and intervention was non-significant; $F(28,27) = 1.46$, $p = 0.164$, but reached significance when comparing between baseline and IP2: $F(14,27) = 0.16$, $p < .001$.

Visual analysis identifies that there is a significant decrease in low daily mood scores (any below 7.5/10) during the second half of the intervention phase.

7.6.3.2. VAS_mood sensitivity analyses.

Sensitivity analyses on VAS_mood scores found that a significant non-overlap differences between phases (*NOAP* = 0.65, $p = 0.049$) increased when comparing baseline and IP2 (*NOAP* = 0.76, $p < .001$). SMA level and slope differences between phases increased when comparing baseline to intervention baseline to intervention post session 2 did not significantly differ. SMA of level and slope changes did not significantly differ from those already reported.

7.6.3.3. VAS_SA analyses.

VAS_SA scores follow a very similar pattern to VAS_mood scores within baseline (*tau* = -.15, $p = 0.252$) and following introduction of the intervention (*tau* = .67, $p < .001$).

There was significant non-overlap between phases (*NOAP* = .68, $p = 0.022$), increasing when comparing baseline and IP2 (*NOAP* = .78, $p < 0.001$). SMA identified no significant changes between phase levels and slopes.

7.6.3.3. VAS_wisdom analyses.

VAS_SA scores follow a very similar pattern to VAS_mood scores within baseline (*tau* = -.16, $p = 0.243$) and following introduction of the intervention (*tau* = .68, $p < .001$).

There was significant non-overlap between phases (*NOAP* = .70, $p = 0.01$), increasing when comparing baseline and IP2 (*NOAP* = .82, $p < 0.001$). SMA identified no significant changes between phase levels and slopes.

7.5.3.4. Across VAS analyses.

Daily mood, self-acceptance and wisdom were significantly correlated with each other throughout the study. (VAS_mood vs VAS_SA: *tau* = .877, $p < .001$; VAS_mood vs VAS_wisdom: *tau* = .769, $p < .001$; VAS_SA vs VAS_wisdom: *tau* =.799, $p < .001$).

7.5.4. Change interview questionnaire responses

Change interview questionnaire responses for participant 6 are shown in Table 5.4. Responses indicate that participant 6 had found the intervention helpful in putting past events into the context of his life and applying these new perspectives to manage current difficulties and life choices.

7.7 Group analyses

7.7.1 Standardised measures

There was a statistically significant difference depending on timepoint of intervention for PHQ-9 scores ($\chi 2(2) = 6.87$, $p = 0.032$). Post-hoc Wilcoxon signed-rank tests showed that the intervention elicited a statistically significant change in depression scores on the PHQ-9 between baseline and post-intervention ($Z = -2.21$, $p = 0.027$). Median (IQR) PHQ-9 scores changed from baseline 12.1 (11.81-18.33) to post-intervention 7 (5.75-10). No significant changes were found comparing baseline and follow up ($Z = -1.7$, $p = .093$).

There was a statistically significant difference depending on timepoint of intervention for GAS-10 scores ($\chi 2(2) = 6.35$, $p = 0.042$). Post--hoc Wilcoxon signed-rank tests also showed that the intervention elicited a statistically significant change in anxiety scores on the GAS-10 between baseline and post-intervention timepoints. ($Z = -2.201$, $p = 0.028$). Median (IQR) GAS-10 scores changed from baseline 13.83 (12.44-22.25) to post-intervention 8 (4-14.5). No significant changes were found at follow up ($Z = -1.15$, $p = .249$). It should be noted that when conducting analyses for each measure with a Bonferroni correction applied for multiple comparisons, the resulting significance level is set at $p < 0.025$, indicating that these results may not have reached significance. However, due to the small sample involved, the risk of a type 2 error is increased, meaning this should be interpreted with caution.

There was no statistically significant difference depending on timepoint of intervention for SCS scores ($\chi 2(2) = 1.6$, $p = 0.449$) or SAWS scores ($\chi 2(2) = 3.6$, $p = 0.165$).

7.7.2 Idiographic measures

A weighted average of NOAP across participants revealed a significant moderate effect size for VAS_mood *(NOAP_weighted = .63, p < .001)*, VAS_SA (*NOAP_weighted* = 0.64, $p < .001$) and VAS_wisdom (*NOAP_weighted* = .64, $p < .001$), suggesting that an overall effect of the intervention on VAS scores across participants. A sensitivity analysis showed that there was a slight increase in effect sizes when calculating a weighted average of NOAP across participants comparing baseline and IP2 for VAS_mood *(NOAP_weighted = .68, p < .001)*, VAS_SA (*NOAP_weighted* = .71, $p < .001$) and VAS_wisdom (*NOAP_weighted* = .71, $p < .001$).

Chapter 8. Quantitative Research Paper Extended Discussion

8.1. Extended discussion of participant results

8.1.1. Mood: primary outcome

Reliable changes (RC) in the primary outcome of depression, PHQ-9, were observed in all participants between baseline and post-intervention. However, due to the full interpretation of data, only four participants were deemed responders. Of those four responders, participants 5 and 6 responded most clearly to the intervention with both achieving RC and CSC in depression measures by follow up and showing clear changes in daily mood scores at onset of intervention. As well as the results of idiographic measures, qualitative feedback from the change interview questionnaire also points to qualities of the intervention, rather than non-specific therapy effects, as having made these changes. In addition, the use of sensitivity analysis, comparing baseline and intervention post-session two, where theorised active change ingredients of change are introduced, showed increased effect sizes of the intervention on daily mood, providing further suggestion that the intervention techniques are responsible for the observed changes rather than non-specific therapy effects - which are more likely to be taking place during session one.

All participants who took part in the study had long histories of living and dealing with depression and represent the chronicity of depression that can occur into later life. There was however a variety in severities of depression and how this was characterised in daily mood. For those that responded to the intervention, this appears to be represented in daily moods scores by a reduction in variability of scores and an increase in higher mood scores relative to lower mood scores. An example where this did not occur is in participant 3, whose depression was characterised by extreme daily mood swings (high variability) and which was not stabilised by the intervention. A higher variation in depressed mood is likely to reflect

depression in those with moderate to moderate-severe forms of depression, rather than a more severe depression, as characterised by persistent low mood and as seen in participant 1's baseline scores. Such findings are interesting for considering the impact of the intervention on different severities of depression and the differential nature of observed changes. For example, the clinical implication could indicate that when there are highly frequent variations in mood (such as with participant 3), introducing a wisdom intervention in its current format is unlikely to be helpful. This might mean other adjuncts are considered, or whether the wisdom enhancement intervention needs to be augmented. In this example, it might indicate that it would be enhanced if it was augmented with some explicit emotional regulation strategies.

An interesting observation is that whilst for some participants (e.g. 2,5,6) a decrease in PHQ-9 scores might continue across the intervention phase, this may not be the case for a parallel increasing of daily mood scores; instead these appeared to settle and maintain at a relatively high rate. This implies some sort of ceiling effect on the VAS measure for reporting of mood. This would make theoretical sense, such that a participant may be unlikely to score their days as 10/10 (which might be interpreted as a completely perfect day), or for their scores to simply continue increasing; and indeed, complete happiness would not be the aim of the intervention. This helps interpret that whilst single-case analysis techniques might determine intervention effects through the continuing increase of daily mood scores, it may also be the case that maintaining a higher level of mood is clinically meaningful and reflects a reduced overall depression score. For this reason, the statistical test of NOAP may be a more reliable measure of the effect size of phase differences than SMA, as it compares each point in one phase to every point in the succeeding phase, rather than an overall change in phase levels or slope. It may therefore be more likely to capture these more distinct phase differences, particularly where there is a presence of high mood scores in the

baseline phase. Alternatively, it might again indicate, where relevant, that the content in session two (reflections on the timeline and recognising resilience/developing self-acceptance) was the most effective part of the intervention and so incorporating more of this content into the intervention would be particularly effective. Further considerations for this are given below.

The two participants deemed as non-responders (3,4) were both within the moderate to moderate severe range of depression at baseline but their depression was characterised idiosyncratically. Participant 3 had extreme daily mood swings that the intervention did not impact on and participant 4 had relatively high mood for much of the baseline phase. Taking context into consideration is important, and both participants 3 and 4 had contextual factors which may have made them less likely to respond to this particular intervention. Participant 3 had the most severe history of depression, having needed to live in residential care for periods of her life. Participant 4's depression may have been more accurately described as complicated grief, which is characteristically distinct from depression (Shear et al., 2011) and may require a more specialist intervention. This could suggest that the wisdom intervention may not be most helpful in these circumstances, at least without alteration that takes into account this specific presentation. Whilst far from determining any causality, taking into account such context is important in evaluating the observed intervention effects.

8.1.2. Self-compassion/self-acceptance and wisdom: secondary outcomes additional discussions

Despite responding to the intervention, only participant 5 saw significant changes in both SCS and SAWS scores following the intervention. It has been considered that self-compassion and wisdom are thought to be relatively stable traits (Glück et al., 2013; Neff, 2009) and so may not change as the result of a 4-week intervention. However, both non-responding participants 3 and 4 saw a significant increase in wisdom at follow-up and self-

compassion at post-intervention respectively. Whilst it is difficult to interpret these results, it may suggest that both did in fact benefit from the intervention but not in depressive symptoms; perhaps signalling that the intervention acted differently in accordance of their atypical presentations. Additionally, it may suggest that these constructs are not as closely dependent on mood as theorised. Whilst both self-compassion and wisdom have been related to well-being, this may not have equivalence with the absence of depression, representing a eudaimonic rather than hedonic wellbeing (Ryan & Deci, 2001) – this will be expanded on in Chapter 9.

An additional caveat is that although Laidlaw specifies both self-compassion and self-acceptance as desired outcomes of the technique, it may be that self-acceptance (not measured in a standardised from during this study) is the more predicted outcome. Daily VAS measures of self-acceptance and wisdom, whilst highly correlated with daily mood scores, did not reflect the (non) changes in standardised measures, suggesting that they are unlikely to be tapping into the same constructs of self-compassion and wisdom, or that their one-item questions not being detailed enough to capture the meaning of their intended constructs. Indeed, this puts into question their validity as distinct variables and means meaningful interpretation of them at face value would be unreliable. Future studies may therefore want to think differently about how such constructs are measured on a daily level, such as using less frequent but mode detailed assessments. Qualitative responses indicated that the recognition of resilience was a key outcome for many of the participants, however this too was not explicitly measured and may provide interesting conclusions if measured in future studies of this intervention.

8.1.3. Follow up

Reliable changes in depression scores were maintained at one month follow up for participants 1,5 and 6 (2 was borderline significance), with 5 and 6 gaining/maintaining

clinical significance at follow up. This suggests that for those who responded to the intervention, the effects have the potential to be maintained. It also suggests that the intervention effects for some participants (e.g. 5) may continue to develop after sessions have ended. Such longevity of effects is often the hope of behavioural change interventions.

8.1.4. Group analyses

Group analysis results are strictly exploratory, due to the small samples, but are consistent with individual case analyses by suggesting an overall significant impact of the intervention on depression and anxiety. Whilst this is clearly not generalisable to all individual participants, it gives further indication to the intervention's effectiveness.

8.2. Fidelity of intervention

Fidelity checks on the intervention was completed for each participant, as described in Chapter 6. There were no discrepancies between first, second and third ratings. Table 8.1 shows final complete fidelity scores for all participants. All participants achieved a fidelity percentage of 94% and above, indicating that the intervention was consistently delivered across participants.

Table 8.1

Session fidelity scores

	Total score %
Participant 1	94
Participant 2	100
Participant 3	94
Participant 4	96
Participant 5	96
Participant 6	94

8.3. Reflections on the intervention's content and recommendations for future use

As an intervention, it was found that the five-session structure overall worked well, and that much was able to be achieved within the time. However, a lot of content was packed

into the five sessions and timings often felt tight, with sessions often over-running slightly. Indeed, the most common reason for fidelity marks being lost was due to only partially or not completing session summaries due to running out of time. To this extent, it may be that additional or slightly longer sessions would help in future.

It was found that session one worked well as an initial assessment and setting of the timeline task and all participants found the task of completing the timeline for homework manageable. Session two's task of reviewing the timeline tended to take more time than planned due to the rich histories presented in session and the tendency of participants to want to reflect in detail on events. Future interventions may want to bear this in mind, along with the challenge of respecting an individual's timeline whilst maintaining focus on the structured techniques of utilising its information. Session two's tasks of reflecting on past events to recognise resilience and develop self-acceptance were found to be effective (as indicated in the data analysis) and meaningful for individuals, and so an additional session or half session focused on this might be desirable.

Whilst participants found the process of exploring their past to be helpful overall, some participants commented on the emotional difficulty of reflecting on past difficult events and how this could lead to a temporary lower mood, whilst they engaged in a cognitive struggle with autobiographical material. Such mixed emotions are to be expected and may also be considered an inevitable part of clinical change, as predicted by the dialectical nature of wisdom and the nature of dealing with difficult past experiences. All participants tolerated the intervention and no risk issues emerged; however, this is important for clinicians to keep in mind when delivering the intervention.

It was noted that sessions three and four were the most challenging to deliver, due to their shift into focusing on using past wisdom to elicit behavioural change. Behavioural change is often the most challenging part of CBT interventions and so an additional session

that focused on behavioural change, allowing more time to put techniques into practice and monitor results would be beneficial. Session five worked well as an overall reflection on progress and so would be recommended to keep as delivered.

8.4. Feasibility and acceptability of intervention

This study indicates that the CBT wisdom enhancement timeline technique is a feasible and acceptable intervention. All participants completed all five sessions of the intervention within the planned four-week period. No risk issues or adverse events developed over the course of the intervention, indicating that it is safe and well tolerated.

8.6. Additional strengths and limitations of study

There are many strengths to this study. First, it was a study of a novel technique not tested anywhere before. It used a robust methodological design which allowed for detailed measurements of participants undertaking the intervention, as well as detailed measures to ensure the consistency of delivery across participants. In addition, it used a variety of data analysis techniques to help make sense of the data and in particular, the combination of both standardised and idiographic measures to consolidate findings and to add some control for potential non-intervention effects.

Further limitations of the study include its small sample size, which was also predominately female, and so limiting generalisability. This is of course typical of a single-case design studies and so more robust conclusions on the intervention's effectiveness are likely to be determined by larger scale studies. As mentioned in Chapter 5, having all study activities and therapy completed by the same individual means that there is a risk of extra therapy effects occurring during the initial meeting or contacts during baseline phase, which cannot be completely ruled out. In addition, the intervention is a technique taken out of context of a broader protocol and so a desirable next step might be to measure the technique when delivered as part of a full CBT protocol for older adults.

8.7. Additional clinical and theoretical implications of intervention

The intervention was found to be effective in reducing depression for the majority of participants. Although this is clearly not the effect on all participants in this study, further development of the tool may result in enhanced outcomes. Nonetheless it warrants continued use as part of a larger protocol of CBT for older adults and further research in larger studies. That there was variation in outcomes for participants may simply indicate that the intervention may be more effective for some individuals than others, but for reasons not measured in this study.

This author knows of no trial of CBT with older adults where the wisdom enhancement technique is specifically identified as part of the protocol and so this study provides a unique examination of a clinical tool which is theorised to utilise wisdom-based psychology in traditional cognitive behavioural frameworks for older adults.

Whilst this study indicated that this technique can be effective in reducing depression, via a wisdom-based approach, it has not necessarily demonstrated that wisdom is the key mechanism of change. However, determining this is difficult due to the complexity of defining and measuring wisdom.

Chapter 9: Thesis Portfolio Conclusions and Appraisal

9.1. Summary of portfolio

This thesis portfolio aimed to develop understandings on wisdom and posttraumatic growth (PTG) in older people. It was theorised at the start that these concepts might help develop understandings of their utility for Clinical Psychology to enhance psychological wellbeing in older adults, consistent with theories of psychological development in later life. Two studies were conducted. First, a systematic review examining the evidence for PTG in older adults identified and reviewed 14 studies that explicitly explored this. It highlighted specific factors relating to older adults that may need to be taken into consideration when understanding the nature of PTG in this population, as well as avenues for further research. Secondly, a clinical trial, utilising a multiple baseline single case experimental design with six participants, tested a CBT wisdom enhancement timeline technique for depression in older adults. Results demonstrated promising utility for the technique, which utilises wisdom-based principles in a cognitive-behavioural framework for reducing depression symptoms.

9.2. Theoretical and clinical implications of portfolio

Both studies help demonstrate that meaning-making processes that promote growth from past experiences are clinically relevant for older adults experiencing the effects of trauma or depression and indicate that this is a field of study worth exploring further and developing. Wisdom and PTG can be understood as both processes and outcomes, and clinical settings theoretically provide good frameworks to help develop them. Studies such as Knaevelsrud et al. (2014) indicate that psychological interventions such as narrative or CBT based interventions for PTSD can lead to increased PTG, and that CBT's focus on cognitive restructuring and taking a meta-cognitive stance are likely to be important facilitators. However, more research is needed to understand the conditions under which CBT is likely to

foster PTG (Tedeschi et al., 2018). Interestingly, Tedeschi et al. (2018) argue that PTG is often a naturally occurring process, and that rather than specific interventions, 'expert companionship' often with non-professionals can be effective in facilitating the growth process. However, many older people may lack the social support in order to facilitate this.

Perhaps another reason for the lack of crossover between the psychology of wisdom and Clinical Psychology lies in an interesting tension between the ideological nature of wisdom, and indeed PTG, and a traditionally diagnostic field of Clinical Psychology. Both wisdom and PTG can be said to relate to eudaimonic well-being (EWB), which is associated with personal meaning and growth, as opposed to hedonic well-being (HWB) which is associated with, happiness and depression; with studies showing that they are only modestly associated (Ryff & Keyes, 1995). In this way, for some conditions, such as physical pain, EWB may be maintained despite a loss of HWB (C. H. Phelan & Heidrich, 2007; Segerstrom, Eisenlohr-Moul, Evans, & Ram, 2015). Such notions clearly fit with the afore-described process of ageing, where psychological growth can occur despite physical declines.

Both wisdom and PTG are concerned not necessarily with symptom reduction, but in psychological health, growth and transformation. This may not be largely compatible with diagnostic assumptions about psychological disorders, symptomology and pathology in many mental health settings (National Institute for Health and Care Excellence, 2009, 2011). However, with the increasing rise of positive psychology models (Seligman & Peterson, 2003; Wood & Tarrier, 2010) there are signs of a paradigm shift in viewing psychological wellbeing, meaning that now is an opportune time to be studying the clinical implications for wisdom.

Interestingly, there are also signs of this convergence occurring from the wisdom literature. Kunzmann and Glück (2019) have recently called for an 'emotional revolution' in wisdom research, in which they argue that emotional factors and processes are as equally

important for wisdom as the more typically studied cognitive and reflective factors. Key to this is a functional approach to emotions; that is all emotions, even those that may be considered as negative, can be seen as having an adaptive function in human development and so have value in being experienced within certain contexts. This has led to integrating key positive emotions such as curiosity and compassion into wisdom, and challenging some models of wisdom e.g. Ardelt (2003), which have excluded negative emotions. This notion finds common ground in the theoretical approaches of third wave cognitive behavioural therapies, such as Acceptance and Commitment Therapy (ACT) which have begun to be studied and have promising results in older adults with depression (Davison, Eppingstall, Runci, & O'Connor, 2017; Petkus & Wetherell, 2013). One might envision a wisdom based approach to CBT that goes beyond the normal utilisation of cognitive and affective regulation skills for changing behaviour and managing individual distress, to one that more actively develops cognitive and affective competencies for dealing with complex and difficult situations that have the capacity to lead to psychological distress. As Laidlaw states about his technique, "in this way, wisdom enhancement in CBT has the potential for improving quality of life of clients beyond symptom reduction" (Laidlaw, 2014, p. 146).

It was once argued that wisdom was hard earned through a lifetime of experiences and struggle with meaning in later life (Erikson, 1982; Webster, 2007). However, normative development suggests that wisdom is something that can be attainable as part of a successful ageing process. This portfolio indicates that whilst mental health difficulties and later life stressors may challenge this growth, Clinical Psychology and psychological interventions can provide a valuable role in supporting and utilising the growth process, to support older adults along the way to successful ageing and greater wellbeing.

9.3. Suggestions for further research

There are a wealth of directions for future research. Most directly, further studies examining PTG in older adults and with the CBT wisdom enhancement timeline technique, as described in chapters 2 and 5/7 are desirable. Clearly there are many more questions to be answered, particularly around the links between wisdom and mental health and the value of integrating these ideas into clinical interventions for the older adult population. For example, questions arise as to the generalisability of these findings, such that more research with novel techniques is warranted. It would also be important to understand how other factors might influence how individuals can use wisdom in clinical settings. For example Glück, Bluck, and Weststrate (2019) argue that within the *MORE life experience* model of wisdom, individuals are more likely to gain wisdom-related insights from life challenges when they possess specific resources, such as reflectivity, openness to ideas, ability to manage uncertainty and emotional competencies. Understanding these and wisdom processes within clinical settings and in older adults with depression or anxiety is therefore of interest. Finally, it has been consistently claimed that both wisdom and PTG require an interdisciplinary approach to research and so those researching in this field may be wise to take such an approach.

9.4. Author's reflections on work completed during the thesis portfolio

There are a number of strengths about this thesis portfolio's line of enquiry. Firstly, it is a relatively novel and timely topic to be investigating and so actively contributes to an emerging literature. In addition, two studies were successfully delivered within the expected time frame. Given the predominately individual nature of conducting this research (being responsible for study design, ethical approvals, recruitment, trial management, delivering of the intervention and analysis), this now feels like a particularly ambitious, yet significant achievement.

However, it is accepted that due to such constraints, a number of compromises needed to be made. For example, an original planned sample size of eight was reduced to six and longer follow ups were not feasible. In addition, it would have been ideal to have included a qualitative study of participants' experiences of the intervention, following completion, in order to better understand their responses to the intervention and what kinds of processes may have been involved. Such additions would have helped significantly elevate the findings of this study. It should of course also be noted that delivering a novel intervention requires the therapist to quickly learn the technique's nuances and delivery; such that an initial piloting of the intervention would have also been preferable. Finally, the field of single-case analysis is a complex and often confusing field to navigate. There are a number of additional and exciting statistical techniques that could have been applied to the data set. However, I also found it important to remain aware of the limitations of how much this type of data can reliably conclude.

It is also accepted that the study of older adults is often a problematic area. Not least because of the difficulties in defining older adults; such that varying age cut offs, and the (changing) cultural and social definitions of old age mean that it is often difficult to discern generalisations from research. In particular, this research felt in danger of following some other studies where the older-old (75+) and oldest old (85+) are not suitably represented. In the original conceptualisations of the study, it was thought that testing the intervention specifically with the older-old would be particularly valuable. However, due to the study time pressures the eligibility criteria was relaxed to those aged 60 and over. In the end, all participants who completed the study were aged between 68 and 84.

Overall, the opportunity to work on this portfolio has been a rewarding experience and a valuable training in research processes and, in particular, the delivery of clinical trials. It has also been a welcomed opportunity to simultaneously develop clinical skills. For

example, asking people to talk about their histories in a way that is respectful yet balanced with the focus and structure of the technique was and is a challenging skill to try to master. It was a real privilege to work with all the participants who took part in the study and to hear about their lives. I was impressed by their often-natural tendency to derive compelling wisdom from the past, although now I realise that I should not have been.

The idea of grappling with a theoretical literature as large and diverse as wisdom can certainly feel daunting at first but completing this project has helped show me the value, possibilities and perhaps necessities of integrating Clinicals Psychology research with that of other disciplines.

Whilst an ageing global population has given rise to an increased urgency for public health systems to better meet the health needs of older people, it seems increasingly clear to me that the psychological wellbeing of older people should nonetheless be of interest to all, as it speaks to the natural progress, growth and meaning of all lives.

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Appendix A: Clinical Psychology Review Guidelines for Submission

CLINICAL PSYCHOLOGY REVIEW

TABLE OF CONTENTS

DESCRIPTION

AUTHOR INFORMATION PACK

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Sections

1. SUBMISSION

Authors should kindly note that submission implies that the content has not been published or submitted for publication elsewhere except as a brief abstract in the proceedings of a scientific meeting or symposium.

Once the submission materials have been prepared in accordance with the Author Guidelines, manuscripts should be submitted online at http://www.editorialmanager.com/bjcp

Click here for more details on how to use **Editorial Manager**.

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This journal will consider for review articles previously available as preprints. Authors may also post the submitted version of a manuscript to a preprint server at any time. Authors are requested to update any pre-publication versions with a link to the final published article.

2. AIMS AND SCOPE

The *British Journal of Clinical Psychology* publishes original research, both empirical and theoretical, on all aspects of clinical psychology:

- clinical and abnormal psychology featuring descriptive or experimental studies
- aetiology, assessment and treatment of the whole range of psychological disorders irrespective of age group and setting
- biological influences on individual behaviour
- studies of psychological interventions and treatment on individuals, dyads, families and groups

For specific submission requirements, please view the **Author Guidelines**.

The Journal is catholic with respect to the range of theories and methods used to answer substantive scientific problems. Studies of samples with no current psychological disorder will only be considered if they have a direct bearing on clinical theory or practice.

The following types of paper are invited:

- papers reporting original empirical investigations;
- theoretical papers, provided that these are sufficiently related to empirical data;
- review articles, which need not be exhaustive, but which should give an interpretation of the state of research in a given field and, where appropriate, identify its clinical implications;
- Brief Reports and Comments.

3. MANUSCRIPT CATEGORIES AND REQUIREMENTS

Articles should be no more than 5000 words (excluding the abstract, reference list, tables and figures). Brief reports should not exceed 2000 words and should have no more than one table or figure. Any papers that are over this word limit will be returned to the authors. Appendices are included in the word limit; however online appendices are not included.

In exceptional cases the Editor retains discretion to publish papers beyond this length where the clear and concise expression of the scientific content requires greater length (e.g., explanation of a new theory or a substantially new method). Authors must contact the Editor prior to submission in such a case.

Please refer to the separate guidelines for **Registered Reports**.

All systematic reviews must be pre-registered.

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To submit, login at **https://www.editorialmanager.com/bjcp/default.aspx** and create a new submission. Follow the submission steps as required and submit the manuscript.

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Contributions must be typed in double spacing. All sheets must be numbered.

Cover letters are not mandatory; however, they may be supplied at the author's discretion. They should be pasted into the 'Comments' box in Editorial Manager.

Parts of the Manuscript

The manuscript should be submitted in separate files: title page; main text file; figures/tables; supporting information.

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You may like to use **this template** for your title page. The title page should contain**:**

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ii. A short running title of less than 40 characters;
iii. The full names of the authors;
iv. The author's institutional affiliations where the work was conducted, with a footnote for the author's present address if different from where the work was conducted;

v. Abstract;
vi. Keywords
vii. Data availability statement (see Data Sharing and Data Accessibility Policy);
viii. Acknowledgments.

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Please refer to the journal's Authorship policy in the Editorial Policies and Ethical Considerations section for details on author listing eligibility. When entering the author names into Editorial Manager, the corresponding author will be asked to provide a CRediT contributor role to classify the role that each author played in creating the manuscript. Please see the **Project CRediT** website for a list of roles.

Abstract

Please provide a structured abstract under the headings: Objectives, Methods, Results, Conclusions. For Articles, the abstract should not exceed 250 words. For Brief Reports, abstracts should not exceed 120 words.

Articles which report original scientific research should also include a heading 'Design' before 'Methods'. The 'Methods' section for systematic reviews and theoretical papers should include, as a minimum, a description of the methods the author(s) used to access the literature they drew upon. That is, the abstract should summarize the databases that were consulted and the search terms that were used.

Keywords

Please provide appropriate keywords.

Acknowledgments

Contributions from anyone who does not meet the criteria for authorship should be listed, with permission from the contributor, in an Acknowledgments section. Financial and material support should also be mentioned. Thanks to anonymous reviewers are not appropriate.

Practitioner Points

All articles must include Practitioner Points – these are 2-4 bullet points, following the abstract, with the heading 'Practitioner Points'. These should briefly and clearly outline the relevance of your research to professional practice. (The Practitioner Points should be submitted in a separate file.)

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As papers are double-blind peer reviewed, the main text file should not include any information that might identify the authors.

The main text file should be presented in the following order:

i. Title
ii. Main text
iii. References
iv. Tables and figures (each complete with title and footnotes)
v. Appendices (if relevant)

Supporting information should be supplied as separate files. Tables and figures can be included at the end of the main document or attached as separate files but they must be mentioned in the text.

- As papers are double-blind peer reviewed, the main text file should not include any information that might identify the authors. Please do not mention the authors' names or affiliations and always refer to any previous work in the third person.
- The journal uses British/US spelling; however, authors may submit using either option, as spelling of accepted papers is converted during the production process.

References

References should be prepared according to the *Publication Manual of the American Psychological Association* (6th edition). This means in text citations should follow the author-date method whereby the author's last name and the year of publication for the source should appear in the text, for example, (Jones, 1998). The complete reference list should appear alphabetically by name at the end of the paper. Please note that for journal articles, issue numbers are not included unless each issue in the volume begins with page 1, and a DOI should be provided for all references where available.

For more information about APA referencing style, please refer to the **APA FAQ**.

Reference examples follow:

Journal article

Beers, S. R. , & De Bellis, M. D. (2002). Neuropsychological function in children with maltreatment-related posttraumatic stress disorder. *The American Journal of Psychiatry*, *159*, 483–486. doi:**10.1176/appi.ajp.159.3.483**

Book

Bradley-Johnson, S. (1994). *Psychoeducational assessment of students who are visually impaired or blind: Infancy through high school* (2nd ed.). Austin, TX: Pro-ed.

Internet Document

Norton, R. (2006, November 4). How to train a cat to operate a light switch [Video file]. Retrieved from **http://www.youtube.com/watch?v=Vja83KLQXZs**

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Tables should be self-contained and complement, not duplicate, information contained in the text. They should be supplied as editable files, not pasted as images. Legends should be concise but comprehensive – the table, legend, and footnotes must be understandable without reference to the text. All abbreviations must be defined in footnotes. Footnote symbols: †, ‡, §, ¶, should be used (in that order) and *, **, *** should be reserved for P-values. Statistical measures such as SD or SEM should be identified in the headings.

Figures

Although authors are encouraged to send the highest-quality figures possible, for peer-review purposes, a wide variety of formats, sizes, and resolutions are accepted.

Click here for the basic figure requirements for figures submitted with manuscripts for initial peer review, as well as the more detailed post-acceptance figure requirements.

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For guidelines on editorial style, please consult the **APA Publication Manual** published by the American Psychological Association. The following points provide general advice on formatting and style.

- **Language:** Authors must avoid the use of sexist or any other discriminatory language.
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- **Effect size:** In normal circumstances, effect size should be incorporated.
- **Numbers:** numbers under 10 are spelt out, except for: measurements with a unit (8mmol/l); age (6 weeks old), or lists with other numbers (11 dogs, 9 cats, 4 gerbils).

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Also, check out our resources for **Preparing Your Article** for general guidance and the **BPS Publish with Impact infographic** for advice on optimizing your article for search engines.

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- The Gold Standard Publication Checklist from Hooijmans and colleagues
- FAIRsharing website

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The journal expects that where possible all data supporting the results in papers published are archived in an appropriate public archive offering open access and guaranteed preservation. The archived data must allow each result in the published paper to be recreated and the analyses reported in the paper to be replicated in full to support the conclusions made. Authors are welcome to archive more than this, but not less.

All papers need to be supported by a data archiving statement and the data set must be cited in the Methods section. The paper must include a link to the repository in order that the statement can be published.

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Finally, if submitting authors have any questions about the data sharing policy, please access the **FAQs**for additional detail.

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Authors are reminded that the *British Journal of Clinical Psychology* adheres to the ethics of scientific publication as detailed in the ***Ethical principles of psychologists and code of conduct***(American Psychological Association, 2010). The Journal generally conforms to the

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For help with submissions, please contact: Hannah Wakley, Associate Managing Editor (**bjc@wiley.com**) or phone +44 (0) 116 252 9504

Appendix C: SR Quality Rating Tool

Criteria	Rating guide		
	Score 2 (good)	**Score 1 (acceptable)**	**Score 0 (poor) or not reported**
Selection			
1. Is the sample well defined (e.g. demographics, inclusion criteria, and ≥60 years)?	Yes, well defined	Acceptably defined	Poorly defined
2. Is the sample representative (and non-biased) of the intended study population?	Yes, mainly representative	Somewhat representative	Very limited representative
Study design			
3. Is the setting (e.g. location, time) well described?	Yes, well described	Acceptably described	Poorly described
4. Is enough detail provide about the recruitment strategy?	Yes, good level of detail	Acceptable level of detail	Poor level of detail
5. Were the research aims clear?	Yes, very clear	Somewhat clear	Not clear
6. Were outcomes and measures well described?	Yes, well described	Acceptable described	Poorly described
7. Was there an appropriate sample size calculation?	Yes, appropriate method used	Some consideration made	No consideration
8. What was the total attrition numbers?	Below 10%	10-20%	Over 20%
9. What was the treatment of missing data?	Missing data addressed through appropriate method e.g. ITT / n/a	Some attempts to report and account for missing data	No attempts to report or account for missing data
10. Does the study methodology provide enough information to allow replication?	Good description	Basic description	Poor description
Outcomes			
11. Are any conclusions made justified by the results?	Yes, well justified	Somewhat justified	Not justified
12. Are any findings generalisable?	Yes, widely	Yes, limited	No
13. Does the statistical analysis conducted allow the research question to be answered?	Yes	Somewhat	No
14. Was an appropriate statistical analysis used?	Yes	Somewhat	No
Relevance for review			
15. Is PTG clearly defined?	Yes, well defined	Some definition	Not satisfactorily defined
16. Is the time period since trauma well defined/clearly stated?	Yes, specific time frame given	Only a general time frame given	No time frame given
17. Has a validated measure of PTG been used?	Yes, fully validated	Yes, some validation (e.g. but not in sample language)	Non validated measure used
18. Are any findings specifically interpreted within the context of later life?	Yes, a good level of consideration	Some reference made	No reference made
Comparability (if relevant)			

19. Is any control/matched group appropriately representative/similar to the target group? (Baseline between group comparisons)	Yes, well matched and comparisons made	Acceptably matched but with clear limitations	Not sufficiently described or matched.
Intervention (if relevant)			
20. Is the intervention properly defined or described?	Yes, well described	Acceptably described	Poorly described
21. Has the intervention been standardised across all participants and delivered as intended?	Yes, with evidence	Yes, some attempts made	No attempts made
22. Was there a randomisation process?	Yes, appropriate method described	Yes, but limited description	No / not reported
TOTAL SCORE % OF QUESTIONS ANSWERED			

Appendix D: SR PRSIMA Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	10
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	11
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	12
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	16
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	14
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	16
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	14
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	15
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	16
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	17

Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	17
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	18
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	N/A
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	N/A

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	18,21
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	N/A
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	20
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	24-31
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	55
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	N/A
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	N/A
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	31
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	N/A
DISCUSSION			

Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	31
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	31
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	38
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	46

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: **www.prisma-statement.org**.

Appendix E: Empirical Paper SCRIBE Checklist

The Single-Case Reporting guideline In BEhavioural interventions (SCRIBE) 2016 Checklist

Item number	Reported on page #
TITLE and ABSTRACT	
1 Title Identify the research as a single-case experimental design in the title	p. 73
2 Abstract Summarise the research question, population, design, methods including intervention/s (independent variable/s) and target behaviour/s and any other outcome/s (dependent variable/s), results, and conclusions	p. 78
INTRODUCTION	
3 Scientific background Describe the scientific background to identify issue/s under analysis, current scientific knowledge, and gaps in that knowledge base	p. 75
4 Aims State the purpose/aims of the study, research question/s, and, if applicable, hypotheses	p. 78
METHODS DESIGN	
5 Design Identify the design (e.g., withdrawal/reversal, multiple-baseline, alternating-treatments, changing-criterion, some combination thereof, or adaptive design) and describe the phases and phase sequence (whether determined a priori or data-driven) and, if applicable, criteria for phase change	p. 78
6 Procedural changes Describe any procedural changes that occurred during the course of the investigation after the start of the study	N/A
7 Replication Describe any planned replication	N/A
8 Randomisation State whether randomisation was used, and if so, describe the randomisation method and the elements of the study that were randomized	p. 80
9 Blinding State whether blinding/masking was used, and if so, describe who was blinded/masked	p. 83
PARTICIPANT/S or UNIT/S	
10 Selection criteria State the inclusion and exclusion criteria, if applicable, and the method of recruitment	p. 82
11 Participant characteristics For each participant, describe the demographic characteristics and clinical (or other) features relevant to the research question, such that anonymity is ensured	p. 87
CONTEXT	
12 Setting Describe characteristics of the setting and location where the study was conducted	p. 83
APPROVALS	
13 Ethics State whether ethics approval was obtained and indicate if and how informed consent and/or assent were obtained	p. 84
MEASURES and MATERIALS	

14 Measures Operationally define all target behaviours and outcome measures, describe reliability and validity, state how they were selected, and how and when they were measured	p. 80
15 Equipment Clearly describe any equipment and/or materials (e.g., technological aids, biofeedback, computer programs, intervention manuals or other material resources) used to measure target behaviour/s and other outcome/s or deliver the interventions	N/A
INTERVENTIONS	
16 Intervention Describe intervention and control condition in each phase, including how and when they were actually administered, with as much detail as possible to facilitate attempts at replication	p. 83
17 Procedural fidelity Describe how procedural fidelity was evaluated in each phase	p. 84
ANALYSIS	
18 Analyses Describe and justify all methods used to analyse data	p. 84
RESULTS	
19 Sequence completed For each participant, report the sequence actually completed, including the number of trials for each session for each case. For participant/s who did not complete, state when they stopped and the reasons	p. 86
20 Outcomes and estimation For each participant, report results, including raw data, for each target behaviour and other outcome/s	p. 88
21 Adverse events State whether or not any adverse events occurred for any participant and the phase in which they occurred	p. 86
DISCUSSION	
22 Interpretation Summarise findings and interpret the results in the context of current evidence	p.97
23 Limitations Discuss limitations, addressing sources of potential bias and imprecision	p. 100
24 Applicability Discuss applicability and implications of the study findings	p. 97
DOCUMENTATION	
25 Protocol If available, state where a study protocol can be accessed	p. 84
26 Funding Identify source/s of funding and other support; describe the role of funders	p. 74

Appendix F: HRA Approval Letter

Mr Adam Kadri
Trainee Clinical Psychologist, Postgraduate Research Student
Cambridge and Peterborough NHS Foundation Trust
Elizabeth House
Fulbourne
Cambridge
B21 5EF

Email: hra.approval@nhs.net
Research-permissions@wales.nhs.uk

07 June 2019

Dear Mr Kadri

HRA and Health and Care Research Wales (HCRW) Approval Letter

Study title:	**Does the timeline approach with older adults experiencing depression reduce negative affect, and result in increased self-compassion and wisdom for managing current difficulties? A single case experimental design. Tagline: Can life's experience help counter depression?**
IRAS project ID:	**248358**
Protocol number:	**1**
REC reference:	**19/WS/0076**
Sponsor	**University of East Anglia**

I am pleased to confirm that **HRA and Health and Care Research Wales (HCRW) Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?
HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see IRAS Help for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?
HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to obtain local agreement in accordance with their procedures.

What are my notification responsibilities during the study?

The document "*After Ethical Review – guidance for sponsors and investigators*", issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:

- Registration of research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics, and is updated in the light of changes in reporting expectations or procedures.

Who should I contact for further information?
Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **248358**. Please quote this on all correspondence.

Yours sincerely,
Rekha Keshvara

Approvals Manager

Email: hra.approval@nhs.net

Copy to: *Ms Basia Brown*

List of Documents

The final document set assessed and approved by HRA and HCRW Approval is listed below.

Document	*Version*	*Date*
Copies of advertisement materials for research participants [Study poster / leaflet]	1	09 April 2019
Covering letter on headed paper [Cover Letter]		25 April 2019
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Sponsor company public liability insurance certificate]		07 May 2018
GP/consultant information sheets or letters [Professionals information sheet]	1	09 April 2019
GP/consultant information sheets or letters [Letter to service provider or GP regarding participant involvement in study]	2	24 May 2019
HRA Schedule of Events	2	07 May 2019
HRA Statement of Activities [NSFT SOA]	2	07 May 2019
HRA Statement of Activities [CPFT SOA]	2	07 May 2019
Interview schedules or topic guides for participants [Intervention topic guide+worksheets]	1	12 February 2019
Interview schedules or topic guides for participants [Example study calendar for participant]		
Interview schedules or topic guides for participants [Example Baseline daily measures pack for participant]	1	09 April 2019
Interview schedules or topic guides for participants [Example Intervention period daily measures pack for participant]	1	09 April 2019
IRAS Application Form [IRAS_Form_26042019]		26 April 2019
Letter from sponsor [Letter from sponsor]		26 April 2019
Non-validated questionnaire [Visual analogue scale]	1	09 April 2019
Non-validated questionnaire [Change Interview Questionnaire]	1	09 April 2019
Other [Email - justification for student being CI]	N/A	30 April 2019
Participant consent form [Consent to contact form]	1	09 April 2019
Participant consent form [Participant Consent Form]	2	24 May 2019
Participant information sheet (PIS) [Participant Information Sheet]	2	24 May 2019
Research protocol or project proposal [Study Protocol]	1	09 April 2019
Summary CV for Chief Investigator (CI) [Chief investigator (Adam Kadri) CV]	1	25 January 2019
Summary CV for student [Student / CI research CV (Adam Kadri)]	1	25 January 2019
Summary CV for supervisor (student research) [Academic supervisor CV (Adrian Leddy)]	1	25 January 2019
Summary CV for supervisor (student research) [Academic supervisor CV (Fergus Gracey)]	1	25 January 2019
Summary of any applicable exclusions to sponsor insurance (non-NHS sponsors only) [Sponsor Professional Negligence Insurance certificate]		07 May 2018
Validated questionnaire [Patient Health Questionnaire-9 item]		
Validated questionnaire [Geriatric Anxiety Scale - 10 item]		
Validated questionnaire [Self Compassion Scale]		
Validated questionnaire [Self assessed wisdom scale (SAWS)]		

IRAS project ID	248358

Information to support study set up

The below provides all parties with information to support the arranging and confirming of capacity and capability with participating NHS organisations in England and Wales. This is intended to be an accurate reflection of the study at the time of issue of this letter.

Types of participating NHS organisation	Expectations related to confirmation of capacity and capability	Agreement to be used	Funding arrangements	Oversight expectations	HR Good Practice Resource Pack expectations
There is one type of participating NHS organisation; activities will be the same at all organisations.	Research activities should not commence at participating NHS organisations in England or Wales prior to their formal confirmation of capacity and capability to deliver the study.	A statement of activities has been submitted and the sponsor is not requesting and does not expect any other site agreement to be used.	As per the statement of activities, there are no funds being provided to the sites by the sponsor.	A Principal Investigator is expected to be in place at Cambridgeshire and Peterborough NHS Foundation Trust as all site activities will be carried out by the employees of the participating NHS site. A Local Collaborator is expected to be in place for Norfolk and Suffolk NHS Foundation Trust.	Use of identifiable patient records held by an NHS organisation to identify potential participants should be undertaken by a member of the direct care team for the patient, so it would not normally be acceptable for this to be done by staff not employed by that organisation. A Letter of Access (or equivalent) would be expected for any external NHS/research staff undertaking all of the other activities for the study once consent from the participant is in place. The pre-engagement checks should include a standard DBS check and Occupational Health Clearance.

Other information to aid study set-up and delivery

This details any other information that may be helpful to sponsors and participating NHS organisations in England and Wales in study set-up.
The applicant has indicated that they do not intend to apply for inclusion on the NIHR CRN Portfolio.

Appendix G: REC Approval Letter

WoSRES
West of Scotland Research Ethics Service

NHS
Greater Glasgow and Clyde

REVISED – IRAS APPLICATION FORM OMITTED FROM DOCUMENTS LIST

Mr Adam Kadri
Trainee Clinical Psychologist
Postgraduate Research Student
Cambridge and Peterborough NHS Foundation Trust
Elizabeth House
Fulbourne
Cambridge
B21 5EF

West of Scotland REC 5
West of Scotland Research Ethics Service
West Glasgow Ambulatory Care Hospital
Dalnair Street
Glasgow
G3 8SJ

Date 07 June 2019

Direct line 0141 232 1809
E-mail WoSREC5@ggc.scot.nhs.uk

Please note: This is the favourable opinion of the REC only and does not allow you to start your study at NHS sites in England until you receive HRA Approval

Dear Mr Kadri

Study title:	**Does the timeline approach with older adults experiencing depression reduce negative affect, and result in increased self-compassion and wisdom for managing current difficulties? A single case experimental design. Tagline: Can life's experience help counter depression?**
REC reference:	**19/WS/0076**
Protocol number:	**1**
IRAS project ID:	**248358**

The Research Ethics Committee reviewed the above application at the meeting held on 15 May 2019. Thank you for attending to discuss the application by telephone.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this favourable opinion letter. The expectation is that this information will be published for all studies that receive an ethical opinion but should you wish to provide a substitute contact point, wish to make a request to defer, or require further information, please contact hra.studyregistration@nhs.net outlining the reasons for your request. Under very limited circumstances (e.g. for student research which has received an unfavourable opinion), it may be possible to grant an exemption to the publication of the study.

Ethical opinion

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below.

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Number	Condition
1	In the Confidentiality section of the PIS, it should be clearly stated that the researchers will inform the participant's GP about their involvement in the study with their specific consent. An additional statement giving this specific consent should also be added to the Consent form. (Standard wording can be found on the HRA guidance for Consent website at http://www.hra-decisiontools.org.uk/consent/index.html)
2	Also, the GP letter should be revised so that it states a copy of the PIS is included for their information.
3	In the first line of page 2 of the Participant Information sheet, a break, such as "Visit 1" should be inserted before "This meeting may take up to 45 minutes…" as the sentence before is about the initial telephone call but the following sentence is about the first visit.

Recommendations:

Number	Recommendation
1	It is recommended that the applicant seeks the advice of a professional statistician.

You should notify the REC once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. Revised documents (with tracked changes) should be submitted to the REC electronically from IRAS. The REC will acknowledge receipt and provide a final list of the approved documentation for the study, which you can make available to host organisations to facilitate their permission for the study. Failure to provide the final versions to the REC may cause delay in obtaining permissions.

Management permission must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for HRA and HCRW Approval (England and Wales)/ NHS permission for research is available in the Integrated Research Application System, at www.hra.nhs.uk or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations.

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database. This should be before the first participant is recruited but no later than 6 weeks after recruitment of the first participant.

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to request a deferral for study registration within the required timeframe, they should contact hra.studyregistration@nhs.net. The expectation is that all clinical trials will be registered, however, in exceptional circumstances non registration may be permissible with prior agreement from the HRA. Guidance on where to register is provided on the HRA website.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Ethical review of research sites

NHS Sites

The favourable opinion applies to all NHS sites taking part in the study taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non NHS sites

The Committee has not yet completed any site-specific assessment(s) (SSA) for the non-NHS research site(s) taking part in this study. The favourable opinion does not therefore apply to any non-NHS site at present. I will write to you again as soon as an SSA application(s) has been reviewed. In the meantime no study procedures should be initiated at non-NHS sites.

Approved documents

The documents reviewed and approved at the meeting were:

Document	*Version*	*Date*
Copies of advertisement materials for research participants [Study poster / leaflet]	1	09 April 2019
Covering letter on headed paper [Cover Letter]		25 April 2019
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Sponsor company public liability insurance certificate]		07 May 2018
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Interview schedules or topic guides for participants [Example Baseline daily measures pack for participant]	1	09 April 2019
Interview schedules or topic guides for participants [Example Intervention period daily measures pack for participant]	1	09 April 2019
Interview schedules or topic guides for participants [Example study		

calendar for participant]		
IRAS Application Form		26 April 2019
Letter from sponsor [Letter from sponsor]		26 April 2019
Non-validated questionnaire [Visual analogue scale]	1	09 April 2019
Non-validated questionnaire [Change Interview Questionnaire]	1	09 April 2019
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Participant consent form [Consent to contact form]	1	09 April 2019
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Summary CV for Chief Investigator (CI) [Chief investigator (Adam Kadri) CV]	1	25 January 2019
Summary CV for student [Student / CI research CV (Adam Kadri)]	1	25 January 2019
Summary CV for supervisor (student research) [Academic supervisor CV (Adrian Leddy)]	1	25 January 2019
Summary CV for supervisor (student research) [Academic supervisor CV (Fergus Gracey)]	1	25 January 2019
Summary of any applicable exclusions to sponsor insurance (non-NHS sponsors only) [Sponsor Professional Negligence Insurance certificate]		07 May 2018
Validated questionnaire [Patient Health Questionnaire-9 item]		
Validated questionnaire [Geriatric Anxiety Scale - 10 item]		
Validated questionnaire [Self Compassion Scale]		
Validated questionnaire [Self assessed wisdom scale (SAWS)]		

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The HRA website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the

feedback form available on the HRA website: http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/

HRA Learning

We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities– see details at: https://www.hra.nhs.uk/planning-and-improving-research/learning/

19/WS/0076	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project.

Yours sincerely

for
Dr Stewart Campbell
Chair

Enclosures:	List of names and professions of members who were present at the meeting and those who submitted written comments
	"After ethical review – guidance for researchers"
Copy to:	Ms Basia Brown, University of East Anglia
	Lead Nation - England: HRA.Approval@nhs.net

Appendix H: CPFT R&D Approval Letter

Cambridgeshire and Peterborough NHS
NHS Foundation Trust

Understanding mental health, understanding people

Research and Development Department

Joint Research Office
Box 277
Addenbrooke's Hospital
Hills Road
Cambridge
CB2 0QQ

Direct Dial: 01223 256407 ext 256407
E-mail: mary-beth.sherwood@cpft.nhs.uk
www.cpft.nhs.uk

R&D ref: M00941

Mr Adam Kadri
University of East Anglia

24 June 2019

Dear Mr Adam Kadri

IRAS ID: 248358
Does the timeline approach with older adults experiencing depression reduce negative affect, and result in increased self-compassion and wisdom for managing current difficulties? A single case experimental design. Tagline: Can life's experience help counter depression?
REC Ref: 19/WS/0076

Thank you for sending details of the above named study.

The R&D department has received the HRA Approval letter and reviewed the study documents. The project has been allocated the internal R&D reference number of **M00941**. Please quote this in all future correspondence regarding this study.

Capacity and capability to conduct this study at Cambridgeshire & Peterborough NHS Foundation Trust is confirmed.

We would like to take this opportunity to remind you of your responsibilities under the terms of the Research Governance Framework for Researchers, Chief Investigators, Principal Investigators and Research Sponsors and to also of the requirement to notify R&D of any amendments or changes made to this study.

You will be aware that the Trust is subject to national reporting requirements for first patient recruitment within 70 days. Further details on this can be found on the NIHR website:
http://www.nihr.ac.uk/policy-and-standards/faster-easier-clinical-research.htm
If you have any questions or concerns about this, please contact me.

I wish you every success with this study.

Yours sincerely

Stephen Kelleher
Senior R&D Manager

Carbon Copy: Dr Anna E Forrest

Appendix I: NSFT R&D Approval Letter

Dear Adam,

RE: IRAS 222833 - Confirmation of Capacity and Capability at NORFOLK AND SUFFOLK NHS FOUNDATION TRUST

Full Study Title: Does the timeline approach with older adults experiencing depression reduce negative affect, and result in increased self-compassion and wisdom for managing current difficulties? A single case experimental design. Tagline: Can life's experience help counter depression?

This email confirms that NORFOLK AND SUFFOLK NHS FOUNDATION TRUST has the capacity and capability to deliver the above referenced study. Please find attached signed statement of activities and a letter of access.

Please note the target to consent the first participant for NSFT in the study is **Thursday 25th July 2019.**

If you have any further queries please let me know.

Kind regards
Tom

Tom Rhodes
Senior Research Facilitator
Research and Development
Norfolk and Suffolk NHS Foundation Trust

01603 421552 (x6552)
tom.rhodes@nsft.nhs.uk

The Knowledge Centre, Hellesdon Hospital,
Drayton High Road, Norwich, NR6 5BE

Appendix J: NSFT Letter of Access

NHS
Norfolk and Suffolk
NHS Foundation Trust

Research and Development
The Knowledge Centre
Hellesdon Hospital
Drayton High Road
Norwich
NR6 5BE

Telephone 01603 421255
E mail: RDofficemailbox@nsft.nhs.uk

Adam Kadri
Department of Clinical Psychology
University of East Anglia
Norwich Research Park
Norwich
NR4 7TJ

26th June 2019

Dear Adam,

Re: NSFT Letter of Access for research - RD #19 248358 Does the timeline approach with older adults experiencing depression reduce negative affect, and result in increased self-compassion and wisdom for managing current difficulties? A single case experimental design. Tagline: Can life's experience help counter depression?

As an existing NHS employee you do not require an additional honorary research contract with this NHS organisation. We are satisfied that such checks as are necessary have been carried out by your employer and that the research activities that you will undertake in this NHS organisation are commensurate with the activities you undertake for your employer. This letter confirms your right of access to conduct research through Norfolk and Suffolk NHS Foundation Trust for the purpose and on the terms and conditions set out below. This right of access commences on **26th June 2019** and ends on **1st October 2020**, unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

You are considered to be a legal visitor to Norfolk and Suffolk NHS Foundation Trust premises. You are not entitled to any form of payment or access to other benefits provided by this organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through Norfolk and Suffolk NHS Foundation Trust, you will remain accountable to your employer Cambridge and Peterborough NHS Foundation Trust but you are required to follow the reasonable instructions of your nominated manager Bonnie Teague, Research Manager, in this NHS organisation or those given on her behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with Norfolk and Suffolk NHS Foundation Trust policies and procedures, which are available to you upon request, and the Research Governance Framework.

You are required to co-operate with Norfolk and Suffolk NHS Foundation Trust in discharging its duties under the Health and Safety at Work etc Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on Norfolk and Suffolk NHS Foundation Trust premises. Although you are not a contract holder, you must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of a contract holder and you must act appropriately, responsibly and professionally at all times.

You are required to ensure that all information regarding patients or staff remains secure and *strictly confidential* at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice (http://www.dh.gov.uk/assetRoot/04/06/92/54/04069254.pdf) and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

Norfolk and Suffolk NHS Foundation Trust will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the premises you wear your ID badge at all times, or are able to prove your identity if challenged. Please note that this NHS organisation accepts no responsibility for damage to or loss of personal property.

Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

We may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the interests and/or business of this NHS organisation or if you are convicted of any criminal offence. Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

If your circumstances change in relation to your health, criminal record, professional registration or any other aspect that may impact on your suitability to conduct research, or your role in research changes, you must inform the NHS organisation that employs you through its normal procedures. You must also inform your nominated manager in this NHS organisation.

Yours sincerely

Bonnie Teague
Research Manager

Appendix K: Participant Information Sheet

Cambridgeshire and Peterborough NHS Foundation Trust

University of East Anglia

Norwich Medical School
Norwich
NR4 7TJ

Participant Info Sheet v2: 24/05/2019
Study IRAS ID: 248358

Participant Information Sheet

Title of Research Project:

Can life's wisdom help counter depression? Evaluating the CBT timeline approach for older adults with depression.

Chief Researcher: Adam Kadri (Trainee Clinical Psychologist, UEA)

Research supervisors: Dr Adrian Leddy (Clinical Psychologist, UEA), Dr Fergus Gracey (Clinical Psychologist, UEA)

Invitation
We would like to invite you to take part in the above study. Before you decide whether to take part it is important that you understand why the research is being done and what this study will involve. Please take time to read the following information carefully and discuss it with relatives and friends if you wish. You can also contact us if anything is not clear or if you would like further information. Part 1 tells you about the study and Part 2 gives additional information.

The study is being carried out by Adam Kadri, Clinical Psychologist in training, working in the Cambridge and Peterborough NHS Foundation Trust, and as part of a Doctorate in Clinical Psychology at the University of East Anglia (UEA). Please feel free to contact Adam if you have any questions after reading this information sheet.

Part 1: Study Information

What is the purpose of this study?
We want to investigate in detail a psychological therapy technique to improve mood in older people. Specifically, we shall examine how 'wisdom' in older people may help them deal with their current difficulties. This technique is currently recommended within cognitive behavioural therapy (CBT) for older people, which has been proven to be helpful for those experiencing low mood. However, this technique has not been specifically tested. This study will help understand how this technique works and if it is effective.

Why have I been invited?
Because you are currently on a waiting list for psychological therapy for experiencing low mood. You have been selected by your service's clinicians because you are likely to meet the criteria for this study. No details have been given to the research team and will not be given without your permission.

Do I have to take part?
No. It is up to you to decide whether or not to take part, and your involvement with the service will not be affected in any way by your decision. If you do decide to take part, you are free to withdraw at any time without giving a reason.

What will happen to me if I take part?
You will be given a series of therapeutic sessions aimed to help improve your mood and develop skills for coping with your current difficulties.

Firstly, you will have an initial phone call with a researcher to tell you a bit more about the study. Then if you are interested, the researcher will meet with you for an initial meeting to discuss the study in more detail and ask you if you are happy to proceed.
During this initial meeting (visit 1) you will be asked to complete a short 5 minute questionnaire about your mood to make sure you are eligible. This initial meeting may take up to 45 minutes and can take place either in the NHS or at your home, depending on your preference. If you are happy to take part and have no further questions, you will sign a consent form, which documents your involvement.

You will be asked to be involved in the study for between 6 and 8 weeks. The exact amount of time will depend on which group you are randomly placed in, and the researcher will not know this until you agree to take part. For the first 2, 3 or 4 weeks, you will be asked to complete some standard questionnaires about your mental health wellbeing, in your own time at home. You will be asked to complete some of these questions just a few times, and some every day. These questionnaires will be short and take between 2-10 minutes to complete. Most days it will only take 2 minutes. You will be offered a weekly phone call to see how you are doing with these.

You will then be asked to attend 5 weekly talking therapy sessions with a trainee clinical psychologist, lasting one hour each. During these sessions, you will be asked to create a timeline of key events in your life and discuss this together in a structured way. Your therapist will guide you on how to do this.

You will also be asked to complete some short worksheets inbetween sessions and think about how you can manage your current difficulties differently. This therapy is adapted from the current guidelines for CBT with older people. It is hoped that this will lead you to feeling better about yourself. These sessions can be arranged at a time convenient to you and take place either in the NHS or in your own home, depending on what you prefer.

Finally, you will be asked to complete one more set of questionnaires 1 month after the end of therapy and post this back to the researcher. This will help us to evaluate if the technique has helped.

Stage	What will happen?	Time taken
1.	**Initial phone call**	15 minutes
2.	**Initial meeting** Meet with Adam, at either an NHS site or your home, to discuss the study in more detail. If you want to take part and you are eligible, sign consent forms and complete first set of questionnaires.	Up to 45 minutes on one day

3.	**First 2, 3 or 4 weeks: complete daily questionnaires** You will be asked to complete short daily questions about yourself, in your own time at home.	2-10 minutes every day for between 2 and 4 weeks
4.	**Meet for therapy** Meet with the Adam for therapy sessions. This can be at an NHS building or in your own home depending on preference.	1 hour a week for 5 weeks
	Continue completing daily questions.	2-10 minutes a day
	Complete any inbetween session worksheets.	30 minutes a week
5.	**Post back final set of questionnaires** 1 month later, you will be asked to post some final questionnaires back to the study team.	30 minutes on one day

If you choose to take part, you will therefore need to be available to attend all therapy sessions and complete the short questionnaires on a daily basis (2-10 minutes a day). Completing the questionnaires will require only a basic level of literacy.

Will taking part in the study affect my current treatment?
Taking part in this study will be completely separate to your healthcare and will not affect any treatment you would otherwise receive. If you choose to take part in the study we will ask that you do not start any new treatment for your mood during the 6-8 weeks of the study. This means carrying on with any treatment you are currently stable on (such as medication that has been stable for three months or self-help), but not starting any NHS offered talking therapy or medication to help with low mood/depression.

This is so we can see whether any positive effects are due to the study and not due to any other treatment. During this time you will, however, remain on your current waiting list. You will be able to resume any other treatment offered after completing the study. If you have any concerns about this please discuss this with the researcher and your healthcare service.

What are the possible disadvantages and risks of taking part?
We do not expect this study to be upsetting, but it is possible that talking about your life may bring up some difficult feelings for you. If taking part brings up difficult feelings, you will be able to discuss these with the trainee clinical psychologist, who is trained and experienced to help in these situations.

They will also be able to direct you to other sources of support if you feel this is necessary. It is generally found that talking about such difficulties is helpful, however you will not be forced to talk about things you do not want to. You will always be free to withdraw from the study at any point. Your mental health service provider will be aware of your involvement.

What are the possible benefits of taking part?
Whilst we cannot guarantee that the study will be helpful for you, we hope that receiving the therapy will result in your mood improving and you feeling better about coping with your current difficulties. The findings from the study will also help to further develop ways for helping others.

Part 2: Additional Information

What personal information will I be asked to give?
If you are happy to take part in the study, we will ask you to give us your name, date of birth, telephone number and address so that we can contact you. These details will be deleted once you finish taking part.

Will my taking part in the study be kept confidential?

Your involvement in the study will be confidential and you will not be identified in any report or publication. All questionnaires will be anonymous and will not include your name or any other personal details. Any personal details collected about you for the study will be kept in a secure locked location during the study and deleted afterwards. If you decide to take part, your mental health care provider will be informed, and a record of your involvement will be kept on your healthcare records. We will also inform your GP about your involvement in the study with your specific consent.

If the researcher has significant concerns about your wellbeing or of harm to yourself, they may have to break confidentiality and some information may be disclosed to relevant persons. However, they will always discuss this with you first if possible.

We will ask that the five therapy sessions be audio recorded by the researcher, so that they can make sure the sessions are consistent for everyone. These audio recordings will be kept securely on a password protected memory stick and only listened to by the research team.

The NHS will collect information from you and your medical records for this research study in accordance with our instructions. The NHS will keep your name, NHS number contact details confidential and will not pass this information to UEA. The NHS will use this information as needed, to contact you about the research study, and make sure that relevant information about the study is recorded for your care, and to oversee the quality of the study. Certain individuals from UEA and regulatory organisations may look at your medical and research records to check the accuracy of the research study. UEA will only receive information without any identifying information. The people who analyse the information will not be able to identify you and will not be able to find out your name, NHS number or contact details.

What if there is a problem?
Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. If you have a concern about any aspect of this study, you should ask to speak to Prof Niall Broomfield (Head of Department of Clinical Psychology), contact details at the end of this form, who will do their best to answer your questions. If you remain unhappy and wish to complain formally about any aspect of the way you have been approached or treated during the course of the study, you may contact the Research Governance Sponsor of this study, UEA. Please write to the address at the top of this form quoting the study title. UEA has relevant insurance for the research study.

What will happen to the results of the research study?
We intend to publish results in a journal and possibly present them at a conference. Please tell the researcher if you would like a copy of any publications and we would be happy to send them to you when they are published. You will not be identified in any report or publication. Some information gathered may also be used in future research studies.

Who is organizing and funding the research?

Adam Kadri is organising the research with the assistance of his academic supervisors at the University of East Anglia. The university is funding the research. The research is not funded by a grant.

UEA is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. UEA will keep identifiable information about you for 10 years after the study has finished. Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally-identifiable information possible. You can find out more about how we use your information by contacting dataprotection@uea.ac.uk

Who has reviewed the study?
All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee (REC), to protect your interests. This proposal was reviewed by West of Scotland REC 5.

Who do I contact for further information or if I would like you take part?
Please contact Adam for further information and if you would like to take part.

Contact details

Adam Kadri (Chief Investigator)
Email:
Tel:

Adrian Leddy (Primary Supervisor)
Email:

UEA Contact details for complaints procedure:
Prof Niall Broomfield (Head of Department of Clinical Psychology)

Email:
Tel:
Address: Norwich Medical School, University of East Anglia, Norwich Research Park, Norwich, Norfolk, NR4 7TJ

Thank you.

Appendix L: Consent to Contact Form

University of East Anglia
Norwich Medical School
Norwich
NR4 7TJ

NHS Cambridgeshire and Peterborough NHS Foundation Trust

Part Consent to Contact Form v1: 09/04/2019
Study IRAS ID: 248358

Consent to Contact Form

Title of Project:

Can life's wisdom help counter depression? Evaluating the CBT timeline approach for older adults with depression.

Chief Researcher: Adam Kadri (Trainee Clinical Psychologist, UEA)

Research supervisors: Dr Adrian Leddy (Clinical Psychologist, UEA), Dr Fergus Gracey (Clinical Psychologist, UEA)

Please **initial** both boxes

1. I would like to register my interest in the above study. By completing the details below, I am consenting to the chief researcher contacting me to provide further information. I understand that this does not in any way commit me to taking part in the study. ☐

2. I understand that my contact details will be kept confidential and handled in line with the Data Protection Act 2018. My details will not be passed on to any other research team or for any other studies. ☐

Name: _____

Age: _____

Please contact me on:

- Phone (home): _____
- Phone (other): _____
- Email: _____

Useful information: (e.g. best times of availability)

_____

_____

Thank you.

Appendix M: Consent Form

University of East Anglia
Norwich Medical School
Norwich
NR4 7TJ

Cambridgeshire and Peterborough NHS Foundation Trust

Participant Consent Form v2: 24/05/2019
Study IRAS ID: 248358

Participant Consent Form

Participant Identification Number:

Title of Research Project:

Can life's wisdom help counter depression? Evaluating the CBT timeline approach for older adults with depression.

Chief Researcher: Adam Kadri (Trainee Clinical Psychologist, UEA)

Research supervisors: Dr Adrian Leddy (Clinical Psychologist, UEA), Dr Fergus Gracey (Clinical Psychologist, UEA)

Please **initial** all boxes

1. I confirm that I have read the information sheet dated 24/05/2019 (version 2) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected. I also understand that withdrawing from the study will not affect my current or future treatment. ☐
3. I agree for therapy sessions to be audio recorded. I understand that recordings will be kept on secure encrypted devices and only listened to by the research team. ☐
4. I agree to my mental health care provider being informed of my participation in the study, and my involvement being recorded in my records there. ☐
5. I agree to my General Practitioner being informed of my participation in the study. ☐
6. I agree to take part in the above study. ☐

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Name of Person taking consent	Date	Signature

Appendix N: Professionals Information Sheet

University of East Anglia
Norwich Medical School
Norwich
NR4 7TJ

Cambridgeshire and Peterborough NHS Foundation Trust

Professionals Info v1: 09/04/2019
Study IRAS ID: 248358

Professionals Information Sheet

Title of Research Project:

Can life's wisdom help counter depression? Evaluating the CBT timeline approach for older adults with depression.

Chief Researcher: Adam Kadri (Trainee Clinical Psychologist, UEA)

Research supervisors: Dr Adrian Leddy (Clinical Psychologist, UEA), Dr Fergus Gracey (Clinical Psychologist, UEA)

Purpose of the study

We want to investigate in detail a psychological therapy technique to improve mood in older people. Specifically, we shall examine how 'wisdom' in older people may help them deal with their current difficulties. This technique is currently recommended within cognitive behavioural therapy (CBT) for older people, which has been proven to be helpful for those experiencing low mood. However, this specific technique has not been specifically tested. This study will help understand how this technique works and if it is effective.

Recruitment criteria

We are looking to recruit people aged 60 years old or above who are currently experiencing low mood/depression and are on a waiting list for psychological therapy. They must also be able to speak and understand English.

People **will not** be eligible for the study if they are deemed to be at risk for suicide or self-harm, have a diagnosed or suspected cognitive impairment or current substance misuse. They should also not currently be receiving any therapy intervention for their mood or on a stable dose, of at least 3 months without change, of antidepressant medication.

Referral process

If there are individuals in the service who fit the eligibility criteria listed above, please give to them a copy of the provided *study information pack*, either by sending out in the post with the pre-paid envelopes, or in person. They can then contact the study team directly if interested. If they would prefer for themselves be contacted, you can ask them to complete a *consent to contact form* and then pass this onto Adam Kadri (contact details below), who will contact them directly.

Thank you.

Contact for further information:

Adam Kadri (Chief Investigator)
Email:
Tel:

Adrian Leddy (Primary Supervisor)
Email:

UEA Contact details for complaints procedure:
Prof Niall Broomfield (Head of Department of Clinical Psychology)

Email:
Address: Norwich Medical School, University of East Anglia, Norwich Research Park, Norwich, Norfolk, NR4 7TJ

Appendix O: Letter to MH Services/GP

University of East Anglia

Norwich Medical School
Norwich
NR4 7TJ

Cambridgeshire and Peterborough NHS Foundation Trust

Letter to Services/GP v: 24/05/2019
Study IRAS ID: 248358

Letter to service provider or GP regarding participant involvement in study

Title of Research Project:
Can life's wisdom help counter depression? Evaluating the CBT timeline approach for older adults with depression.

Chief Researcher: Adam Kadri (Trainee Clinical Psychologist, UEA)

Research supervisors: Dr Adrian Leddy (Clinical Psychologist, UEA), Dr Fergus Gracey (Clinical Psychologist, UEA)

Dear

I am writing to inform you that the following individual is taking part in the above study.

Name:
D.O.B:
Service Individual Reference Number (if applicable):

As part of the consent procedure for the study, they have given permission for me to inform you of their involvement and for it to be documented on their records. Please keep a record of this form, along with the enclosed study information sheet on the individual's service records. An additional copy of the Participant Information Sheet is included for your information.

If you have any questions about the study or to discuss further, please contact me using the details below.

Yours sincerely,

Adam Kadri
Trainee Clinical Psychologist and Postgraduate Research Student
University of East Anglia

Contact for further information:

Adam Kadri (Chief Investigator)
Email:
Tel:

Adrian Leddy (Primary Supervisor)
Email:

UEA Contact details for complaints procedure:
Prof Niall Broomfield (Head of Department of Clinical Psychology)

Email:
Address: Norwich Medical School, University of East Anglia, Norwich Research Park, Norwich, Norfolk, NR4 7TJ

Appendix P: Study Poster

NHS Cambridgeshire and Peterborough NHS Foundation Trust

University of East Anglia

Norwich Medical School
Norwich
NR4 7TJ

Research Study:
Can life's wisdom help counter depression?

Would you like to take part in a research study to help test a technique that helps people use "the wisdom of their years" to help deal with their current difficulties?

If you take part, you will…

- Receive 5 sessions of a psychological therapy designed to help with low mood/depression
- Monitor your mood every day

You will need to be able to…

- Be in the study for up to 8 weeks, including 6 face to face meetings with a researcher

You may be eligible for this study if you are:

- Aged 60 years old or over
- Experiencing low mood or depression
- Currently on a waiting list for psychological therapy or interested in trying a talking therapy

For more information and if you are interested, please contact:

[redacted]

Or speak to your service clinician. Thank you.

Appendix Q: Intervention Session Plans and Fidelity Checklists

Session 1: Introduction to the intervention

The first session focuses on developing rapport and a strong therapeutic alliance with the client and introducing the concept of making a timeline of one's life.

Main goals:
Building rapport and therapeutic alliance
Develop an understanding of individual's difficulties and set goals for intervention
Introduction to timeline technique
Setting the timeline task for homework

Pre-session tasks: *Complete pre-intervention measures (PHQ-9, GAS-10, SCS, SAWS, VAS)*

Session tasks

Task 1: Set agenda [approx. 2 mins]

- Discuss the plan for today's session. Remind that this is session 1 of 5.

Task 2: Develop an understanding of individual's difficulties [approx. 40 mins]

- Develop an understanding of individual's perceptions of their main difficulties and length of time experiencing this.
- Record this qualitatively and group difficulties as themes if needed.
- Word their goals as a collaborative SMART target
- Demonstrate warmth and empathy throughout to build therapeutic alliance.

Task 3: Education to timeline approach [approx. 10]

- Education to timeline approach and understanding the value of timelines. Key points to include:
    - A timeline is a brief summary of an individuals' life capturing key important events.
    - Timelines can be a valuable and effective way of reviewing a person's life without getting stuck in the past.
    - Reviewing a timeline can help one understand their life better and appreciate a context of how they have coped with problems or difficulties as they have occurred: encouraging self-compassion and recognising resilience.
    - Reviewing a timeline can help draw attention to one's internal resources and life skills to manage present difficulties and enhance psychological wellbeing. This is 'wisdom enhancement' and the method for achieving goals of intervention.
- Show *Example of completed timeline* and give to participant

Task 4: Set timeline task for homework [approx. 5 mins]

- Set timeline task for homework.
- Give participant copy of *Timeline worksheet* and check understanding.

Task 5: Summarise session [approx. 5 mins]

Post session tasks: *Arrange date of next session and remind of need to complete measures throughout week.*

Session 2: Examining the timeline

The second session's focus is on reviewing the timeline, understanding the client's response to the task and beginning to help the client recognise resilience and build self-compassion.

Main goals:
Review timeline with client
Helping client to recognise they have faced adversity and difficult experiences before
Help client to recognise their resilience and strengths
Help client to begin to develop self-compassion

Pre-session tasks: *Complete measures PHQ-9, GAS-10, VAS*

Session tasks

Task 1: Set agenda [approx. 2 mins]

Discuss the plan for today's session. Remind that this is session 2 of 5. ☐

Task 2: Initial review timeline completed for homework [approx. 25 minutes]

- Review the completed timeline with client:
- Encourage self-reflection e.g. through asking questions such as: ""Looking back at this timeline, what is your overall impression of yourself?" & "What are your strengths as you look back on this timeline?"
- Identify main themes in the timeline and explore Socratically [therapist to consider if individual demonstrates low self-compassion or negative perceptions of their resilience or coping] ☐
- Consider difficult or negative events and comment on how they have survived these
- Ask if there were things they didn't feel they could put on the timeline and let them know they can continue to add to it.
- *Worksheet 1: Acting wisely reflection*

Task 3: Ask individual to choose the most difficult two events from the timeline and complete worksheets for these, depending on individual's needs [approx. 25 mins] ☐

- *Worksheet 2: Recognising resilience*

(or)

- *Worksheet 3: Developing self-acceptance*

Task 4: Set homework task [approx. 5 mins] ☐

- Ask client to complete an additional worksheet from **task 6** as homework. Check understanding.
- If both tasks were completed during the session ask client to complete *Worksheet 7: wisdom worksheet*
- Remind clients that they can add further events to the timeline over the week. Ask if there were things they didn't feel they could put on there.

Task 5: Summarise session [5 mins] ☐

Post session tasks: *Arrange date of next session and remind of need to complete measures throughout week. Remind that they can continue to add to timeline if they wish.*

Session 3: Using wisdom to cope in the here and now – part 1

The third session focuses on reviewing new perspectives and beginning to apply wisdom to current difficulties, through use of structured worksheets.

Main goals:
Review homework task and new perspectives
Re-cap and review if any changes to current difficulties
Begin to apply wisdom to current difficulties

Pre-session tasks: *Complete measures PHQ-9, GAS-10, VAS*

Session tasks

Task 1: Set agenda [approx. 2 mins]

- Discuss the plan for today's session. Remind that this is session 3 of 5.

Task 2: Review homework task [approx. 20 mins]

- Discuss completed worksheet and reflect on any new perspectives or insights.
- Record new learning

Task 3: Recap current difficulties [approx. 5 mins]

- Recap goas with information gathered from session 1 and develop if needed.
- Write down target difficulties as a list.

Task 4: Begin to apply wisdom approaches to current difficulties [approx. 30 mins]

- Facilitate discussion about how past approaches could be applied to current difficulties
- Complete *Worksheet 4: Using my wisdom to cope in the here and now*

Additional optional task: complete if client is still struggling to adopt new perspectives

- *Worksheet 8: Self-acceptance worksheet* (if client is struggling with self-acceptance)

Task 5: Set homework task [approx. 5 mins]

- Ask client try out new action, based on worksheet 4 completed in session (if appropriate) AND complete a worksheet to help deal with another problem throughout the week:
  Worksheet 4: Using my wisdom to cope in the here and now
  (or)
  Worksheet 5: Wisdom based thought record (if more appropriate as a briefer worksheet or if client wants a change)

Task 6: Summarise session [approx. 5 mins]

Post session tasks: *Arrange date of next session and remind of need to complete measures throughout week. Remind that they can continue to add to timeline if they wish.*

Session 4: Using wisdom to cope in the here and now - part 2

The fourth session focuses on reviewing the application of the client's wisdom to coping with current difficulties and building on this.

Main goals:
Feedback on how applying techniques over last week went
Explore any barriers to dealing with problems identified
Continue applying client's wisdom to managing current difficulties

Pre-session tasks: *Complete measures PHQ-9, GAS-10, VAS*

Session tasks

Task 1: Set agenda [approx. 2 mins]

- Discuss the plan for today's session. Remind that this is session 4 of 5.

Task 2: Review homework task [approx. 20 mins]

- Discuss completed worksheet and reflect on new ways of coping, including
- difficulties/challenges as well as what was helpful.

Task 3: Continue applying wisdom to current difficulties [approx. 30 mins]

If homework strategies were successful:

- Complete worksheets for additional difficulty or situation that client is struggling with:

Worksheet 4: Using my wisdom to cope in the here and now

(or)

Worksheet 5: Wisdom thought record (if more appropriate as a briefer worksheet or if client wants a change)

If homework strategies were unsuccessful:

- Review timeline and create new strategy.

Worksheet 6: More doing what it takes (if client is struggling with barriers / making small steps)

(or)

Worksheet 8: Self-acceptance worksheet (if self-criticism is preventing learning)

(or)

Challenge negative age stereotypes? (if negative stereotypes are preventing learning)

This will involve:

  - Psycho-education on levels of life satisfaction for older people
  - Comparing stereotypes with the truth (myth busting)
  - Challenge specific stereotypes Socratically e.g. 'can't teach an old dog new tricks' with asking whether they have you learnt anything in the recently (e.g. in the news)

Task 4: Set homework task [approx. 5 mins]

- Ask client to complete a worksheet to help deal with a problem throughout the week

Worksheet 4: Using my wisdom to cope in the here and now

(or)

Worksheet 5: Wisdom thought record (if more appropriate as a briefer worksheet or if client wants a change)

Task 5: Summarise session [approx. 5 mins]

Post session tasks: *Arrange date of next session and remind of need to complete measures throu week. Remind that they can continue to add to timeline if they wish.*

Session 5: Review

The final session focuses on reviewing progress made and consolidating learning for the future

Main goals:
Review progress of strategies to help in the present
Reflecting on new perspectives, self-narrative etc. and coping strategies
Promoting confidence in continuing to implement what has been learnt

Session tasks

Task 1: Set agenda [approx. 2 mins]

- Discuss the plan for today's session. Remind that this is session 5 of 5.

Task 2: Review homework task [approx. 30 mins]

- Discuss completed worksheet and reflect on new ways of coping.

If client has not completed homework task or is still struggling with making changes

- Complete (additional) worksheet for additional difficulty or situation that client is struggling with.

Worksheet 5: Wisdom thought record
(or)
Worksheet 6: More doing what it takes

Task 3: Reflect on new perspectives [approx. 25 mins]

This may include:

- Consider a different and more coherent self-narrative, one more accepted and truer to the individual, based on the timeline.
- Derive themes meaningful to the individual e.g. resilience, acceptance, and a more positive narrative the individual is willing to own.
- Reflect on having arrived at a more nuanced perspective on past choices and decisions.
- Reflection on new perspective and relationship with self.
- Looking to the future and instilling confidence in using this going forward.

- Complete *Worksheet 9: My wisdom review worksheet*
- Emphasise that adverse experiences can help build wisdom.

Task 4: Summarise session and [approx. 5 mins]

Post session tasks: *Complete post-intervention measures (PHQ-9, GAS-10, SCS, SAWS, VAS, CIQ)* and *arrange date for sending follow up measures*

Appendix R: Intervention Worksheets

NOTE: Copyrighted worksheets not included.

All ideas for worksheets taken from: Laidlaw (2014) with permission.

Worksheet 1: Acting wisely reflection

Is there a time in your life where you have done something wise or coped with adversity?
Q? Choose one situation: **Q?** What happened? **Q?** What did you do that was wise?

Worksheet 2: Recognising resilience

When examining this event from the past, we agree that certain principles apply:
1. Examine the event as factually as possible
2. Reflection rather than blame
3. Assess on what was known at the time (no hindsight bias)

Consider a difficult experience from the timeline.
Q? Roughly what year was it? **Q?** What happened? **Q?** Why was this difficult for you? **Q?** How did you cope with it at the time?
Q? Looking back on this event now, what does it tell you about yourself?
Q? Can you identify anything good that may have come out of this difficult experience from the past?
Q? Looking back at this timeline, what do you learn from dealing with crises? What does that tell you?
Q? *What might you use from this new learning to equip yourself better to deal with current difficulties?*

Worksheet 3: Developing self-acceptance

When examining this event from the past, we agree that certain principles apply:
1. Examine the event as factually as possible
2. Reflection rather than blame
3. Assess on what was known at the time (no hindsight bias)

Consider a difficult experience from the past
Q? Roughly what year was it? **Q?** Name of event:
Q? Give a factual account of how things turned out from your initial memory: **Q?** Next reflect on your actions by recalling specific details:
Q? What options were available at the time in advance of the decision that you could have taken? (regardless of how things turned out) • • • **Q?** Looking back on the choices you may have had at the time, how do you feel now about how you coped? Did you cope as best you could at the time, given the circumstances?
Q? If you could somehow go back in time, as you are now and talk to your younger self, what would you say to yourself about how you coped?

Q? In the past, in times of crisis how, and in what way, has being self-critical been helpful to you?

Worksheet 4: Using my wisdom to cope in the here and now

Choose a current difficulty
Q? What current difficulty am I facing? **Q?** How does it make me: Feel? Think? Act?
Q? Have you been in a similar position in the past? If so how did that turn out? How does this help you?
Q? How have I coped in handling ambiguous or difficult situations before? **Q?** How can this help with my current problems?
Q? How do I view myself currently? **Q?** How does this way of viewing yourself help you to cope with your problems currently?
Q? What is stopping me from coping as well as I have done in the past?

Q? Are my beliefs about my age stopping me from coping in the here and now?
Q? What have I learnt from my past that can help now? ***Using the wisdom of my years, what would be a wise thing to do?*** **Q?** What small steps can I take first?
Q? Proposed new action:
Q? Outcome: **Q?** How do I now feel, think, act?

Worksheet 5: Wisdom based thought record

Situation **Q?** Describe what happened, where and with whom.
Thoughts **Q?** What went through your mind? What were you thinking at the time?
Feelings **Q?** How did you feel? What emotions did you feel at the time? Rate the emotion 0-100
Q? Have you been in a similar position in the past? If so how did that turn out? How does this help you?
Q? Using the wisdom of your years, what would be a wise thing to do?
Q? What is the best thing to do now? / What happened?
Feelings now **Q?** How do you feel now? Rate emotion 0-100

Worksheet 6: More doing what it takes

Q? What am I trying to achieve / do differently?
Q? What is getting in the way of this? What is stopping me from coping as well as I have done in the past?
Q? How can I give myself the best chances of achieving my goal? How can my learning from past experiences (my wisdom) help with this?
Q? How can I get round the barrier? Can I ask for help? Can I use any support or strategies to help me achieve my goal?
Q? What are the smaller, more manageable steps that I can take to achieve this goal? What smaller steps have I taken in the past that have helped?
Q? What is the smallest, easiest step I can begin with? When can I take that first step (date and time)?
Q? What new ways of viewing myself will help me achieve my goal?

Worksheet 9: My wisdom review worksheet

Q? When you look back at your life now, what do you see?
Q? How do you feel about your resilience and how you've coped throughout your life? **Q?** Can you list some examples of when you have demonstrated resilience over your lifetime?
Q? How do you feel about the choices you have made in your life?
Q? What have you learnt from past difficult experiences? **Q?** What have you learnt about any possible positive outcomes of having to deal with difficult experiences?
Q? What wisdom from your life has/can be useful in dealing with your current difficulties? 1. 2. 3.

Appendix S: PHQ-9

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME:_____ DATE:_____

Over the last *2 weeks,* how often have you been bothered by any of the following problems? *(use "✓" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so figety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3
	add columns		+	+
(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card).	TOTAL:			

10. If you checked off *any problems,* how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?	Not difficult at all	_____
	Somewhat difficult	_____
	Very difficult	_____
	Extremely difficult	_____

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Appendix T: GAS-10

Geriatric Anxiety Scale – 10 Item Version (GAS-10)

Below is a list of common symptoms of anxiety or stress. Please read each item in the list carefully. Indicate how often you have experienced each symptom during the PAST WEEK, INCLUDING TODAY by checking under the corresponding answer.

	Not at all (0)	**Sometimes (1)**	**Most of the time (2)**	**All of the time (3)**
1. I was irritable.				
2. I felt detached or isolated from others.				
3. I felt like I was in a daze.				
4. I had a hard time sitting still.				
5. I could not control my worry.				
6. I felt restless, keyed up, or on edge.				
7. I felt tired.				
8. My muscles were tense.				
9. I felt like I had no control over my life.				
10. I felt like something terrible was going to happen to me.				

Appendix U: SCS

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

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

Almost never				Almost always
1	2	3	4	5

_____ 1. I'm disapproving and judgmental about my own flaws and inadequacies.

_____ 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.

_____ 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.

_____ 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.

_____ 5. I try to be loving towards myself when I'm feeling emotional pain.

_____ 6. When I fail at something important to me I become consumed by feelings of inadequacy.

_____ 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.

_____ 8. When times are really difficult, I tend to be tough on myself.

_____ 9. When something upsets me I try to keep my emotions in balance.

_____ 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

_____ 11. I'm intolerant and impatient towards those aspects of my personality I don't like.

_____ 12. When I'm going through a very hard time, I give myself the caring and tenderness I need.

_____ 13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.

_____ 14. When something painful happens I try to take a balanced view of the situation.

_____ 15. I try to see my failings as part of the human condition.

_____ 16. When I see aspects of myself that I don't like, I get down on myself.

_____ 17. When I fail at something important to me I try to keep things in perspective.

_____ 18. When I’m really struggling, I tend to feel like other people must be having an easier time of it.

_____ 19. I’m kind to myself when I’m experiencing suffering.

_____ 20. When something upsets me I get carried away with my feelings.

_____ 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.

_____ 22. When I'm feeling down I try to approach my feelings with curiosity and openness.

_____ 23. I’m tolerant of my own flaws and inadequacies.

_____ 24. When something painful happens I tend to blow the incident out of proportion.

_____ 25. When I fail at something that's important to me, I tend to feel alone in my failure.

_____ 26. I try to be understanding and patient towards those aspects of my personality I don't like.

Appendix V: SAWS

The SAWS Inventory

This brief questionnaire is designed to investigate how people of different ages perceive themselves with respect to life experiences and whether or not these perceptions change as we grow older. You are asked to rate all of the following statements using the scale below. Remember, there are no "right" or "wrong" answers and your responses will remain anonymous. Do not rush, but work steadily as we are interested in your first impressions. Please record your responses by circling only one number on the rating scale to the left of each statement.

1 = Strongly Disagree
2 = Moderately Disagree
3 = Slightly Disagree
4 = Slightly Agree
5 = Moderately Agree
6 = Strongly Agree

____ 1. I have overcome many painful events in my life.
____ 2. It is easy for me to adjust my emotions to the situation at hand.
____ 3. I often think about connections between my past and present.
____ 4. I can chuckle at personal embarrassments.
____ 5. I like to read books which challenge me to think differently about issues.
____ 6. I have had to make many important life decisions.
____ 7. Emotions do not overwhelm me when I make personal decisions.
____ 8. I often think about my personal past.
____ 9. There can be amusing elements even in very difficult life situations.
____ 10. I enjoy listening to a variety of musical styles besides my favourite kind.
____ 11. I have dealt with a great many different kinds of people during my lifetime.
____ 12. I am "tuned" in to my own emotions.
____ 13. I reminisce quite frequently.
____ 14. I try and find a humorous side when coping with a major life transition.
____ 15. I enjoy sampling a wide variety of different ethnic foods.
____ 16. I have experienced many moral dilemmas.
____ 17. I am very good at reading my emotional states.
____ 18. Reviewing my past helps me gain perspective on current concerns.
____ 19. I am easily aroused to laughter.

1. 1 = Strongly Disagree

2. 2 = Moderately Disagree
3. 3 = Slightly Disagree
4. 4 = Slightly Agree
5. 5 = Moderately Agree
6. 6 = Strongly Agree

____ 20. I often look for new things to try.

____ 21. I have seen much of the negative side of life (e.g., dishonesty, hypocrisy).

____ 22. I can freely express my emotions without feeling like I might lose control.

____ 23. I often recall earlier times in my life to see how I've changed since then.

____ 24. At this point in my life, I find it easy to laugh at my mistakes.

____ 25. Controversial works of art play an important and valuable role in society.

____ 26. I have lived through many difficult life transitions.

____ 27. I am good at identifying subtle emotions within myself.

____ 28. Recalling my earlier days helps me gain insight into important life matters.

____ 29. I often use humour to put others at ease.

____ 30. I like being around persons whose views are strongly different from mine.

____ 31. I've personally discovered that "you can't always tell a book from its cover".

____ 32. I can regulate my emotions when the situation calls for it.

____ 33. I often find memories of my past can be important coping resources.

____ 34. Now I find that I can really appreciate life's little ironies.

____ 35. I'm very curious about other religious and/or philosophical belief systems.

____ 36. I've learned valuable life lessons from others.

____ 37. It seems I have a talent for reading other people's emotions.

____ 38. Reliving past accomplishments in memory increases my confidence for today.

____ 39. I can make fun of myself to comfort others.

____ 40. I've often wondered about life and what lies beyond.

Appendix W: VAS

Visual Analogue Scale
Participant ID:
Date:

Instructions
On the lines below please mark with an X how much you agree with the corresponding statements.

1. **Today, my mood is good**

Strongly disagree Strongly agree

2. **Today, I feel accepting of myself**

Strongly disagree Strongly agree

3. **Today, I feel that I can use the wisdom of my life to help me deal with my current difficulties**

Strongly disagree Strongly agree

Appendix X: Change Interview Questionnaire

Can life's wisdom help counter depression? Evaluating the CBT timeline approach for older adults with depression.

Change interview questionnaire

Please complete the following questions about your experience in the study. You may continue on another sheet if needed. Thank you.

7. What has changed for you over the course of the study?

8. Why do you think these changes occurred?

9. What has been helpful?