Older adult experiences of reactivated posttraumatic distress: Life stage integration or cognitive disintegration?

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Overview

Part One of this thesis is a review of the existing literature on reactivated posttraumatic stress disorder (PTSD) among older adults. It explores diagnostic system classifications, trauma-based presentations, prevalence, symptomatology and course, triggers, theoretical explanations of reactivated trauma and treatments. Conceptual and methodological strengths and weaknesses of existing work are highlighted and we conclude that research efforts should explore the relative contributions of cognitive/neuropsychological and developmental/social factors in understanding the phenomenon.

Part Two investigates phenomenological aspects of the experience. Twelve older adults with reactivated posttraumatic symptoms were given a structured interview exploring their memories of distant trauma. Intense and veridical sensory components of memory were common as was a sense of current threat. Processes thought to underpin reactivation were examined and our original 12 participants and 12 matched controls were given measures of mood, reminiscence and memory functioning. Results indicate a trend for greater general reminiscence and poorer cognitive inhibition of material among the reactivated trauma group. In particular, this group demonstrated more frequent reminiscence as a means to teach/inform others and, during a memory experiment, greater cognitive intrusions of the very material they were trying to forget. Our data therefore provides initial support for both a developmental, life-stage, explanation and a cognitive aging perspective on the re-emergence of distant trauma material in senescence.

Part Three is a critical appraisal of the above work and features a discussion of the strengths and weaknesses of my research, its clinical and scientific implications, directions future work might take and concludes with a personal reflection on the research process.

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Part One - Reactivated posttraumatic distress among older adults: A review and some future directions

1 Abstract

This review explores current research on reactivated posttraumatic stress disorder (PTSD) among older adults. Diagnostic system classifications of PTSD and possible trauma-based presentations among the elderly are considered before work concerning prevalence, symptomatology and course, triggers, theoretical explanations of reactivated trauma and treatments is examined. Conceptual and methodological strengths and weaknesses of existing work are highlighted and we conclude that the next phase in research efforts should continue to explore the relative contributions of cognitive/neuropsychological and developmental/social factors in understanding this phenomenon.

2 Introduction

Bruce Lee famously counselled us not to pray for an easy life but to pray for the strength to endure a difficult one (1975). Everyone will experience adversity of some form and many will encounter trauma (Hyer & Sohnle, 2001) and so it is unsurprising that the psychological literature concerning responses to extreme life events continues to expand. However, while research into posttraumatic stress disorder (PTSD) has mushroomed over the past decade (Joseph, Williams & Yule, 1997; Yule, 1999), it has largely focused upon adult and child populations (Cook, 2001). There is a relative paucity of research into the phenomenology of PTSD among older adult populations (Busuttil, 2004) and this lack of research attention has resulted in claims that the effects of trauma exposure remain 'hidden variables' in the lives of many elderly people (Cook, 2002).

While around half of all PTSD cases will resolve within 3 months of the termination of the traumatic event, the remainder will follow a chronic course that can last for many years and which can be characterised by periods of remission and relapse (APA, 1994). The longitudinal course of the disorder therefore remains uncertain and there are reports in the literature of sufferers who have long periods, up to and including several decades, without distress only to experience a recurrence of PTSD in late life (Pomerantz, 1991; Van Dyke, Zilberg & McKinnon, 1985). Indeed, clinical experience supports the notion that some older adults exhibit symptoms of PTSD as a result of chronologically distant trauma exposure (Floyd, Rice & Black, 2002).

A number of authors have noted the increase in longevity that has led to a rising older adult population (Wigder, 1997) and have called for greater research into all aspects of PTSD among this group. Cook (2001), for example, notes there are few empirical studies addressing the demography, assessment and management of PTSD among the elderly. However, for the reader interested in reactivated trauma in later life the existing literature seems particularly diffuse and poorly summarised. This may have considerable ramifications, as it has been noted that recurrent or delayed onset traumatic stress among older adults can be overlooked in a clinical context (Nichols & Czirr, 1986). Therefore, work seeking to draw attention to the issue of reactivated trauma among the elderly is both important and timely and is the subject of this review.

In order to provide some structure to the various themes that appear within the current literature, this paper will review how the phenomenon of reactivated trauma has been explored from a number of perspectives. We will examine how the disorder is currently classified and what sub-categories might present, its prevalence, what form symptoms might take and how the disorder is triggered, before considering attempts to understand why distant trauma re-emerges during senescence. This will then allow us to reflect upon the direction future empirical research could take as suggestions are made to remedy the weaknesses and build on the strengths of what has gone before.

This article therefore represents a review of published literature regarding proximal posttraumatic symptomatology among older adults as a result of distal life events.

Reference to the general adult and older adult PTSD literature will be made throughout, as necessary.

2.1 Search process

We searched three major databases: PsycINFO (including the International Bibliography of the Social Sciences), PILOTS (Published International Literature on Traumatic Stress) and Ingenta (including Medline), for peer-reviewed published literature on reactivated PTSD (excluding dissertations) during October 2005. Search terms included *posttraumatic stress disorder* and *post-traumatic stress disorder* in conjunction with *reactivated, reactivation, recurrent, delayed* and *elderly*[1], *old age* and *later life*. The results were screened for relevance with theory-based, position papers and literary reviews informing the process further (e.g. Floyd et al., 2002; Peters & Kaye, 2003).

In addition, we checked identified literature for further references deemed pertinent to the review. These were gathered and the process repeated until no further work was apparent. Using these strategies resulted in the selection of material where the reactivation of trauma symptoms among the elderly was the main focus of enquiry. We identified 47 empirical studies using these methods, of which the majority (66%) were illustrative case studies (e.g. Dinnen, 1993) or vignettes describing the phenomenon (Aarts & Op den Velde, 1996). Table 1 summarises the remaining 16 studies that feature systematic research with multiple participants, which provide the most substantive material for our review.

[1] Elderly was defined as those 65 years of age and over.

Table 1. Reactivated trauma studies with multiple elderly participants

Authors	Event	Gender	Age	*n*	Assessment
Elder & Clipp (1988)	Warfare	male	Varied over time	300+	longitudinal survey
Hunt & Robbins (2001a)	WWII	not stated	59-89	731	survey
Kaup, Ruskin & Nyman (1994)	WWII	male	56-74	20	clinical review
Kluznik, Speed, Van Valkenburg & Magraw (1986)	WWII	male	Ns	188	interview and questionnaire
Landau & Litwin (2000)	Holocaust	mixed	75-92	194	interview and questionnaire
Macleod (1994)	WWII	male	67-85	45	interview and questionnaire
Op den Velde et al., (1990)	WWII	male	61-73	8	interview and questionnaire
Op den Velde et al., (1993)	WWII	male	65-70	147	interview and questionnaire
Port, Engdahl & Frazier (2001)	WWII and Korea	male	65-86	244	survey
Port, Engdahl, Frazier & Eberly (2002)	WWII and Korea	male	65-86	177	survey
Robbins (1997)	WWII	not stated	72-84	11	interview and questionnaire
Robinson et al., (1990)	Holocaust	mixed	average 68	86	interview
Robinson et al., (1994)	Holocaust	mixed	50+	66	interview
Ruzich, Looi & Robertson (2005)	WWII and Korea	male	68-86	15	interview
Solomon & Prager (1992)	Holocaust	mixed	average 68-73	192	survey
Zeiss & Dickman (1989)	WWII and Korea POWs	male	58-78	442	survey

Note – Two studies were papers presented at conference, subsequently unpublished, and have not been included in this review (Kuilman & Suttorp, 1989; Zeiss, Dickman & Nichols, 1985).

For our purposes, and following Solomon, Garb, Bleich and Grupper's (1987) notation, the term reactivated PTSD will be used to encompass the notion of both recurrent and delayed-onset PTSD in older adults. It can be argued that the term delayed-onset refers to posttraumatic symptoms that first appeared after a period marked by an absence of trauma response, while the terms reactivated or recurrent PTSD refer to symptoms reappearing following a period of significant amelioration. We note, however, that these terms are often not differentiated within the older adult literature and are, mostly, used interchangeably.

3 Comparative diagnostic classifications of PTSD

For a diagnosis of PTSD both the Diagnostic and Statistical Manual fourth edition (DSM-IV: American Psychiatric Association, 1994) and the International Classification of Diseases (ICD-10: World Health Organisation, 1993) classification systems require the identification of a severely threatening life event to precede symptoms. From here, although the two concepts remain similar, there are some important differences that require further comment before we consider the notion of reactivated trauma in greater detail.

For example, as Yule, Williams and Joseph (1999) point out, clinicians using the ICD approach match a patient's symptom pattern to the example provided in order to make a diagnosis of PTSD. In contrast, the DSM provides a much more structured (Yule et al., 1999 describe this as 'mechanistic') set of guidelines. Using the DSM system, patients are required to exceed a given number of symptoms from each of three symptom clusters (i.e. re-experiencing, avoidance and hyperarousal symptoms)

before the diagnosis is made. This has resulted in the majority of research utilising operational definitions of PTSD based on DSM criteria.

An examination of symptom contributions to the diagnosis sees further distinctions between the two systems. The ICD places an emphasis upon re-experiencing at the expense of avoidance and emotional numbing. This latter construct is recognised as often present but not essential for the diagnosis while repetitive, intrusive recollections or re-enactments of the event (re-experiencing) are seen as a requisite of the disorder. In contrast the DSM places considerable importance on emotional numbing and avoidance. Three symptoms from this category are required before a formal DSM-IV diagnosis of PTSD may be made, while re-experiencing requires only a single instance (although this is still acknowledged as a vital symptom of the disorder). ICD-10 also sees autonomic disturbances, mood disorder and behavioural abnormalities as contributing to the diagnosis but these are considered to be secondary to re-experiencing phenomena. In the DSM-IV two hyperarousal symptoms are required for diagnosis, indicating the 'weight' this system places upon the construct. Thus, we can see that the European and American classifications (ICD is considered to represent a European perspective) do not universally agree on the relative importance of posttraumatic reactions as indicators of disorder.

Further differences exist, as the ICD system suggests that each patient be given a single diagnosis (e.g. PTSD or major depression) in contrast to the DSM, which advocates multiple diagnoses (Yule et al., 1999). Understandably then, those meeting DSM-IV diagnostic criteria for PTSD are likely to meet criteria for additional diagnoses (Davidson & Foa, 1993; Kulka et al., 1990). The most common co-morbid

diagnoses are major affective disorders, dysthymia, alcohol or substance abuse disorders and anxiety disorders or personality disorders (Newman, Kaloupek & Keane, 1996).

Although PTSD features as an anxiety disorder within the DSM-IV, in the ICD-10 it features within a category entitled 'reaction to severe stress and adjustment disorders' (the DSM system regards anxiety as central to PTSD while the ICD considers it to be a non specific feature of many disorders). As such, the ICD-10 system seemingly offers a greater variety of diagnoses for traumatic stress reactions (Brett, 1996). However, while the DSM-IV includes sub-classifications of both chronic (symptom duration of three months or more) and delayed-onset PTSD (onset of symptoms at least six months after the stressor) the ICD-10 states that a diagnosis of PTSD should, generally, not follow unless there is evidence that the disorder arose within six months of the event. Moreover, it does countenance a 'probable' diagnosis if the delay between event and symptoms is greater than six months but only if the clinical manifestations are typical and there is no evidence of an alternative, plausible, disorder. Finally, the ICD-10 states that symptoms that manifest decades after the stressful event (the late chronic sequelae) should be classified under F62.0, Enduring Personality Changes After Catastrophic Experience (EPCACE). This diagnosis must follow a stressor so extreme (e.g. prisoner of war) that the clinician does not need to consider previous vulnerability as a factor to account for the extent of change observed. Single or more short-term events (e.g. road traffic accidents, one off physical assault) cannot be considered to cause EPCACE and an enduring personality change must be present for at least two years before the diagnosis can be made.

EPCACE results in impairment in social, interpersonal and occupational functioning and is characterised by a permanent mistrustful or hostile world attitude, social withdrawal, a constant feeling of edginess, feeling empty or hopeless, under constant threat and with a chronic sense of being estranged from others. Thus, this may be the most deeply pervasive posttraumatic construct to date.

There is not an exact agreement regarding symptomatology and the basic diagnosis of PTSD. When specifically considering delayed or reactivated PTSD, the DSM-IV conceptualisation treats the phenomenon as identical to the main categorisation of the disorder except with a unique temporal component, while the ICD-10 favours a construct encompassing only the most extreme experiences and with symptomatology at the level of personality change. It can be argued that neither fully do justice to the re-experience of an earlier life event reported in the literature (Hiley-Young, 1992; Macleod, 1994; Solomon, et al., 1987).

3.1 Trauma presentations among the elderly

Busuttil (2004) cites five kinds of posttraumatic presentation among the elderly. These include: 1) de-novo, which presents as acute PTSD and can lead onto chronic PTSD if symptoms persist for three months or more; 2) delayed, which stems from a previous experience but develops suddenly after a major life change; 3) chronic, among those who become elderly and access services; 4) chronic with evidence of enduring personality change (or EPCACE), among those who become elderly and access services and; 5) chronic complex PTSD with a prolonged history of psychiatric disturbance, among those who become elderly and then access services.

Of these types delayed PTSD, which can develop suddenly during senescence, best encompasses the notion of reactivated posttraumatic distress for the purposes of this review, although the mechanism underpinning the emergence of symptoms has yet to be established (see Triggers section below).

Taking a more global perspective, Brewin, Dalgleish and Joseph (1996) propose three endpoints of the 'emotional processing' (Rachman, 1980) of traumatic life events. These include: 1) successful completion, where trauma memories have been fully worked through and no longer cause distress; 2) chronic processing, i.e. classic PTSD, where memories of the trauma cannot be integrated with the person's existing memories and sense of self and; 3) premature inhibition of processing, where the person appears to have successfully completed emotional processing of the event, yet they remain vulnerable to reactivation in later life.

However, various sub-types of reactivated PTSD have also been proposed. Solomon et al. (1987), in a review of the case histories of working age Israeli veterans with recurrent combat-related PTSD, delineate two categories: 1) uncomplicated reactivation (accounting for 23% of the sample) and 2) heightened vulnerability (77%). Each was thought to represent a degree of pathology, with the more severe category heightened vulnerability further divided into specific sensitivity (51%), moderate generalised sensitivity (9%) and severe generalised sensitivity (17%) sub-categories. Solomon et al. (1987) provide a case study to illustrate each type. Here we see that uncomplicated reactivation is characterised by an initial period of distress followed by good interim functioning until further exposure to an event closely resembling the original stressor reactivates symptoms once more. In contrast,

heightened vulnerability can be thought of as when sufferers experience residual distress and are susceptible to reactivation upon exposure to stimuli indirectly reminiscent of the original event. For example veterans with specific sensitivity might only suffer reactivation following exposure to military settings, those with moderate generalised sensitivity would display an acute reaction to stimuli only remotely similar to the stressor, while those with severe generalised sensitivity find their fears have widened to most situations.

Solomon et al. (1987) argue that a spectrum of symptoms ranging along a continuum of intensity from very mild to extreme disability exists, which affords allocation of these successively more disabling types. The authors claim that their taxonomy represents various positions on the spectrum of pathology that is part of the natural history of the disorder. A stepwise course is not suggested and the classification is simply proposed as an index of adaptation, or the extent to which coping has been unsuccessful. Their findings ultimately led them to conclude that reactivation of combat-based trauma is a complex and varied phenomenon.

Unfortunately, there does not appear to have been any further work into Solomon et al.'s scheme of reactivation types, for combat-related or any other form of PTSD, and so it is difficult to comment upon the validity of these categories with elderly sufferers.

Interestingly, Hilton (1997) highlights two case studies of elderly patients who experienced combat situations during the Second World War and subsequent distress during the commemoration of the fiftieth anniversary of the end of the war. Attention

to these cases suggests that they may illustrate distinct presentations, the first conveying a sense of the patient being reminded of the event, yet denying a connection between the distress he experienced and his wartime experiences and the second concerning explicit re-experiencing phenomenon (wartime memories, flashbacks) related to the event as it occurred at the time. While it is clear that a detailed programme of research would need to be conducted to explore the notion that reactivated PTSD types might be distinguishable by varying cognitive content, this nonetheless remains an intriguing starting point from which to base future investigations.

As such, there are a variety of ways to conceptualise trauma presentations among the elderly and initial work has begun to differentiate sub-types of reactivated PTSD based on the extent to which sufferers have become sensitised to similar stressors. How well these sub-types are represented among the elderly, with non-combatants, with women and with victims of natural disasters remains to be explored, posing a challenge to clinical researchers interested in delineating the nosology of reactivated trauma in greater detail.

4 Prevalence

Solomon and Ginzberg (1998) suggest that, worldwide, millions of the current older adult population experienced traumatic events in their youth and it has been shown that those exposed to the horrors of war (WWII, the Holocaust, the Korean War) can continue to suffer from PTSD in their later years (e.g. Goldstein, Van Kammen, Shelly, Miller & Van Kammen, 1987; Hunt & Robbins, 2001a; Speed et al., 1989). Authors such as Schnurr, Spiro, Vielhauer, Findler and Hamblen (2002) suggest that

trauma is commonplace, with four out of every five of their older male veteran sample having experienced at least one traumatic event and approximately two out of every three of these men experiencing trauma outside of a war-zone. Exposure to more than one kind of trauma also occurred in almost half of those Schnurr et al. (2002) sampled which indicates that the faces of adversity are varied.

While trauma might be a feature of many older adult life histories, Davies (2001) cites that at least one in five British veterans suffer the sequelae of such severely difficult events (see Hunt & Robbins, 2001a). Kaiman (2003), having worked with veterans groups in a therapeutic context, simply claims that the exacerbation of PTSD symptoms among elderly veterans is 'common'.

Of the few studies that have considered the prevalence of late onset PTSD among the elderly, Op den Velde et al. (1993) report that in 50% of their Dutch Resistance veterans PTSD became apparent more than 20 years after the end of WWII. In contrast, Kluznik, Speed, Van Valkenburg and Magraw's (1986) forty-year follow-up of prisoners of war (POWs) failed to find any delayed-onset traumatic distress. However, Port, Engdahl and Frazier (2001) showed that 11% of their sample could be categorised as experiencing reactivation (i.e. initially troubled by symptoms with a period of 25-30 years of no difficulties followed by renewed symptoms), 7% fluctuating and only 2% long delayed-onset (i.e. troubled by symptoms for the first time no earlier that 25 years after the Second World War).

Concurring with Hilton (1997), we feel that many studies concerning the prevalence of PTSD among the elderly (for a review see Falk, Hersen & Van Hasselt, 1994) are

unclear whether they report chronic, delayed recognition, or true delayed-onset posttraumatic difficulties among their samples (e.g. Brom, Durst & Aghassy, 2002), limiting the usefulness of their findings for the purpose of our review.

Given the lack of research that has explicitly investigated the reactivation of trauma in later life it is difficult to draw firm conclusions regarding prevalence rates among the elderly. Moreover, most work seems to cite veteran trauma and so there remains a question regarding the extent to which such experiences are representative of the wider older adult population. Authors such as Ruzich, Looi and Robertson (2005) are prepared to suggest that prevalence rates among those exposed to warfare are high but also point out that the exact figure remains unknown (and perhaps unknowable). As large-scale community studies of PTSD among the elderly (e.g. Van Zelst, de Beurs, Beekman, Deeg & van Dyck, 2003) have tended not to explore the onset of difficulties, the stage at which symptoms emerge remains unclear, although there is a body of clinical evidence which suggests later life seems to act as a precipitating factor in the experience of PTSD for many older adults (see Triggers section below).

5 Symptomatology and course

Some have argued (Herman, 1992; McCann & Pearlman, 1990) that the classification of PTSD does not do justice to the full range of symptoms people experience following a traumatic event. There is heterogeneity in responses to trauma that is not fully conceptualised by existing nosologies (Hiskey, Troop & Joseph, in press), with writers such as Hyer and Sohlne (2001) and Cook (2002) claiming this may be especially so in relation to trauma responses among the elderly. As an example of this, Aarts et al. (1996) report that not only trauma symptoms but

also 'vital exhaustion' (characterised by feelings of increased irritability, unusual tiredness and malaise) was more apparent among veterans with late-onset PTSD than those without.

Reactivated trauma can also be conceptualised along a continuum of symptom severity (e.g. Aarts et al., 1996). For example, some older adults have only one or two symptoms, and so would be sub-syndromal for a diagnosis of PTSD (Clipp & Elder, 1996), while others experience much greater levels of symptomatology. Either case, however, involves still suffering the aftermath of trauma from decades ago.

Older adults can also present with a different clinical picture than their younger counterparts. For instance, Frueh, et al. (2004) found that elderly veterans with PTSD were less likely to be diagnosed with major depression or current substance abuse. In addition, their sample displayed comparatively fewer trauma symptoms relating to avoidance and numbing and arousal than younger veterans with PTSD. The two groups did not, however, differ with regards to symptoms of re-experiencing, suggesting that this is a common feature of the disorder across the adult lifespan.

Others have argued that symptoms can present somatically, rather than psychologically, in some older adults (Clipp & Elder, 1996; Higgins & Follette, 2002; Sadavoy, 1997). Similarly, Bonwick and Morris (1996) claim that veterans suffering PTSD often present with vague psychiatric or somatic difficulties. However Ruzich et al. (2005), in a case series of 15 elderly veterans presenting with late-life onset PTSD, provide evidence that each DSM-IV based re-experiencing symptom is commonly encountered (e.g. recurrent intrusive thoughts, dreams, physiological

reactivity etc) with only specific avoidance (e.g. thoughts and emotions, avoidance of stimuli arousing recollections and feelings of detachment) and arousal symptoms (insomnia) approaching a similar frequency of occurrence. This suggests that cognitive content may actually be at a premium in the experience of older veteran reactivated trauma (see also Crocq, 1997). Of course, preparedness to disclose traumatic re-experiences and their meaning may be highly variable and affect the extent to which this symptom cluster is reported suggesting that intrusive traumatic material may indeed be the hallmark feature of reactivated PTSD.

Similarly Macleod (1994) describes the re-emergence of re-experiencing and arousal symptomatology, most notably intrusive and recurrent recollections and nightmares, leading to insomnia, irritability and hypervigilance in his sample of elderly war veterans suffering reactivated PTSD. This pattern implies that it is cognitive activity that leads to subsequent avoidant and somatic difficulties. Others (e.g. Aarts et al., 1996) note painful wartime reminiscences during veterans' later years, highlighting that appraisal based (rather than purely direct re-experiencing) cognitive activity also features in late-onset cases.

Turning to temporal issues, there does not seem to be a clear consensus regarding the time-course of reactivated PTSD among the elderly (Falk et al., 1994). For example, Zeiss and Dickman (1989) found that retrospective reports of WWII ex-prisoners-of-war (POWs) revealed no consistent pattern of symptom occurrence over time. Instead, their data suggested a waxing and waning of difficulties over a 40-yr period. Of their large sample, 13% reported never having had difficulties with symptoms,

almost 25% were continuously troubled and over 62% were troubled intermittently with no clear temporal signature to their distress.

In a longitudinal study, Port, Engdahl, Frazier and Eberly (2002) found that levels of PTSD symptomatology fluctuated over a four-year period in relation to changes in health and psychosocial factors, further supporting the notion that psychological response to trauma cannot be thought of as a static entity. Macleod's (1994) review of elderly veterans service records revealed that a masking of intrusive symptoms in middle age can occur, paving the way for a terminal phase of reactivation in older age. This finding is supported by accounts that many adults who experience reactivated trauma in later life seem occupationally and socially intact throughout their working years (Aarts & Op den Velde, 1996).

Indeed, Solomon and Ginzburg (1998) have lamented the trend apparent throughout the literature to treat adults as a single population. Such a clustering of age groups flies in the face of evidence that adults continue to develop across the lifecycle (Erikson, 1959) and this progression might be implicated in the differential reactivation of trauma responses (Aarts & Op den Velde, 1996).

In summary, existing conceptualisations may not fully capture the complexity of older adult responses to earlier trauma (Summerfield, 2001). The task for future researchers may therefore be to consider the impact of previous trauma in a broad sense, while remaining mindful of the need for classification to provide a common reference for researchers and afford the comparison of findings across studies. In this way, both the uniqueness of trauma response and similarities between groups might

be assessed. Cognitive content surrounding earlier life events seems to be an important feature in the reactivation of trauma and current work exploring the symptom signature of older adult PTSD might be enhanced by further attention to the phenomenology of such experiences. A first step in this direction might be to explore the content of reactivated trauma memories in greater detail, especially in relation to life-stage development. The life course of PTSD is also unclear and, although most likely highly individual, is certainly not linear. A period of symptom attenuation is by definition implicated in the experience of reactivated trauma and greater attention to exacerbating factors will be an important development in further understanding the evolution of this seemingly cyclical (Falk et al., 1994) disorder.

6 Triggers

Many authors have commented upon the variety of triggers implicated in the re-emergence of trauma material among the elderly. For instance, Solomon and Prager (1992), in a survey of community dwelling Israeli senior citizens during the Gulf War, interpreted raised levels of war-related distress among Holocaust survivors to mean that the Gulf War symbolically represented subjective elements of that earlier experience leading to an exacerbation, or reactivation, of previous distress (see also Robinson et al., 1990).

However, for some, severe and directly threatening proximal events are required for posttraumatic symptoms to resurface. For example, Robinson et al. (1994) interviewed clinical and non-clinical Holocaust survivors and matched controls, exploring their responses to the Gulf War, and found that reactivation of previous

trauma was only apparent among those non-clinical Holocaust survivors whose homes suffered damage by SCUD missiles.

Macleod's (1994) study of trauma reactivation among older adult veterans has shown that, although no single event or circumstance wholly accounted for participant perceptions of deterioration in mental state, physical ill health and its attendant reduction in independence and ability to pursue recreational activities was unanimously cited as a contributing factor in mental health difficulties. Even though retirement and aloneness were also ascribed as major factors related to reactivated PTSD, physical ill health was the most universal and seemingly potent stressor of all. Macleod claims PTSD is reactivated by (physiological and psychological) illness, as it resembles life-threatening traumatic events from previous years.

Concurring with this position, Clipp and Elder (1996) cite various case studies (e.g. Brockway, 1988; Christenson, Walker, Ross, Maltibie, 1981; Hamilton, 1982) that suggest age-related losses (for example, retirement, death of loved ones, children leaving the family home, deterioration of physical health) can trigger dormant PTSD among elders. They argue that such losses are indicative of a lack of control, which is a central feature of many traumatic events, and which can be experienced once more during senescence. Similarly, Kaup, Ruskin and Nyman's (1994) review of WWII veterans found participants suffered an exacerbation of symptoms in conjunction with life stresses such as retirement, deteriorating health, or death of a loved one, while Heuft (1999) speculates that it is the demands of the somatic process of aging that lead to the reactivation of previous trauma.

Interestingly, Port et al.'s (2002) longitudinal study demonstrated evidence that negative health changes, social support and acceptance of death rather than negative life events (e.g. death, illness or injury of someone close, change in free-time activities) were related to both current and changing posttraumatic symptomatology among elders. However, it is not clear the extent to which these events served to trigger rather than worsen already present PTSD among their sample (and so this finding might be regarded as uncovering features that exacerbate current symptoms rather than demonstrating onset variables per se).

Less obvious trigger events have also been implicated in the reactivation of the disorder in late life, such as the decision to apply for a war pension (Dinnen, 1993; Hermann & Eryavec, 1994), guilt relating to acts of omission or commission during combat (Ramchandani, 1990), or recent neurological insult (Grossman, Levin, Katzen & Lechner, 2004). Indeed, for the majority of Ruzich et al.'s (2005) participants the onset of PTSD symptoms was associated with medical conditions, psychosocial stress and/or mild cognitive impairment, leading the authors to conclude that environmental stressors and age-based neurodegeneration can contribute to reactivation among aging combat veterans.

Finally, Hilton's (1997) case study research with older adult veterans suggests that the media can reactivate PTSD among those who were otherwise symptom free.

As a helpful way of structuring our thinking concerning triggering phenomena among the elderly, Aarts and Op den Velde (1996) propose that life events reported to precipitate a sudden onset or exacerbation of PTSD can be divided into two types.

The first represent personal changes (e.g. retirement etc.) while the second involve confrontation (e.g. racism, war, cruelty etc.), either directly or indirectly such as through the media. Both types, however, have the common feature that they symbolise the original trauma. This approach may have some conceptual overlap with Solomon et al.'s (1987) aforementioned framework of reactivated PTSD types, in that those whose trauma symptomatology re-emerges as a result of a direct reminder of their previous experience may be thought of as demonstrating uncomplicated reactivation, while those who are affected by indirectly relevant stimuli represent the complicated reactivation type.

Indeed, Brewin et al. (1996) have proposed that premature inhibition of trauma processing (which affords the possibility of subsequent reactivation) might be distinguishable from completed emotional processing as a result of the presence of attentional biases, impaired memory for the event, phobic avoidance and somatisation. Such an approach might lend itself to the identification of reactivation types by screening those who have seemingly recovered from PTSD for their degree of sensitivity to potential triggering stimuli. Those with the greatest sensitivity to more indirect reminders of trauma would be hypothesised to be those most likely to suffer complicated reactivation in later life. Indeed, the categorisation of potential reactivation type may itself have treatment implications (see Treatment section below).

In drawing a line under existing knowledge regarding triggering phenomena, we can say that not just the potential for a re-occurrence of a directly similar distressing event (e.g. warfare) but also events that resemble a distant trauma via symbolic

association (Solomon & Ginzburg, 1998), such as loss or lack of perceived control, can reactivate trauma responses. To date triggering events and the meaning underpinning them have been mostly speculated upon rather than explored systematically, although initial work in this area (e.g. Macleod, 1994; Port et al., 2002; Ruzich et al., 2005) does exist. Prospective research, featuring those identified as exhibiting signs of prematurely inhibited processing might be instigated as a means to further identify those features most implicated in the reactivation process.

7 Theoretical explanations

So far we have reviewed classifications of reactivated PTSD and considered evidence regarding the prevalence of the disorder and its most likely symptoms, course and triggers. However, these features describe *when* reactivated PTSD arises rather than strictly *why* it might do so and so we turn to theoretical explanations that might account for the resurgence of distant trauma in later life.

Floyd et al. (2002) are particularly interested in why there should be a recurrence of posttraumatic symptomatology among older adults and highlight psychodynamic, social support, vulnerability and developmentally based rationales to help explain reactivation, before going on to posit an adjunctive cognitive aging view of the process. We draw upon this broad framework and briefly consider each of these respective positions.

The psychodynamic position essentially proposes that the re-emergence of PTSD represents a failure of repression (Horowitz, 1974). The sufferer experiences initial posttraumatic distress yet makes a recovery by assimilating and accommodating

elements of the trauma and repressing whatever remains. This strategy can remain in place until life events, that in some way symbolise the original trauma (see Solomon & Ginzberg, 1998), trigger powerful similar affective states. The likelihood that repression will fail is thought related to the degree of similarity between the original and reactivating events. Once conscious, the original trauma memory requires further processing, which leads to the experience of PTSD once more. Indeed Aarts et al. (1996) suggest that the repression of trauma memories and affect, along with coping with everyday stress, incurs an energy cost which can be difficult to maintain as one ages. These authors interpreted the high levels of vital exhaustion they measured among aging resistance veterans as an indication that both general daily coping and trauma defense mechanisms require vital energy and as this diminishes so previously adequate repression can fail.

It has also been argued that a loss of social support in later life decreases the amount of available social resources that might moderate posttraumatic symptomatology. Evidence for this position comes from Elder and Clipp (1988) who determined that, as well as poorer adolescent psychological functioning, heightened combat exposure and a history of symptoms immediately following wartime, inadequate social support over the post-war years predicted later-life trauma symptoms. Similarly, Port et al. (2002) found POWs with smaller social networks tend to report the greatest levels of PTSD symptoms. Floyd et al. (2002) contribute to this position by speculating that the older adult survivor is at an increased risk for reactivated PTSD if social support decreases to beneath a critical level. They do not, however, suggest how this critical level might be determined or indeed what presumably social-cognitive process serves as the mechanism by which reduced social support leads to heightened re-

experiences of distal trauma. Others, such as Hunt and Robbins (2001b), note that veterans derive different aspects of social support from different sources and so work may be required to identify specifically which elements relate to the greatest risk of reactivated PTSD.

The vulnerability perspective is based on Solomon and Ginzberg's (1998) argument that those who have experienced severe trauma are left with an emotional wound that leaves them psychologically more susceptible to subsequent adversity than those who have not. Supporting this position, Landau and Litwin (2000) compared sociodemographic characteristics, interpersonal resources (locus of control and social network) and vulnerability (physical health, mental health and PTSD) among elderly Holocaust survivors and matched controls. Their findings indicate that only male Holocaust survivors demonstrated a higher prevalence of PTSD, while only female survivors report significantly more physical health difficulties than controls, suggesting vulnerability may itself be differentially moderated by gender.

The developmental hypothesis (Erikson, 1997; Erikson, Erikson & Kivnick, 1986) is often cited in the literature and proposes that due to the life stage challenges inherent in older adulthood the tendency to reminisce leads to a focus on significant material from ones past, resulting in PTSD symptoms among those unable to cope with memories of the earlier event. Indeed, it has been claimed that prior trauma represents a developmental risk throughout the aging process (Aarts & Op den Velde, 1996) and that there is a significant overlap between the tasks of successful aging and of those of trauma recovery (e.g. mourning, assigning meaning, accepting,

re-establishing self-coherence and achieving ego integrity), which must be carefully negotiated for integrity to triumph over despair during later life.

Some have argued that veterans often are ill prepared for the tasks of aging, perhaps due to the coping mechanisms (e.g. striving, avoiding) they have been found to employ during middle age. Atonement and gaining collective approval may be particular tasks for these men (Macleod, 1994), which is in keeping with the life-stage developmental imperative to seek meaning and achieve a sense of self-coherence as one approaches death. Similarly, the veterans in Aarts et al.'s (1996) study experienced painful reminiscences concerning their wartime experiences and sought to find meaning for their suffering and sacrifices. Reactivation of trauma memories may of course serve to inform elder wisdom as those who survived terrible events pass down warnings of danger to younger generations (Macleod, 1994).

Authors such as Aarts and Op den Velde (1996) are at pains to point out that modern gerontological theories do not adhere to the notion of aging as primarily a process of decline in both psyche and soma. Others (see Grossman et al., 2004), however, cite normal aging research indicating a decrease in fluid intelligence, attention, memory and some features of language as a result of senescence and such work is the natural underpinning for Floyd et al.'s (2002) cognitive aging stance.

7.1 Cognitive aging

Floyd et al. (2002) argue that age-based failures in attentional processes increase the likelihood of distressing memories intruding into consciousness. In turn this reduces the effectiveness of working, explicit and prospective memory systems,

compounding the disabling effects of aging on these functions. This joint process of increased re-experiencing and decreased ability is thought to make clinical levels of PTSD more evident. In relation to this, it is interesting to note that Port et al. (2002) found life changes such as loss of ability to remember things strongly correlated with increases in PTSD score over time among their elderly sample and so the idea that deterioration in memory skills may be linked to increased distress does stand up to initial scrutiny.

Recent neuropsychological evidence also provides support for the cognitive position. For example, Brewin and Smart (2005) have shown that individual differences in working memory capacity are associated with ability to intentionally suppress personally relevant intrusive thoughts, further supporting the idea that personal cognitive capacity underpins the inhibitory mechanisms implicated in PTSD (see also Brewin & Beaton, 2002).

Indeed others, such as Vasterling and Brailey (2005), cite that the most evidence for neuropsychological impairment associated with PTSD is found in relation to the domains of attention and memory. However, based on the current body of empirical research, such levels of impairment are considered to be relatively mild. With that said, these authors make special mention of executive control and other functions relating to the integrity of the prefrontal cortex, citing that although there is as yet not strong evidence that PTSD is associated with difficulties on executive functioning tasks, aspects of prefrontal functioning not assessed by popular tasks (such as the Wisconsin Card Sorting Test) may still be impaired in those with the disorder. Studies that have analysed errors (e.g. Vasterling, Brailey, Constans & Sutker, 1998)

provide some evidence that PTSD is associated with poor inhibition on memory and attention based tasks. Moreover, poorer performances on motor, visual-organisational and word-list generation tasks, with high executive demands, have been highlighted among sufferers.

In addition, Grossman et al. (2004) examined PTSD symptoms and the onset of neurological disease in elderly trauma survivors. They outline two case studies and hypothesise that cognitive decline may have diminished the ability to inhibit intrusive memories, resulting in a re-emergence of PTSD. Specifically they cite that, in those with dementing illnesses, a decrease in the integrated activities of the hippocampus and prefrontal cortex can result in impaired short-term memory. While long-term memories are better preserved reliance on these may be distressing, especially if one were unable to effectively inhibit their emergence. These authors also suggest that cognitive decline may lead to a diminished ability to utilise adaptive coping mechanisms or that, alternatively, the onset of a life-threatening disease itself is enough to trigger PTSD symptoms.

Ruzich et al. (2005) put forward a similar argument by proposing that a combination of one or more factors (cognitive decline, psychosocial stress, or neurodegeneration as a result of the aging process) may account for delayed onset PTSD among elderly veterans. They cite neurobiological mechanisms derived from research into neuroendrocrine (e.g. hypothalamic-pituitary axis involution with aging) and neuroanatomical factors (e.g. amygdala-hippocampal interactions) as mediating PTSD symptoms and resulting in neuropsychological decline. Their belief is that psychosocial stressors and physical illness (including dementia) related to aging may

reduce inhibitory ability leading to reactivation of trauma memories. In addition, the neurobiology of stored memorial representations may also be affected, further contributing to the re-emergence of trauma material among the elderly.

In many cases, cognitive decline is thought to be a contributor rather than the sole cause of reactivation. Indeed, others who cite more psychodynamically informed explanations for the phenomenon (e.g. Macleod, 1994) also point to the notion of cortical mechanisms holding indelible sub-cortical conditioned emotional responses in check and suggest that a failure in these processes should be considered in any full exploration of late-life distress.

7.2 Summary of theoretical positions

Floyd et al. (2002) conclude that the recurrence of PTSD in later life is most likely the product of various features drawn from the above theories and claim that the challenge for future research is to determine the relative contribution each makes to the phenomenon. We feel these can be divided into decline based (psychodynamic, cognitive aging) and life-stage related (vulnerability, developmental) approaches, which may themselves be inter-related. While it is not possible to adequately compare the relative merits of the above theories at present, given the almost complete lack of research that has attempted to do so, we nonetheless note that differences in vulnerability (current PTSD) but not social network were apparent between Landau and Litwin's (2000) Holocaust sample and matched controls. This suggests current experience of earlier distress is not differentially affected by access to social resources. Further studies of this ilk are required to support this idea yet provide a good example of the kind of research that might be employed to advance

our understanding of why some older adults re-experience their traumatic past in the way they do.

8 Treatments

Current guidelines for the management of PTSD in adults from the National Institute for Clinical Excellence (NICE: March 2005) state that those with PTSD should be offered either trauma-focused cognitive behavioural therapy or eye movement desensitisation and reprocessing (EMDR) therapy. Drug treatments are not recommended as a first-line treatment in preference to trauma-focused psychological therapy and should only be considered for those who prefer not to engage in a psychological approach. Of interest to the current review, the guidelines state that therapy should be offered to those with PTSD regardless of how long it has been since their traumatic event. However, specific mention of issues pertaining to either older adults or reactivated trauma do not feature.

From the general literature we can see that the overwhelming majority of PTSD treatment research is based on adult populations. Therapy with elders has, however, occasionally been commented upon. For example, a broad biopsychosocial approach is thought useful when working with this group and can feature psychoeducation for both sufferer and family, medication based approaches for re-experiencing, insomnia and hyperarousal type symptoms and psychotherapy for managing avoidance phenomena (Bonwick & Morris, 1996; see also Schreuder, 1997). Indeed, the use of medication for PTSD appears throughout the literature and as Busuttil (2004) provides a recent and concise summary of this it will not be commented upon further here, allowing us to focus exclusively on psychosocial aspects of treatment.

Some treatments may be particularly pertinent to older adults suffering the effects of distant trauma. For instance, Maercker (2002) advocates a structured life-review technique that involves discussion and evaluation of each life-stage and encourages reminiscence on both positive and negative events. Positive coping experiences are reinforced and three case studies are cited where this approach has proved effective. The method clearly draws upon developmental thinking that trauma can be best be resolved in the context of a life lived (see also McInnis-Dittrich, 1996). Likewise, Davies (1997a) cites Robbins' (1997) four-stage model of treatment for war veterans (featuring disclosure of events, identification of dysfunctional emotions and cognitive content, behavioural change strategies, and termination) as being interwoven with developmental thinking that allow difficulties to be considered from a longitudinal viewpoint with an explicit focus on integration of trauma material.

Indeed, Robbins (1997) argues that disclosure is always necessary when working with distant trauma. He cites the successful application of his treatment approach with 10 elderly World War II veterans and notes that an additional client dropped out of therapy, as he could not face treatment. All those that remained in therapy are reported to have experienced a considerable reduction in symptoms, most notably intrusions (although measured outcomes are not provided).

Russo, Hersen and Van Hasselt (2001) illustrate a case of successful behavioural treatment using imaginal exposure for reactivated PTSD with therapeutic gains maintained over the following 16 months. Davies (1997b) agrees that behavioural elements of treatment, such as exposure, as well as time for reflection on the

meaning of these experiences can aid healing. Non-verbal interventions such as art-based therapies are thought useful when clients are unable to verbalise traumata (Schreuder, 1997). In addition, clinical experience has shown us that counselling can be appropriate for elderly dementia sufferers who re-experience trauma material from their past (Davies, 1999).

Of note, in terms of individual therapies, Hiley-Young (1992) advocates Solomon et al.'s (1987) framework of reactivated subtypes as a guide to treatment matching. He suggests that uncomplicated reactivation is dominated by positive symptoms (e.g. intense affective states, intrusive thoughts, psychic numbing) and argues that what he terms 'a psychoeducational approach', featuring elements of cognitive restructuring, mobilisation of family resources and exposure based treatments, may be appropriate. In contrast, complicated reactivation is thought characterised by a misalignment between the sufferer and their social surroundings, resulting in social withdrawal and identity disturbance (a disorder of the self) requiring a psychodynamic treatment with an emphasis on process above content to facilitate self-reconstruction.

However, although Hiley-Young's (1992) notion of client-treatment matching for reactivated trauma is to be commended, the approach he outlines seems to involve a considerable blurring of treatment boundaries as the psychodynamic therapy he recommends shares some notable features (e.g. cognitive restructuring and positive meaning of events, information giving about stress syndromes, examination of how the victim could behave differently should a similar event occur) with his psychoeducational method. We are therefore uncertain as to the active ingredients of either treatment, although recognise that the author favours a personality based

approach in cases of complicated reactivation. As this way of targeting therapy is novel and attempts to draw upon the reactivated trauma literature in such a direct way we await with much interest to see if data beyond the two case studies Hiley-Young (1992) presents might be provided to explore this position in greater detail.

In relation to groups, Kaiman (2003) describes ongoing interactive group psychotherapy with World War II veterans suffering delayed onset or exacerbated PTSD and alludes to improvements in participants' physical health, enjoyment of life and ability to discuss traumatic experiences with family members (although no formal assessment of these changes is detailed). Similarly, Bonwick (1998) reports encouraging early results in a series of 16 week group treatment programmes with veterans, despite limited improvements in core PTSD symptomatology (although once again data are absent).

In addition, Lipton and Schaffer (1986) ran a group therapy program for veterans and ex-POWs with delayed PTSD and simply reported that the program produced 'excellent' results. An important goal of the program was to help members learn to spend less time in their past, which was achieved by discussion of recurring wartime memories with peers who could then offer solutions. The authors argue that the relief of long held guilt afforded a reduction in symptoms, although we note that antidepressant medication was also widely used which potentially confounds this claim. Moreover, Lipton and Schaffer (1986) state that most individuals reported feeling better within the second or third group meeting but, as with the above group studies, do not provide any data to substantiate their claims regarding the efficacy of the treatment. Although testimonial comments from group attendees commend the

benefits of the program, the absence of formal measurement of symptom changes as a result of participation renders such work most difficult to assess.

Interestingly, the positive benefits of the sense of camaraderie that can be engendered among groups of elderly veterans has been commented upon (Bonwick & Morris, 1996) as a potentially beneficial feature of group work, although we are unaware of any empirical research that has considered this facet of social support in particular detail. Davies (1997b), however, warns of the advantages and disadvantages of social support in war trauma treatments, as some may feel vulnerable and find their experiences attract censure rather than support from peers. As such, some clients may find a supportive environment rather than a supportive group experience of greater benefit.

Clearly a range of therapeutic approaches may be applicable for older adult PTSD and the general advice from the literature seems to recommend that, for now, treatment principles parallel those used with working-age adults (Busuttil, 2004). It remains unclear, however, whether existing knowledge on PTSD can be applied directly to the experience of reactivated trauma. As others have noted (Hilton, 1997) treatments that have been found to be effective in younger adults with PTSD have simply not been investigated with the elderly and there is little to guide decisions whether current therapies will be efficacious or not among this group. With that said, the work outlined above is an encouraging start (e.g. Robbins, 1997; Russo et al., 2002) and, as with Hiley-Young's (1992) innovative application of Solomon et al.'s (1987) framework, requires further validation before its utility can be properly assessed.

9 Review summary

In summary, our review has shown that there is a considerable lack of empirical work on reactivated PTSD among the elderly. Evidence for the existence of the phenomenon rests on the research outlined in Table 1, clinical experience and a body of case study material. Our central message must therefore be that further work needs to be conducted before reactivated PTSD can fully be considered a distinguishable feature of the disorder.

While we note the specificity of the DSM system supports research efforts and is the more widely used system for empirical work, the ICD also encompasses the notion that trauma symptoms can re-emerge after many years (although only for the most extreme traumas). However, we feel that workers should remain cautious before fully accepting current diagnostic classifications adequately encapsulate the phenomenon because conceiving of reactivated trauma as either a chronic form of intermittent PTSD (DSM) or as a feature of personality change (ICD) may be inadequate. We have seen that cognition is often central to the experience and it is possible that there may be unique features of the disorder that currently remain undiscovered.

It is clear that Solomon et al.'s (1987) initial framework of reactivation types provides a compelling account of varying severity within the disorder, however considerable further development is required in order to test its applicability to sufferers who re-encounter trauma during senescence. Similarly, a lack of data obscures the true prevalence of re-emergent trauma although clinical wisdom contends that it may be common among older adults.

Reactivated PTSD is a complex response among the elderly and a wide variety of triggering phenomena have been cited as protagonists. This leads us to the conclusion that environmental stressors, intrapsychic processes and the effects of neurodegeneration may all have a part to play, although the lead role and supporting cast have yet to be determined. Seemingly both decline based and life stage theories hold court and, perhaps most importantly, we acknowledge that the prominence of one does not necessarily exclude the other.

Unfortunately, much thinking concerning psychosocial treatment seems based on clinical experience rather than empirical research with the population at hand and this situation will need attention for the field to progress. With this in mind, we turn to briefly explore methodological limitations of existing work before considering some directions for future research.

9.1 Limitations

Our review has shown that most studies of reactivated trauma among the elderly are cross-sectional and so cannot capture changes that might take place following the re-emergence of symptoms. Moreover data regarding symptom course following the initial traumatic event is drawn from retrospective accounts that may be subject to inaccurate reporting as a result of the considerable lag between event and symptom exacerbation in later life. In addition, as we have illustrated, the majority of this work features either case study material or contains non-random samples. Of these, many are drawn from clinical groups as opposed to the wider community, potentially limiting the generalisability of research findings.

Furthermore the majority of studies do not employ control groups, which would allow comparison between affected and non-affected populations. We also note that data on pre-event functioning is rarely presented (although we accept that this may not be available), to help determine susceptibility to earlier trauma in later life. Writers such as Solomon and Ginzburg (1998) point out that research into psychological trauma can involve a large range of event types, some natural and some man-made, with varying consequences, exposure and destruction. However, reactivated trauma studies mostly look at warfare and its sequelae thus ignoring the late-life effects of other highly traumatising events such as such as childhood sexual abuse (see Peters & Kaye, 2003).

In addition, age appropriate norms need to be established for many of the tools used to assess PTSD in the over 55 age group (Falk, Hersen & Van Hasselt, 1994) and so attention should be paid to not only the manner in which research is conducted but also the appropriateness of the instruments employed for the purpose. Finally, as evident in Table 1, most studies of reactivated trauma under-represent women and do not attend to differences in experience as a result of culture or indeed social class.

Such methodological issues make it difficult to gain a clear picture of the nature of reactivated PTSD and so it is unsurprising that there is no consensus regarding, for example, which factors most precipitate the re-emergence of trauma symptoms.

9.2 Future research

Based on the above we feel that, where possible, revisions to existing methodology should be implemented to ensure that research is more rigorous and better able to address questions as yet unanswered. For example longitudinal designs, that allow us to track symptom levels and factors that impact upon them, are beginning to appear (e.g. Port et al., 2002) although at present these only explore psychological health over recent years. Rare examples, such as Elder and Clipp (1988), have been able to study data collected over a considerable period of time and are a useful model for the future.

Moreover, matched samples should be employed where possible as should quasi-experimental designs in order to view differences in groups and fuel debate regarding mechanisms thought relevant to the reactivation of trauma among the elderly. Indeed, qualitative work leading to the development of a dedicated research tool to explore the phenomenology of reactivated PTSD might be instigated (perhaps drawing upon Solomon et al.'s, 1987 work) allowing us to examine the qualities and impact of reactivation in a more detailed way.

Indeed, there may be reason to suspect that a detailed exploration of reactivated trauma might have treatment implications. As we have noted, cognitive re-experiencing seems central to the phenomenon and further examination of the nature of this activity might support a distinction between, for example, direct reliving experiences (responding well to controlled exposure paradigms) and extensive rumination (perhaps benefiting from a more cognitive restructuring or reminiscence based therapy).

Research has clearly not met the challenge posed by Floyd et al. (2002) to investigate the relative contributions of elements implicated in the process of trauma reactivation. We add our voice to theirs and reiterate the need for this work to proceed, as a greater knowledge of why some re-experience distal traumatic events would help direct services where they might best be targeted at alleviating the suffering of a potentially substantial number of older adults.

Finally, we are aware that there may be significant difficulties in accessing older adult research participants because, as has been commented upon in the literature (e.g. Hilton, 1997; Macleod, 1994), they may understandably be reluctant to engage in studies of this nature. Considerable thought should be given to this issue in terms of how we might best pursue an active research agenda given its pivotal role in our developing understanding of the disorder. Specific work to explore older adults' reluctance to participate in research, or approach services for help, will require creative thinking to implement yet is clearly warranted.

10 Conclusion

This review has revealed significant gaps in our understanding of reactivated PTSD in later life. Current thinking considers the phenomenon as mostly equivalent to de novo PTSD in adults, with an otherwise unique temporal signature. We propose that future work should explore the phenomenology of trauma related cognition to determine whether older adult reactivated PTSD does demonstrate distinguishing features and argue that such research has the potential to inform psychological treatment. Studies should also attempt to tease apart the relative contributions of life

stage and age related decline within the reactivation process. Only through a program of on-going research might we be in a position to decide whether specifically tailored services are required to help elderly sufferers.

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Part Two - Older adult experiences of reactivated posttraumatic distress: Life stage integration or cognitive disintegration?

1 Abstract

Empirical literature concerning the reactivation of posttraumatic distress in older adulthood is sparse. Twelve older adults with reactivated posttraumatic symptoms were given a structured interview exploring phenomenological aspects of their trauma memories. Intense and veridical sensory components of trauma memory were common as was a sense of current threat. Processes thought to underpin reactivation were examined and our original 12 participants and 12 matched controls were given measures of mood, reminiscence and memory functioning. Results indicate that there is a trend for greater general reminiscence and poorer cognitive inhibition of material among the reactivated trauma group. In particular, this group demonstrated more frequent reminiscence as a means to teach/inform others and, during a memory experiment, greater cognitive intrusions of the very material they were trying to forget. Our data therefore provides initial support for both a developmental, life-stage, explanation and a cognitive aging perspective on the re-emergence of distant trauma material in senescence.

2 Introduction and aim

While our understanding of posttraumatic stress disorder (PTSD) continues to develop (Joseph, Williams, & Yule, 1997; Yule, 1999), research efforts focus primarily upon adult and child populations (Cook, 2001). As such, there is a relative dearth of work into the experience of posttraumatic distress among older adults (Busuttil, 2004).

In particular, the longitudinal signature of the disorder remains uncertain and the literature is peppered with reports of sufferers who have long periods, up to and including several decades, without distress only to experience a recurrence of PTSD symptoms in late life (Pomerantz, 1991; Van Dyke, Zilberg & McKinnon, 1985).

According to the few studies that exist prevalence rates of late onset, or reactivated, PTSD[2] among the elderly vary quite markedly (Kluznik, Speed, Van Valkenburg & Magraw, 1986; Op den Velde et al., 1993; Port, Engdahl & Frazier, 2001) and so the true extent of the problem remains unknown. There is, however, a growing body of clinical evidence that suggests later life seems to act as a precipitating factor in the re-experience of PTSD symptoms years after an event (Hunt, Marshall & Rowlings, 1997). We note that reactivated traumatic stress among the elderly can be overlooked in a clinical context (Nichols & Czirr, 1986) and so research highlighting this facet of the disorder may be particularly important.

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[2] For our purposes, and following Solomon, Garb, Bleich & Grupper's (1987) notation, the term reactivated PTSD will be used to encompass the notion of both recurrent and delayed-onset PTSD in older adults. It can be argued that the term delayed-onset refers to posttraumatic symptoms that first appeared after a period marked by an absence of trauma response, while the terms reactivated or recurrent PTSD refer to symptoms reappearing following a period of significant amelioration. We note, however, that these terms are often not differentiated within the older adult literature and are, mostly, used interchangeably.

Unfortunately, empirical studies into the psychological reactivation of distal trauma are rare. Our paper attempts to reduce this shortfall by exploring both the nature of and cause for the re-emergence of such material among the elderly. We examine the phenomenology of memory for distant trauma and compare two processes thought relevant in its re-emergence during senescence.

2.1 Phenomenology

A recent study into late-onset PTSD among elderly veterans (Ruzich, Looi & Robertson, 2005) demonstrates particularly high endorsements of re-experiencing symptomatology (e.g. recurrent intrusive thoughts and images, dreams, physiological reactivity etc). Notably, only certain avoidance (e.g. avoidance of thoughts and emotions, of stimuli arousing recollections, feelings of detachment) and arousal symptoms (insomnia) approach similar levels, suggesting cognitive activity may lay at the heart of older adult experiences of reactivated trauma. In similar fashion, Macleod (1994) describes the re-emergence of re-experiencing and arousal symptomatology, most notably intrusive and recurrent recollections and nightmares, among a sample of elderly war veterans suffering reactivated PTSD.

The notion that trauma memory may be central to the experience of reactivated PTSD has been considered by Brewin, Dalgleish and Joseph (1996, see also Brewin, 2001, 2003), who describe a layered account of posttraumatic cognitive activity. They speculate that two distinct types of memory for trauma exist, stored as dual representations of the experience. The first, verbally accessible memories (VAMs) can be conceptualised as everyday autobiographical memories for the event (one's conscious experience of the trauma) that can be retrieved at will, or can appear

automatically. Such memories can be subjected to successive editing, are stored in a long-term memory (thus are readily located in terms of the past, present and future) and are available for verbal communication to others. The second form of trauma memories, situationally accessible memories (SAMs), contain more extensive lower-level perceptual processing of the trauma (including dreams and flashback experiences) and feature the individual's visceral and emotional response *at the time the event occurred.* As the SAM system does not use a verbal code the memories it contains do not easily integrate with autobiographical knowledge and are not verbally accessible. Thus SAMs perpetuate a sense of *current* threat, as the information contained therein is not subject to the wider personal knowledge base that provides a temporal context.

Brewin et al. (1996) proposed three possible endpoints in the emotional processing (Rachman, 1980) of traumatic experiences: completion/integration, chronic emotional processing, and premature inhibition of processing. Completion may be thought of as successful resolution of the event resulting in integration with autobiographical memories and ones sense of self and the world. Chronic processing is conceptualised as when both VAMs and SAMs are persistently active and the individual is preoccupied with the trauma (the classic, symptomatic, stage of PTSD). Finally, in prematurely inhibited processing sustained efforts to avoid, or inhibit, distressing VAMs and SAMs are thought to result in automatic suppression over time. Brewin et al. (1996) speculate that an avoidance schema may evolve which directs conscious attention away from trauma related stimuli or that, similarly, a limited trauma based script may develop that allows the individual to incorporate the minimal fact that the event occurred into autobiographical memory (a highly

circumscribed form of VAM) without accessing any substantive, distressing, details of what actually happened. However, the inhibition process may be prone to fluctuations over time, such as when one enters old age, leading to the re-emergence of SAM material. Based upon the above system of outcomes, older adults experiencing a recurrence of past trauma may be thought of as having shifted from the prematurely inhibited to chronic processing stage and so would be expected to exhibit SAMs as a significant feature of their trauma memories.

Finally, we argue that a thorough examination of the phenomenology of reactivated trauma may have implications for psychological treatment. For example, a greater knowledge of the nature of distant trauma memory might inform the use of controlled exposure paradigms and cognitive restructuring work (e.g. Grey, Young & Holmes, 2002) to help lower distress.

2.2 Processes of reactivation

Floyd, Rice and Black (2002) are particularly interested in the reactivation of posttraumatic symptoms among older adults and delineate several theories that help explain why this may occur. One which has considerable currency has been termed the 'developmental hypothesis' (Erikson, 1997; Erikson, Erikson & Kivnick, 1986) and posits that due to the life stage challenges inherent in older adulthood (i.e. the existential goal of achieving integrity over despair), the tendency to reminisce leads to a focus on significant material from the past, resulting in PTSD symptoms among those unable to cope with memories of earlier traumatic events. Indeed, it has been claimed that prior trauma represents a developmental risk throughout the aging process (Aarts & Op den Velde, 1996) and that there is a significant overlap between

the tasks of successful aging and of those of trauma recovery (e.g. mourning, assigning meaning, accepting, re-establishing self-coherence and achieving ego integrity), which must be carefully negotiated for a sense of integrity to triumph over that of despair during later life.

Research into reactivated PTSD among elderly veterans has argued that the tasks of aging for these men include atonement and gaining collective approval (Macleod, 1994), which are in keeping with the life-stage developmental imperative to seek meaning and achieve a sense of self-coherence as one approaches death. Similarly, the aging veterans in Aarts et al.'s (1996) study endured painful reminiscence regarding wartime events and struggled to find meaning for their suffering and sacrifices. Finally, it might be claimed that the reactivation of trauma memories has a social-evolutionary basis, as elder wisdom obtained as a result of surviving severe adversity is passed down to younger generations (Macleod, 1994).

In contrast to the developmental perspective, Floyd et al. also outline a cognitive aging explanation for the recurrence of PTSD among older adults and propose that age-related decreases in attention (most notably inhibitory ability) make the re-experiencing of trauma material more likely. This decrease, in conjunction with age-based compromises in working, explicit and prospective memory systems is thought to increase personal distress connected with distant trauma and lead to a recurrence of PTSD symptoms.

Recent neuropsychological evidence supports the cognitive position. For example, Brewin and Smart (2005) found that individual differences in working memory

capacity are associated with ability to intentionally suppress personally relevant intrusive thoughts, further supporting the idea that cognitive capability underscores the inhibitory mechanisms implicated in PTSD (see also Brewin & Beaton, 2002). Moreover, Grossman, Levin, Katzen and Lechner (2004) outline case studies detailing PTSD symptoms and the onset of neurological disease in elderly trauma survivors and also hypothesise that cognitive decline diminishes ability to inhibit intrusive memories, leading to a re-emergence of previous distress.

Floyd et al. conclude that the challenge for future research is to determine the extent to which either position can account for reactivated PTSD symptoms.

2.3 Summary

Research to date suggests the presence of significant cognitive activity associated with reactivated PTSD among the elderly. However, few studies have explored the form this might take in any detail. Moreover, there are clear explanatory positions regarding why trauma material might re-emerge during senescence, which require empirical investigation.

Our research examines the phenomenology of reactivated trauma memory as a means of establishing a profile or signature of this novel facet of the disorder. In addition, participant reminiscence experiences and current cognitive ability are assessed to determine whether the process of reactivated trauma is predominantly one of life-stage integration or cognitive disintegration. Primary hypotheses are therefore that:

1. Reactivated trauma memories will be rich multisensory experiences, characterised by intense and veridical SAM type phenomena.

2. Those with current symptoms of distal trauma will demonstrate greater cognitive deficits in working memory, autobiographical memory and inhibitory ability than matched controls.

3. Those with symptoms of distal trauma will demonstrate greater reminiscence about the past than matched controls.

3 Methods

3.1 Design

The initial, phenomenological, phase of our study had a non-experimental, descriptive design and featured a structured interview with participants who experience reactivated trauma. The second phase featured a between group (reactivated trauma versus matched controls) quasi-experimental design, with all participants completing questionnaires, semi-structured interviews, psychometric tests and a memory experiment.

3.2 Ethical approval and issues

The Research Committee of the Sub-Department of Clinical Health Psychology at University College London, as well as the Research Ethics and Research and Development committees of the NHS Trust in which the study took place (see Appendix 1 for ethical approval correspondence), reviewed and approved our research.

The main ethical issue surrounding the study related to the potential for participant distress as a result of discussing traumatic life events. However, clinical experience tells us this would be most unlikely to occur and if it did would present among only a small minority of cases. As such, we agreed that were significant distress to be experienced by greater than 10% of the reactivated trauma group (i.e. by two people) then the research would be halted. In other words, we were confident that those with a history of reactivated trauma, as informed and voluntary participants, would be able to discuss their memories of adverse events in interview (considered the phase of the study most likely to reactivate distress) without activating the distress that

typifies the condition. We developed a protocol for attending to those who might experience distress as a result of taking part (see Appendix 2), although this was not used as none of our participants reported any adverse effects as a result of the research.

3.3 Participants

3.3.1 Sampling older adults with distal traumatic life events

We recruited participants between March 2005 and April 2006 by distributing an advertisement entitled 'Remembering the Past'. This invited older adults to take part in research exploring the current impact of earlier traumatic life events. It stipulated that we would like to hear from both those who no longer thought about what had happened and those whose thoughts of such events had resurfaced and were currently on their minds once more (see Appendix 3 research advertisement).

Participants were made aware of the research advertisement either by staff working in mental health services within an NHS Trust based in the South East of England or through organisations whose members were deemed particularly likely to have experienced traumatic events (see Appendix 4 gatekeeper correspondence).

For example, we contacted ex-service personnel associations and clubs at national level as well as locally (centring primarily on those clubs within the counties of Essex and Suffolk). Those approached included the Royal British Legion, the Royal Navy Association, the Royal Air Force Association, the British Korean Veterans Association, the National Malaya and Borneo Veterans Association, the Colchester Guards, the Royal Corps of Signals, the Essex Yeomanry Association, the Burma

Star Association. We also contacted groups with a focus on difficulties following warfare, such as Combat Stress and the Sir Oswald Stoll Foundation, with a view to their disseminating information about the research among their members.

Other organisations such as the National Association of Retired Police Officers as well as those related to the Fire and Ambulance services were also contacted. In addition, more generic retired persons groups were included such as the Association of Retired Persons Over 50 and the Seniors Network, as were Age Concern and the Salvation Army. A number of websites which focus on pensioner matters were also contacted and the lead researcher visited and presented the basis of the research to six different pensioner action groups across two counties with a view to further recruitment.

We also advertised the research in all public libraries in Essex and Suffolk and contacted local newspapers to see if they wished to run a feature on reactivated trauma among the elderly. Finally, 65 local GP surgeries, 100 local churches, several local day centres and all residential homes within a ten-mile radius of the research base were also sent information regarding the work.

3.3.2 Participant details

Eligible participants were older adults (≥ 65 years of age) who had experienced a highly distressing life event at least five years prior to taking part in the study. Exclusion criteria included a diagnosis of dementia or of a psychotic illness (although no-one meeting the exclusion criteria applied to take part in the research).

Those exhibiting significant posttraumatic symptoms (at least one DSM-IV PTSD symptom from Criterion B persistent re-experiencing, Criterion C persistent avoidance of stimuli associated with the event, and Criterion D persistent symptoms of increased arousal) took part in an investigation of the phenomenological nature of their trauma memory. These participants went on to feature as the reactivated trauma group in the between-group phase of the study. All other participants acted as controls in the between-group phase.

There were 12 (4 female, 8 male) reactivated trauma group participants, of mean age 74.25 years (*SD* = 5.94) and 12 controls (8 female, 4 male) of mean age 75.42 years (*SD* = 6.01). All participants were White British. Five of the reactivated trauma group and 4 of the controls reported a history of mild depression, which was successfully treated with medication. All had held regular employment throughout their working lives. Participants reported a range of traumatic life events (reactivated trauma group: 2 serious accident, 4 combat, 2 assault, 2 life-threatening illness, 2 other; controls: 1 serious accident, 5 combat, 4 life threatening illness, 2 other).

Sixty seven percent of our participants were recruited from NHS sources, 13% were from veterans groups, 7% were from pensioner action groups and the remaining 13% found out about the research by newsletter (e.g. Police force 'The Law' magazine) or via a library.

3.4 Measures and Procedure

We sent potential participants detailed written information about the research (see further information, Appendix 5) and a consent form (Appendix 6). They were then

given at least a week to read the material before deciding whether or not they would like to take part. The information stated that participation was entirely voluntary and that those taking part could withdraw from the research at any time, without penalty.

Participants were run individually (see the flow chart in Appendix 7 for a diagrammatic representation of the Procedure) in their homes or at an NHS day hospital for the elderly. The researcher completed the Posttraumatic Diagnostic Scale (Foa, 1995: see Appendix 8) with each person to determine current symptoms of distant trauma. Those with significant symptomatology were asked additional questions regarding the course of their symptoms since the event (see Appendix 9), before moving onto the phenomenological phase of the study. All others entered the between-group differences phase of the study directly.

The Posttraumatic Diagnostic Scale is a valid and reliable measure designed to yield a diagnosis of PTSD based on the DSM-IV (1994) conceptualisation of the disorder. Foa, Cashman, Jaycox and Perry (1997) report high diagnostic agreement with the PTSD module of the Structured Clinical Interview (SCID: Spitzer, Williams & Gibbon, 1987) as well as good sensitivity (.89) and specificity (.75). Our current research obtained a reliability of .86 for the total scale.

3.4.1 Phenomenology

We examined the nature of current memories for distant trauma using the Trauma Memory Inventory – Post Script Version (Hopper & van der Kolk, 2000), supplemented with items drawn from the original Trauma Memory Inventory (van der Kolk & Fisler, 1995). The resulting measure, which we will call the *Trauma*

Memory Inventory – Distant Events, (see Appendix 10) remains a semi-structured interview for assessing memory characteristics based on observations by clinicians working with traumatised patients. It asks factual questions such as age when the trauma occurred and how long it lasted for before enquiring, in the participant's own words, how the trauma is thought about when it 'typically' comes to mind. The participant is also asked whether there is a sense of current threat accompanying the memory (threat is rated from 0 to 10).

In addition, the measure asks whether various components of trauma memory (visual, physical, olfactory, auditory and affective) present. It requires participants to rate the intensity of each component as well as whether they relive, as opposed to just remembering, each aspect of the memory on a scale from 0 (not present) to 10 (as intense/full reliving). It also asks if the memory includes thoughts about the situation, whether all memory components are experienced together, whether the event could be explained as a coherent story to others and if the participant would be able to talk about it fully without being interrupted by associated feelings and perceptions (which we did not require them to do).

Further items ask if there have ever been periods of complete amnesia that the trauma occurred. Triggers for memories of events are also considered before participants are asked to comment on whether they feel their perceptions of the event have changed over time (i.e. their role in the event or the extent of it). Finally, they are asked what sense they make of the re-emergence of their thoughts about the trauma.

3.4.2 Between group differences

We recorded participant demographic information (age, ethnicity, years in education and employment history), general psychiatric history and level of alcohol consumption using a semi-structured interview (see Appendix 11). We then administered a neuropsychological measure to gauge the integrity of recent autobiographical memory (Appendix 12, the Autobiographical Memory Inventory: Kopelman, Wilson & Baddeley, 1990) before enquiring about recent mood, using the Geriatric Depression Scale (Sheikh & Yesavage, 1986, see Appendix 13).

In addition, working memory ability (calculated using the Arithmetic, Digit Span and Letter-Number Sequencing scales from the Wechsler Adult Intelligence Scale-III, 1997, see Appendix 14) was assessed as was the extent to which participants reminiscence about the past (Appendix 15, the Reminiscence Functions Scale: Webster, 1993). Finally, participants took part in a directed forgetting experiment to measure intentional cognitive inhibition ability (Andres, van der Linden & Parmentier, 2004), which is outlined below.

The Autobiographical Memory Inventory covers three time periods (childhood, early adulthood and recent life) although only the recent life section was used in this study. Questions pertain to personal semantic information, such as current address, names of three neighbours or colleagues etc., (scored out of 21) and to autobiographical incidents, such as recalling an incident involving a relative or visitor that took place in the last year. Memory for autobiographical incidents was rated on a scale from 0-3 (maximum score 9), based upon the exemplars provided in Kopelman et al. (1990).

Inter-rater reliability for autobiographical incidents was good (weighted kappa = 0.75) and scoring disputes were resolved by agreement.

The Geriatric Depression Scale is a 15-item screening tool for depression among the elderly. It asks participants to rate how they have felt over the last week (e.g. are you basically satisfied with your life?) and features a yes/no format. Acceptable sensitivity (.88) and specificity (.76) have been reported (de Craen, Heeren & Gussekloo, 2003) among the elderly, as has excellent internal consistency (.94, Fountoulakis et al., 1999). We obtained a reliability coefficient of .83 in the current study.

The Reminiscence Functions Scale (RFS) is a valid and reliable 43-item questionnaire that measures how often participants reminisce with a particular function in mind. Items are presented as completions of the sentence stem 'When I reminisce it is' (e.g. because it fills the gap when I find time heavy on my hands). Responses range from 1 (never) to 6 (very frequently). The measure yields scores across eight different reminiscence functions, which can be summed to provide a total score. The sub-scales include boredom reduction (the tendency to reminisce due to an impoverished environment or reduced goal-directed activity), death preparation (using the past when issues surrounding mortality are evident, this may relate to a positive sense of closure), identity (using the past to clarify who one is in an existential sense), problem solving (reminiscing about previous coping to help manage current difficulties), conversation (the natural use of the past to help connect with others in the present), intimacy maintenance (using cognitive and emotional representations of those from ones past who are not physically present), bitterness

revival (reminiscing about perceived unjust treatment earlier in life) and teach/inform (recalling the past to impart important wisdom about life or oneself in an instructional manner). A higher total score reflects a greater degree of reminiscing about one's past.

The RFS has acceptable psychometric properties, with internal consistencies of the various factors ranging from .74 to .86 (Webster, 1997). Our study obtained reliability estimates between .79 and .92 for the sub-scales and an overall reliability of .96 for the total measure.

3.4.2.1 Directed forgetting experiment procedure

The experiment followed the procedure described by Andres et al. (2004), in which lists of trigrams (three letters) were presented in three experimental conditions (see Appendix 16 for trigram stimuli). Rather than visually present materials on cards (as per Andres et al.), stimuli were presented via a laptop PC using Microsoft PowerPoint to ensure timing accuracy. The researcher recorded participant responses by hand.

The single-trigram condition served as a baseline measure. In this condition participants were presented with a single trigram for retention. They were then required to do a distracter task and then recall the previously seen trigram aloud in correct order. In the interference condition participants were presented with an additional trigram, immediately after the first one. They completed the distracter task and then had to recall each trigram as a separate list in correct order. Finally, in the directed-forgetting condition two trigrams were presented consecutively and

following the presentation of the second trigram the words 'to be forgotten' were displayed for 500ms. This signalled participants to forget the second trigram. They then completed the distracter task and had to recall the first trigram of the pair in correct order.

Trigrams were presented for 200ms. The distracter task involved reading a string of random numbers aloud, presented for 1000ms. Participants were given as much time as they needed to respond during the recall phase of each trial. A gap of around 5000ms was provided between recall of the previous trial and presentation of the next. There were three practice trials, one illustrating each condition, prior to the start of data collection. There were 30 trials in the experiment, 10 per condition. Trials were presented in the same order to all participants.

Responses were scored so that a point was awarded for each letter correctly recalled and a further point was given if it was in the correct serial position. For the interference condition only the first trigram was scored and so the maximum score for each condition was 60 points.

Sensitivity to interference was calculated as the difference between single-trigram and interference conditions (single-trigram minus interference score). Similarly, inhibitory ability was taken as the difference in recall between the single-trigram and directed-forgetting conditions (single-trigram minus directed forgetting score).

3.5 Power analyses

Power analyses were conducted using GPOWER V.2 (Faul & Erdfelder, 1992. Between-group t-test analyses (means), assuming a large effect size ($d = 0.8$), with an alpha set at 0.05 and power at 0.8 require a total sample size of 42 participants (critical $t(40) = 1.68$, delta = 2.59).

ANOVA analyses (means), assuming a large effect size ($f = 0.4$), with an alpha set at 0.05 and power at 0.8 require a total sample size of 52 participants (critical $F(1, 50) = 4.03$, lambda = 8.32).

4 Results

All quantitative data were screened for normality and outlying data. No scores required exclusion or transformation.

4.1 The nature and qualities of distant trauma and trauma symptoms

Participants were on average 30 years of age (SD 23) when their index traumatic event occurred. Duration of events varied widely from a matter of minutes (e.g. an episode of intense warfare) to a series of incidents ranging over a number of years (repeated domestic violence). Trauma related symptoms (typically experienced as persistent memories of what happened) were first noticed on average 78.00 months (SD 102.58) after the event and lasted an average of 51.75 months (SD 77.37) before abating. Seventy-five percent of participants felt that their initial symptoms were worse than those they currently experience, 16.7% believed the severity of their symptoms was unchanged and only 8.3% thought their symptoms were worse now than they had initially been. The average length of time during which participants subsequently did not suffer trauma related difficulties was 156.67 months (SD 150.19).

Fifty percent of participants describe themselves as having completely symptom-free periods, the remainder experienced residual re-experiencing and avoidance phenomena albeit greatly attenuated and not at levels that interfered with their occupational and social functioning. None of the participants reported ever having forgotten (a complete absence of recollection) that their event had happened to them.

Participant descriptions of the course of their symptoms meant that 75% could be categorised[3] as experiencing reactivated trauma (symptoms that got better but then reappeared at some later date), 8.3% could be thought of as fluctuating (cycles of improvement and decline) and 16.7% as having long delayed-onset (no early symptoms, then onset years after the event).

Examining item endorsement from the posttraumatic diagnostic re-experiencing subscale revealed that over the previous month participants most commonly experienced feeling emotionally upset when reminded of the trauma (83% of the sample) and upsetting thoughts and images of the traumatic event that came to mind when they did not want them to (67%). Bad dreams or nightmares about the event (33%) and physical reactions when reminded of the trauma (25%) were also reported, as was a sense of reliving or feeling the event was happening again (8%).

Items from the Trauma Memory Inventory – Distant Events provided a focus on how traumatic events are typically thought about. Memories for specific points during an event were often reported, against a wider historical backdrop. For example one participant said,

'During the Blitz we used to have to duck when the bugle blew. You knew something (a bomb) was coming. One weekend we were out in London and quite a few bombs had come over during the day. It was continuous. We saw a street and knew something was wrong. There was a blast wall up the other end of the street and I could see people looking over it and then running away. When I got there, there were people sat by the sides, just sitting, but all were dead. Thirty people including children. It was the blast that killed them all. It rocked them but they were still in place, where they'd been sitting. I saw the worse of the Blitz.'

[3] Following the categorisation scheme outlined in Port, Engdahl & Frazier (2001)

However, the level of detail included in accounts varied considerably and we left participants to determine a level of disclosure they were comfortable with. While the above account provides a clear picture of the scene (with further detail provided throughout the interview), another participant simply said, 'I see him being aggressive, in the edges of my dreams.'

To help gain further insight into the nature of such experiences, Table 1 presents the characteristics of typical trauma memories. It details the frequency of occurrence of each sensory component (%) across the group, provides mean ratings of intensity and sense of reliving per component (rated from 0 to 10) and illustrates the sense of current threat that typically accompanies the experience (rated from 0 to 10).

Table 1. Components of trauma memory

	% frequency of occurrence	Intensity / 10 (SD)	Reliving / 10 (SD)
Visual	100	7.75 (2.05)	5.00 (2.83)
Physical	58	8.00 (1.53)	6.57 (1.90)
Olfactory	33	5.33 (2.08)	3.33 (1.53)
Auditory	58	6.00 (3.46)	4.57 (2.23)
Emotional	67	6.63 (2.45)	6.38 (2.07)
Current threat	100	5.17 (2.76)	-

n = 12.

We can see that the visual modality (e.g. seeing the flames, seeing other people with injuries, picturing an aggressive partner) was universally endorsed as a component of trauma memory and that all other aspects feature to a lesser extent. Physical components of memory (e.g. knotting of the stomach, the shock of a gunshot wound) elicit the strongest sense of both intensity and reliving. While visual elements of trauma memory have clarity they do not exude as strong a sense of the event as it happened at the time. Emotional components of memory (e.g. feeling fear, anger, sadness) were common and also rated highly for both intensity and sense of reliving. While auditory (e.g. gunfire, the whiz of bombs) and olfactory components (e.g. scorching flesh, cordite) remained present they were typically less imbued with a sense of the original experience. Eighty-three percent of participants remember the components of their trauma memory together, while the remainder describe their experience as 'fragmented'.

The majority of participants (67%) remember thoughts they experienced at the time of the event (e.g. 'Am I going to get out of this alive', 'Why did you do this?'). Most (83%) felt they could tell someone what happened to them as a coherent story (the remainder explained that their narrative would be 'disjointed', 'not coherent', or 'with gaps') although only half felt they could talk about it without being interrupted by associated feelings or perceptions (50%). Those who felt that they would experience interruptions described that going over what happened in full detail (which was not a requirement of the study) would stir 'a sense of helplessness again', they would suffer 'remorse', or that they were 'uncertain exactly what a thorough review would evoke'.

A variety of triggers were found to instigate trauma memories. These include sensory reminders (endorsed by 58% of participants), anniversaries (50%), other emotions (33%), being upset with people (25%), other people being upset with them (17%) and the media (17%). More idiosyncratic triggers were also present, such as being touched in certain ways (8%) and reliving the event in an altered state of consciousness (8%). However, it was also common for memories of events to be triggered spontaneously (42%), with no clearly defined precipitant.

Only one of our participants felt that their perceptions of the event had changed over time. He cited that he has more understanding of the world now and so when he thinks about what happened it 'makes sense in terms of the facts of life'. Further discussion revealed that he meant that he understood why it happened rather than the nature of his memory having changed over time.

Finally, participants were asked what sense they made of the re-emergence of their thoughts about earlier events and whether they had any idea why this had happened. There seemed no clear consensus in how participants understood this experience. One man thought that other people going through similar events had brought it back to him, while others felt that recent difficult life events (especially bereavements) had resulted in increases in stress that led to thoughts about traumatic events and considerable worry. A similar account was offered by another participant who, following the loss of a dear friend, commented that 'emotionally you're vulnerable and ask why, why, why. This stimulates a lot of thinking and triggers a couple of bad nights.' She added, that 'the helplessness aspect is very important' to the process. Another participant thought that the re-emergence of previous trauma was 'normal',

while another said the 60th anniversary of the Second World War had bought back a flood of good and bad memories. He added, 'it make you think was it worth it and did we do enough in the first place?' One woman had clearly given the matter some thought and stated:

'I think it's having more time since retirement. I was always so busy or tired when I worked. If it popped into my head I pushed it back as I didn't have time to deal with it. One of the big things about retirement is that you do have more time to dwell on things. People can get quite frantic about filling up their hours!'

4.2 Between group differences

Of the reactivated trauma group only two participants (17%) qualified for a current diagnosis of PTSD using DSM-IV criteria. The remainder failed to qualify for the disorder as a result of low endorsement of avoidance items (the diagnosis requires three avoidance items be endorsed), arousal items (two items are required) or as a result of not fulfilling criterion F (i.e. disrupted social and occupational functioning as a result of the trauma symptoms). We were unable to determine the number who may have had PTSD in the past.

Participant characteristics and measure scores for the reactivated trauma and control groups are presented in Table 2.

Table 2. Participant characteristics and measure scores by group

	Reactivated trauma	Controls	t(df)	p
Education	11.83 (2.73)	10.67 (1.56)	1.29 (22)	.21
Alcohol	2.67 (3.00)	2.75 (3.36)	-0.06 (22)	.95
PDS criterion A1[lt]	2.50 (1.00)	1.83 (0.58)	2.00 (17)	.06
PDS criterion A2	1.25 (0.45)	0.83 (0.58)	1.97 (22)	.06
PDS re-experiencing	2.67 (1.37)	0.25 (0.62)	5.56 (22)	.01*
PDS avoidance[lt]	4.08 (3.92)	0.67 (1.07)	2.91 (12)	.01*
PDS hyperarousal[lt]	1.67 (2.23)	0.25 (0.45)	2.16 (11)	.05
PDS total[lt]	8.42 (6.72)	1.17 (1.12)	3.69 (11)	.01*
GDS	3.50 (3.80)	2.58 (2.39)	0.71 (22)	.49
AMI personal semantic	19.21 (1.60)	18.71 (1.86)	0.71 (22)	.49
AMI autobiographical	7.92 (1.08)	6.58 (1.16)	2.90 (22)	.01*
WAIS-III WMI	107.50 (19.21)	98.92 (7.82)	1.43 (22)	.17
RFS total	129.33 (35.96)	104.33 (41.18)	1.58 (22)	.13

n = 24. Note education in years, alcohol in units consumed per week. PDS = Posttraumatic diagnostic scale. GDS = Geriatric depression scale. AMI = Autobiographical memory inventory. WAIS-III WMI = Wechsler Adult Intelligence Scale – Third Edition Working Memory Index. RFS = Reminiscence functions scale. * Denotes a statistically significant difference. [lt] Denotes Levene's test for equality of variances indicated equal variances were not assumed in deriving the test statistic.

The two groups did not differ in terms of educational history or current alcohol consumption. The reactivated trauma group scored more highly than controls on criteria A1 and A2 for PTSD, illustrating the level of danger and associated fear their events provoked, yet these differences did not reach statistical significance. As expected, however, reactivated trauma group participants scored significantly higher on PDS re-experiencing, avoidance and total symptoms, although not on the hyperarousal cluster.

The reactivated trauma group also scored higher on depression, working memory index and total reminiscing than controls but these differences also did not reach statistical significance. Finally the two groups demonstrated highly similar personal semantic memory yet differed significantly on memory for recent (non-traumatic) autobiographical incidents, with the reactivated trauma group demonstrating superior ability in this area.

4.2.1 Between group differences in specific reminiscence functions

As noted earlier, the RFS is comprised of eight subscales related to various functions of reminiscence. Table 3 illustrates the score for each subscale by group.

Table 3. Reminiscence function subscale scores by group

	Reactivated trauma	Controls	t(df)	p
RFS boredom reduction	15.50 (8.41)	10.42 (6.07)	1.70 (22)	.10
RFS death preparation	12.58 (4.93)	11.08 (7.05)	0.60 (22)	.55
RFS identity	20.17 (7.69)	14.33 (6.88)	1.96 (22)	.06
RFS problem solving	18.17 (6.79)	15.42 (8.30)	0.89 (22)	.38
RFS conversation	16.17 (5.64)	14.08 (7.44)	0.77 (22)	.45
RFS intimacy maintenance	14.83 (5.49)	14.92 (5.42)	-0.04 (22)	.97
RFS bitterness revival	10.83 (3.97)	8.58 (5.18)	1.19 (22)	.25
RFS teach/inform[lt]	21.08 (3.50)	15.50 (6.42)	2.65 (17)	.02*

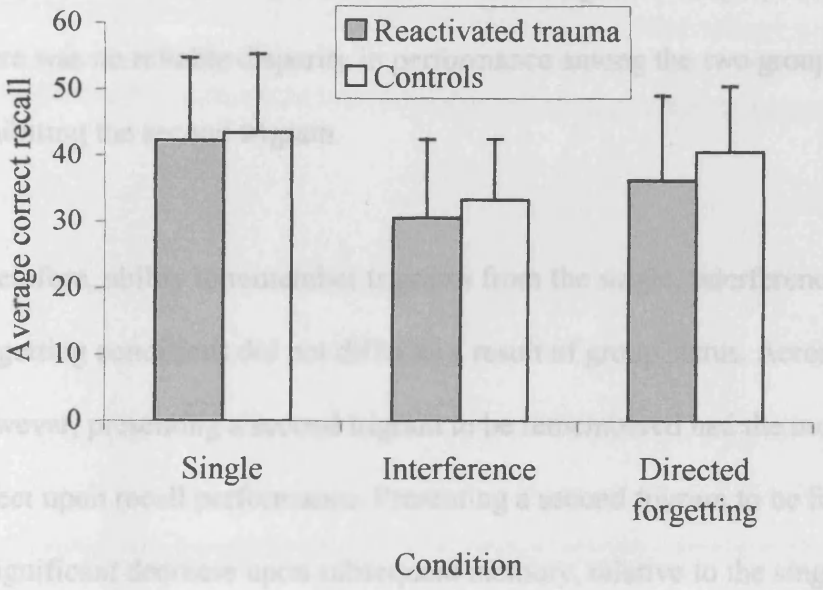
n = 24. Note RFS = Reminiscence functions scale. * Denotes a statistically significant difference. [lt] Denotes Levene's test for equality of variances indicated equal variances were not assumed in deriving the test statistic.

As we can see reminiscing to teach/inform others is reliably more frequent among the reactivated trauma group than controls, with RFS identity following a similar trend.

4.2.2 Between group differences in directed forgetting

The mean recall of the two groups across the three conditions is shown in Figure 1., below. A 2 (group) x 3 (conditions) mixed-model ANOVA carried out on recall showed no main effect of group, $F(1, 22) = 0.43$, $MSE = 133.39$, $p = .52$, indicating that there was no difference in the number of correctly recalled items between reactivated trauma and control group participants. The effect of condition was significant, $F(2, 44) = 16.57$, $MSE = 723.72$, $p < .001$, although the group x condition interaction was not, $F(2, 44) = 15.06$, $MSE = 0.35$, $p = .71$. Post-hoc comparisons (paired samples t-tests) revealed that the mean for the interference condition was significantly lower than that for both the single trigram condition, $t(23) = 5.77$, $p < .001$ and the directed forgetting condition, $t(23) = -3.13$, $p = .005$. In addition, mean recall in the single trigram condition was significantly higher than that of the directed forgetting condition, $t(23) = 2.68$, $p = .013$.

Figure 1. Average correct performance by condition (maximum score = 60). Error bars represent standard error score.



The directed forgetting cost (calculated as the single item score minus directed forgetting) was 6.00 (SD = 7.02) for the reactivated trauma group and 2.83 (SD = 9.01) for the controls. This difference was not significant, $t(22) = 0.96$, $p = .35$ and so there was no reliable disparity in performance among the two groups as a result of inhibiting the second trigram.

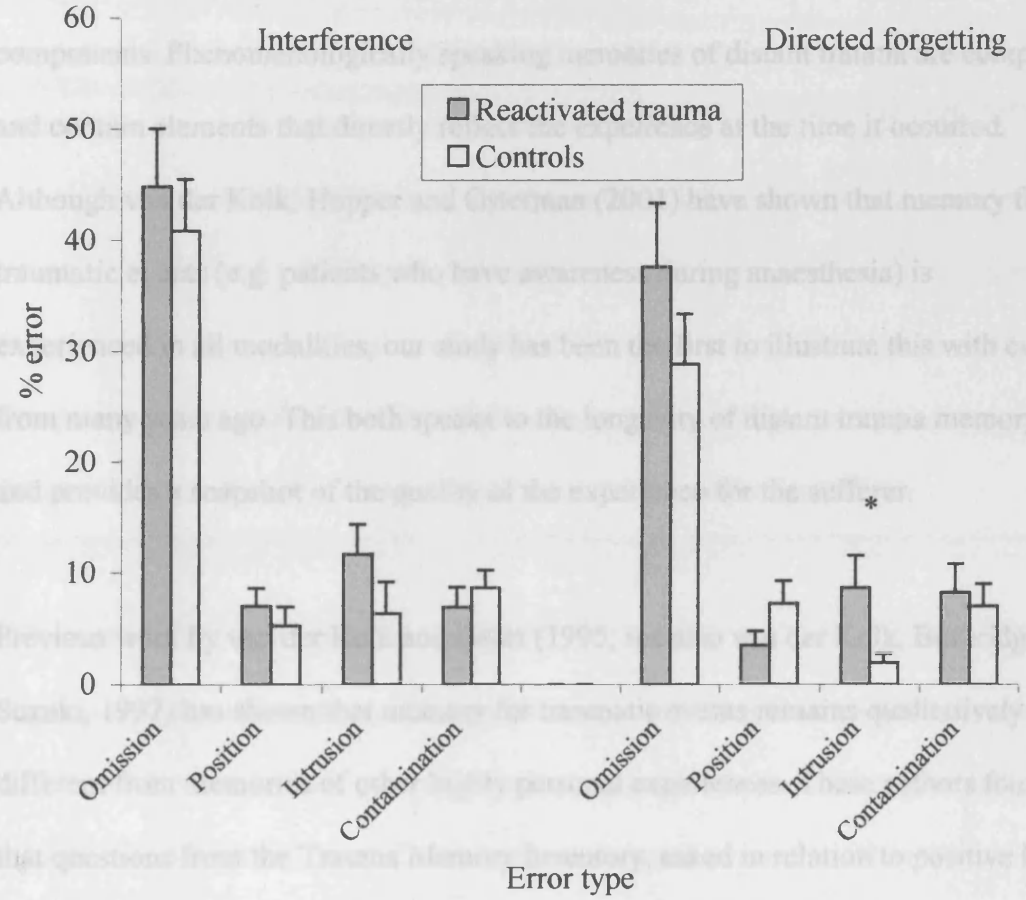
Therefore, ability to remember trigrams from the single, interference and directed forgetting conditions did not differ as a result of group status. Across groups, however, presenting a second trigram to be remembered had the most deleterious effect upon recall performance. Presenting a second trigram to be forgotten also had a significant decrease upon subsequent memory, relative to the single trigram condition.

Finally various errors were analysed in both the interference and directed forgetting conditions, in relation to recall of the first trigram. Following Andres et al. (2004), we calculated the percentage of letters omitted (omissions), the percentage of letters recalled in an incorrect serial position (position), the percentage of letters recalled that were from the second trigram (intrusions) and the percentage of intrusions from the immediately preceding trial (contamination). Percentages were calculated as a proportion of the expected number of responses per condition (i.e. 30).

As Figure 2 illustrates, there was no difference in omission, position intrusion or contamination errors in the interference condition as a result of group membership, $t(22) = 0.57$, $p = .57$; $t(22) = 0.74$, $p = .47$; $t(22) = 1.36$, $p = .19$; $t(22) = -0.73$, $p = .47$, respectively. In the directed forgetting condition the reactivated trauma group

made similar numbers of omission, position and contamination errors, $t(22) = 1.19$, $p = .25$, $t(22) = -1.56$, $p = .13$, $t(22) = 0.39$, $p = .70$, as the control group. However, intrusion errors in the directed forgetting condition were significantly more frequent among the reactivated trauma group, $t(13) = 2.23^{lt}$, $p = .04$, than controls.

Figure 2. Mean percentages of error types by condition (* = $p < .05$). Error bars represent standard error.



5 Discussion

In terms of our earlier predictions, hypothesis one is supported as reactivated trauma memories are experiences that typically feature several intense and veridical sensory components. Phenomenologically speaking memories of distant trauma are complex and contain elements that directly reflect the experience at the time it occurred. Although van der Kolk, Hopper and Osterman (2001) have shown that memory for traumatic events (e.g. patients who have awareness during anaesthesia) is experienced in all modalities, our study has been the first to illustrate this with events from many years ago. This both speaks to the longevity of distant trauma memory and provides a snapshot of the quality of the experience for the sufferer.

Previous work by van der Kolk and Fisler (1995, see also van der Kolk, Burbridge & Suzuki, 1997) has shown that memory for traumatic events remains qualitatively different from memories of other highly personal experiences. These authors found that questions from the Trauma Memory Inventory, asked in relation to positive life events such a wedding or graduation, simply did not make sense to their respondents. None of those taking part reported visual, auditory, olfactory or kinaesthetic re-living of such events. Moreover, no one experienced amnesia or claimed a photographic recollection of what happened. External triggers were not found to bring back veridical or highly detailed memories of such events and none of those taking part reported feeling a need to make a special effort to suppress their memories. In this way we can see that trauma memory remains distinct from memory for highly emotionally resonant, positive, life experiences.

When considering our first hypothesis, it may be helpful to revisit Ruzich et al.'s (2005) findings, which illustrate particularly high levels of endorsement of all DSM-IV re-experiencing symptoms (prevalence of all items was between 86 and 93%). Our sample commonly reported distress at exposure to trauma cues as well as upsetting intrusive thoughts and images but much lower incidences of bad dreams and nightmares or reliving events. As such, our data differs from Ruzich et al.'s (and presumably Macleod's 1994 study, although extent of symptoms are not presented in that paper) and perhaps suggest a distinction between the cognitive signature of chronically delayed onset of PTSD and the reactivation (or fluctuation) of symptoms that represents some previous experience of psychological sequelae.

Indeed, work by van der Kolk et al. (1997) as well as van der Kolk and Fisler (1995) suggests that trauma memory evolves over time, coalescing from the sensory to the narrative (which one of our participants eloquently described as "seeing the film, then reading the book!"). If so those re-experiencing trauma for the first time (i.e. no previous symptoms) might be expected to suffer more sensory experiences such as dreams, flashbacks and reliving phenomena. By contrast, those with previous experience of trauma symptoms and who encounter a re-emergence in later life might be expected to have more verbally mediated experiences, which is evident in the majority of our sample. Although speculative at this point, this distinction could be explored further as a means of usefully differentiating between those suffering the various effects of trauma from years ago and could have treatment implications (see below).

There is also evidence that subtle, protective, processes may be at work in the aging mind. Recent research by Charles, Mather and Carstensen (2003) into memory for emotionally valenced material has demonstrated differences in performance as a result of participant age group. For both recall and recognition memory the number of negative images participants recalled, compared to positive or neutral images, decreased with successively older groups (from among young, middle aged and older adults). The authors explain these differences using socioemotional selectivity theory, which is a life-span account of motivation advocating that with increasing age goals shift so that motivational emphasis is given more to emotional regulation. Changes in goals have implications for cognitive processing in the sense that memory retrieval is influenced by motivation and in older age primacy is thought to be given to the quality of an emotional experience above its informational value. The theory posits that the elderly attempt to maintain positive affect and minimise negative affect, which may impact upon the way reactivated trauma material is construed. While not a hypothesis explored within the current study, we wonder if older adult experiences of distant traumata are at least partly attenuated by such an emotional filtering process.

In reflecting more widely on our results we note that the PDS did not reveal much endorsement for reliving phenomena. When using the modified TMI, however, participants revealed a sense of their typical memories containing clear veridical components. In other words, older adults experiencing symptoms of distant trauma do encounter SAM type material and the clinician taking a geriatric trauma history should not overlook this. While DSM-IV (see PDS) criteria are clearly important we advocate their use as a starting point from which the 'typical' trauma memory might

be explored in greater detail when assessing psychiatric sequelae and its meaning to the individual.

Indeed, the level of actual PTSD in the reactivated trauma group was low. However, this may speak to the nature of older adult reactivated trauma rather than the accuracy of the DSM-IV criteria in relation to this aspect of the disorder. Discussion with colleagues who have worked extensively with older adult populations, S. Davies (personal communication, 12 May, 2005), M. Luckie (personal communication, 10, October, 2005), confirms that clinical presentations typically do not breach DSM-IV criteria for the full disorder and there remains a question as to the applicability of the existing nosology for this age group. Alternatively, we recognise that cognitive and behavioural avoidance may simply be more evident in those most affected and that our sample represents only those prepared to participate in research (see below).

Nonetheless, our findings highlight the importance of a detailed exploration of cognitively mediated experiences due to the implications for psychological therapies. We suggest a clear role for exposure paradigms when working clinically with older adult sufferers who re-experience traumatic distress and whose suffering involves a sense of current threat evoked by distant memories.

Our second hypothesis, that those with trauma symptoms would demonstrate greater cognitive deficits than matched controls, obtained mixed support. There was no statistically reliable difference in working memory or general inhibitory ability between our two groups, although the directed forgetting effect was evident across the sample. In addition, we identified a trend for poorer ability to forget on command

(i.e. greater directed forgetting cost) among the trauma symptom group. In exploring error types, however, we showed that those suffering the effects of reactivated trauma made significantly more intrusion errors in the directed forgetting condition than controls. This may be noteworthy as the trauma symptom group demonstrated a trend for greater average working memory ability than the control group (around 10 points higher) yet were more likely to recall the very material they were specifically trying to inhibit. Evidence that greater working memory capacity is associated with better intentional suppression ability (e.g. Brewin & Smart, 2005) would, conversely, predict the opposite effect. Our small sample size inevitably leads to questions regarding the power with which our study would be able to detect such effects (and we recognise the marginal significance of our post-hoc analyses) and so it is left to future research to determine whether any differences will remain apparent with greater participant numbers.

With that said, there was evidence of significantly greater memory for recent autobiographical incidents among the trauma group. This was an unexpected finding and does not intuitively adhere to the cognitive disintegration position. While further research is clearly needed to confirm the stability of this result we might initially formulate it as a rather focal manifestation of heightened and attentive awareness of the present by those most troubled by the past.

Our final hypothesis, that those with symptoms of distal trauma will demonstrate greater reminiscence than matched controls, was also partly supported. As with directed forgetting effects, there was a trend for the trauma group to reminisce (in total) more frequently than their control group counterparts, although this was also

not statistically reliable. When considering various functions of reminiscence, however, it became apparent that those in the trauma group particularly engage in this activity as a means to teach and inform others about the past, as well as to understand themselves better in an existential sense and we note that each of these aspects is relevant to the developmental challenges of the final life-stage (Erikson, 1997). As above, we remain aware of the restrictions of our small sample size yet, along with hypothesis two, are encouraged that neuropsychological and social-cognitive aspects of our groups differed in the direction that supports our overall position. The challenge facing future programs of research is therefore to build upon these initial findings. There remains no reason to doubt the notion that either position plays a role in the reactivation of traumata.

For example, Ruzich et al. (2005) argue that a combination of factors (e.g. cognitive decline, psychosocial stressors, or neurodegeneration as a result of the aging process) account for delayed trauma symptoms. They cite neurobiological mechanisms derived from research into neuroendrocrine (e.g. hypothalamic-pituitary axis involution with aging) and neuroanatomical factors (e.g. amygdala-hippocampal interactions) as mediating PTSD and resulting in neuropsychological decline. Their belief is that psychosocial stressors and physical illness (including more severe conditions such as dementia) related to aging can reduce inhibitory ability and lead to the reactivation of trauma memories (and so support the cognitive aging position in light of contextual factors). Vasterling and Brailey (2005) argue that, although evidence to date suggests neuropsychological impairments associated in PTSD are often mild, executive control and other functions relating to the integrity of the prefrontal cortex remain candidate mechanisms for the deficits observed (see also

Koenen, et al., 2001). Studies that have analysed errors in attention and memory tasks (e.g. Vasterling, Brailey, Constans & Sutker, 1998) provide some evidence that PTSD is associated with poor inhibition and are in keeping with our findings which suggest that it is not necessarily the quantity of inappropriate information successfully inhibited but the quality of that which impinges on consciousness (and the conditions under which this occurs) that we might be interested in.

Turning to life-stage factors, McKee et al. (2005) have shown that reminiscence enjoyment is associated with positive psychological health among older people in residential care. However, frequency of reminiscence in the presence of regrets was associated with negative psychological health. This illustrates Webster's (1994) argument that reminiscence can serve multiple functions and is an area we would encourage others to study in relation to older adult PTSD. McKee et al. (2005) propose that the absence of regret may be significant in the outcome of older adult reminiscence and that particular styles of reminiscing can develop which are either instrumental/integrative or obsessive/escapist (Fry, 1995). This latter style can resemble rumination, which may also be associated with older adult trauma symptoms. Future work will need to deconstruct reminiscence among elderly adults with trauma histories in order to separate the effects of dysfunctional obsessing from integrative, developmentally functional, self-focus.

Finally, limitations of the current work must be considered. We have already alluded to the self-selecting sample evident in our study and it is clear that those most avoidant will remain those least likely to appear in empirical research. In addition, our research would benefit substantially from greater participant numbers and future

work will attempt to access participants who present to acute services, couching their reactivated symptoms in purely physical terms, S. Davies (personal communication, 12 May, 2005). Our small sample size ultimately limits our confidence in statistical outcomes. Furthermore this study has featured, given the time constraints associated with clinical trainee research, a cross-sectional design. A longitudinal design would allow us to consider changes over time and address the causal direction of some of the relationships we have addressed thus far and should be considered in subsequent work.

In conclusion, we have shown that memory for earlier traumatic events contains intense and highly veridical components and that those who experience reactivation in later life report a sense of accompanying threat. Older adults clearly remain disturbed by their memories and so the challenge facing clinicians is to ensure that a detailed assessment of previous trauma is conducted in order to identify suitable treatment options. In contrast, the challenge for researchers is to locate sufficient participants to ensure that the relative contributions of cognitive factors and social-developmental processes in the re-emergence of trauma material can be better understood.

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Part Three - Critical appraisal

1 Summary of Parts One and Two and Abstract

Part One of this thesis reviewed existing literature on reactivated trauma among older adults and concluded that there is a relative paucity of empirical work into this facet of the disorder. To help rectify this shortfall, Part Two investigated phenomenological aspects of the experience and compared a group with significant symptoms of distant trauma and matched controls on a variety of measures of cognitive ability and life-stage reminiscence. This section of the thesis (Part Three) is a critical appraisal of my earlier work and features: a further discussion of the strengths and weaknesses of the research, comments on its clinical and scientific implications, a consideration of future directions the work might take, and concludes with a personal reflection on the research process.

2 Strengths and weaknesses of the current program of research

As an empirical study, the current project employed a variety of research methods. Although each can suffer from limitations I feel that collectively the weaknesses of one are attenuated by the strengths of another. The relationship between the pros and cons of each approach is briefly discussed below. In addition, I consider practical difficulties encountered during the project, as well as issues of sample biases and test/measure appropriateness.

2.1 Links between methodologies

Aimed at accessing participant experiences of reactivated PTSD, the phenomenological phase of the study provided a highly detailed and face valid means of exploring trauma memory. A potential criticism of this method concerns the uncertainty with which research findings might apply to the wider population.

However, I would argue that the quality of data obtained in this way should be seen as a considerable strength of the approach. Quite simply, there are no other studies that have explored the experience of reactivated trauma in such a systematic and structured fashion. For the current purposes semi-structured interviewing served as a means to better understand the full range of experiences encountered following adverse events, sampling widely from the universe of sensory phenomena thought applicable and using a dedicated measure adapted specifically for the purpose.

In contrast, I used a questionnaire approach to examine how potential differences (e.g. depression, reminiscence) might be explored between our two groups using established measures. This highlights a progressive relationship between methodologies whereby a highly valid interview method was used to explore new ground while mature, highly reliable and construct valid, existing instruments were used to consider differences at the group level.

There remains, however, an issue regarding the extent to which self-report measures are able to capture the full range of human experiences. For example, Buckley, Blanchard and Trammell Neill (2000) have argued convincingly that severe events can give rise to specific unintentional cognitive processing effects in attention and memory. Such phenomena are not conducive to accurate self-report measurement. Thus, in an attempt to tap into potentially non-conscious aspects of adaptation and particularly those implicated in aging, I used experimental and neuropsychological methods to explore information-processing biases.

The three methodologies employed therefore have a sequential relationship. Structured interview work provided highly valid phenomenological data, the application of questionnaire methods heralded the use of existing measures, while neuropsychological and experimental work attempted to access cognitive processing effects that are not amenable to conscious introspection. I feel that each approach had a distinct contribution to make to the project as a whole and that together their integration served to provide a thorough exploration of reactivated trauma.

2.2 Practical difficulties

Touching briefly on more practical issues, my use of multiple methodologies made the study quite time consuming to conduct. In addition to the demographic questions, questionnaires, neuropsychological memory tests and directed forgetting experiment, the trauma interview added a further layer of complexity. Thus data was effort-intensive to obtain and required a good deal of commitment to the process on behalf of participants.

Notably the work encountered considerable participant recruitment difficulties, although this was a problem in people coming forward to take part rather than dropping out once contact had been made with the researcher (i.e. everyone who was sent the further information participated in the research). While a reasonable sample was eventually achieved, my recruitment strategy was particularly far reaching and was time intensive. Therefore, when conducting psychological research practical issues associated with each method of investigation must be considered as must the amount of questions and tests participants can endure and the availability of those eligible (and prepared) to take part.

As mentioned previously, a brief analysis of the various ways in which those who took part initially found out about the study showed that 67% came from NHS sources (GPs, nurses, fellow psychologists, psychiatrists), 13% from veterans groups, 13% from newsletters/word of mouth and 7% from pensioner action forums. Thus, while considerable effort was spent trying to recruit beyond statutory bodies (to access as many people as possible) and involved multiple Internet searches, pensioner group presentations and liaison with two county councils, the health service remained the most potent source of eventual participation.

2.3 Sample biases and test/measure appropriateness

Additional issues concern the possibility of bias in my sample and the appropriateness of the tests/measures used during the empirical paper. Selection bias has previously been noted in PTSD research (e.g. Macleod, 1994) yet was unavoidable in my work. As already commented upon, difficulties in recruitment mean that obtaining large samples to allow random selection of participants remains a problem inherent in this type of study. My groups did, however, represent both men and women and feature a range of event types and so may be considered an improvement upon work that has focused on specific groups and events (e.g. male veterans) and which has sought to generalise its results to all older adults (see Danckwerts & Leathem, 2003 for more on this argument).

In terms of test/measure appropriateness, Danckwerts and Leathem (2003) point out the importance of excluding coexisting emotional states when assessing the effects of PTSD on cognitive function. Indeed, I used the GDS measure to gauge levels of

depression (as a common comorbid feature of PTSD) as it was specifically designed for older adult populations. In a similar vein, I used established tests of memory (such as the AMI and WMI) to try and avoid potential discrepancies between self-reported memory ability and actual memory ability. Although, as Danckwerts and Leathem (2003) suggest, measures of everyday cognitive functioning like the Rivermead Behavioural Memory Test (Wilson, Cockburn, Baddeley & Hiorns, 1989) may have greater ecological validity and can 'make sense' to participants, measures such as the AMI and WMI are widely used and I felt were important to retain as facets of memory that have been implicated in cognitive change (see Floyd, Rice & Black, 2002). The selection of memory tests is not a mutually exclusive exercise yet there are limits to what can be explored in a single study.

Of course, working memory is itself a potentially rather gross index of the cognitive impact of trauma among the elderly. As such, my use of the directed forgetting paradigm contributed what Kaplan (1988) would term a *process* approach to help elucidate the focal points at which the attentional/memory system (in this case specifically inhibition) might be compromised. While it might be argued that the directed forgetting experiment could have been substituted by an alternative inhibition paradigm[4], my research was interested in *intentional* inhibition applied to information that is encoded as relevant and then becomes irrelevant (i.e. one chooses to forget) rather than inhibition applied to information that was irrelevant and then becomes relevant (e.g. negative priming). In this way, the directed forgetting approach seemed to offer the closest match to the notion of an impaired inhibitory mechanism failing to prevent no longer relevant information (Hasher & Zacks,

[4] My research is the first to explore reactivated trauma using detailed neuropsychological and experimental methods and so selection of appropriate instruments/paradigms is somewhat without precedent.

1988), such as a reminder of earlier trauma, from impinging on consciousness. It also afforded an item by item cueing method (items presented in sequence) I felt was suitable for older adult participants.

3 Scientific and clinical implications of the research

As I have alluded to previously, my work has contributed to an otherwise scant body of empirical research. In terms of scientific progress, it demonstrates that it is possible to study distant trauma memory and participant characteristics in great detail and using a variety of methods. In terms of publication one possible future for my work, as it currently stands, could be as a brief paper illustrating the viability of conducting this kind of research with older adults.

Indeed, Macleod's (1994) research on reactivated trauma among elderly veterans began life as an interview and questionnaire based study but the use of self-report measures was abandoned as participants were either too distressed to complete the measures following the interview or simply declined to fill them in beforehand. Ruzich et al. (2005) used a structured interview to assess PTSD symptoms and were also able to administer a self-report measure of depression and a brief screen of gross cognitive functioning (Mini-Mental State Exam). My research, however, in addition to interview and questionnaire methods has shown that more involved neuropsychological tests and an experimental design can also be included as part of a rigorous research assessment. In addition, I have shown that detailed, complex, investigations can be conducted in a sensitive and meaningful way and without evoking considerable distress to participants. The impact of disclosing a trauma history should not be underestimated yet it is possible to study the effects of

intensely adverse events at a pace dictated by the respondent. In this way affect can be gently self-regulated and the participant is able to feel in control of the speed at which the research proceeds. Indeed, although a protocol was in place outlining the steps I would take should a participant experience significant distress this was not used and many of those taking part felt they benefited from discussing their earlier life experiences.

Secondly, although I had hoped for greater numbers of participants, my existing sample is sufficient to provide an insight into the factors relevant to reactivated trauma and so the work might have a future as a pilot study from which to launch a more substantial body of research. My results are initially encouraging and funding opportunities might be sought to further explore the nature, prevalence and contributing factors associated with aging and the re-emergence of earlier psychological trauma.

Thirdly, as mentioned in the Discussion section of Part Two, clinical implications of the work are that talking therapies should be directed by an extensive assessment of the nature of current memory of trauma. I feel this is a particularly important point as the opportunity to tell one's story and discuss its current impact in a meaningful way was highly valued by participants during their informal feedback. Indeed, there were times during the research where I felt I was drawing upon my therapeutic skills, as it was clearly important to be empathic and listen without impinging on the unfolding narrative. This would have been much more difficult to achieve had I felt under time pressure to assess all areas of a client's psychological functioning (e.g. social background, relationship history, current risk) within a circumscribed number of

session that one might encounter within a clinical context. As such, I am mindful of the practical difficulties and potential organisational restraints involved in carrying out a thorough assessment but nonetheless champion the importance of doing so.

4 Future research

Previous sections have suggested that further work should be conducted into the phenomenon of reactivated trauma among the elderly. Additional avenues of enquiry beyond those outlined in the Discussion section of Part 2 are outlined below and include: work into positivity, event timing, event types, coping and further psychometry.

4.1 Positive research

So far all research into reactivated trauma has looked at dysfunctional responses. In contrast, future studies could aim to investigate whether there are any positive aspects or constructive psychological changes associated with the re-emergence of distant trauma material. A growing body of work has begun to explore the extent to which posttraumatic distress and growth coexist (e.g. Linley & Joseph, 2004) and similar research could be conducted with relevant older adult populations. For example, Calhoun and Tedeschi's (1999) work into adversity related growth phenomena describes posttraumatic changes such as enhanced feelings of personal resilience, deeper and closer relationships with others, and a greater sense of spirituality. These features of positive adjustment might be investigated among those who re-experience difficult events from many years ago in order to see if currently dealing with previous adversity also has broader beneficial effects.

4.2 Event timing

Another area of study could consider temporal features of reactivated trauma. Indeed, exploring the relationship between time elapsed since events occurred and patterns of reactivated trauma would be relatively straightforward to conduct were suitable participant numbers available. Such research could ask whether longer periods without symptoms are associated with more pervasive levels of reactivated trauma phenomena and so consider the effect of latency period upon subsequent re-emergence.

Similarly, stage theories have been developed to describe adjustment to trauma over time. The tasks of trauma recovery are thought to include mourning, assigning meaning, accepting, re-establishing self-coherence and achieving ego integrity (Aarts & Op den Velde, 1996) and their careful negotiation may remain a developmental imperative during later life. The timing and veracity of these stages could, however, be explored in terms of reactivated trauma adjustment. Studies investigating the evolution of adaptation during senescence could explore whether the above pattern applies to re-emergent distress or whether later-life has affected the stages proposed, omitting some and requiring the inclusion of others.

4.3 Event types

In conjunction with work into the timing of adaptation to adverse events, the nature of the relationship between the type of event encountered and reactivated trauma memory may be of equal importance. Research questions could, for example, investigate whether events with a particular interpersonal dimension (close combat, domestic violence etc.) provoke a greater sense of regret, or particular style of

remembering, or search for meaning among participants. Sensitive, qualitative, interviewing may be needed to unearth the meaning participants place on certain events and could reveal similarities and differences in the emergence of symptoms over time.

4.4 Coping

In much the same way that a variety of explanations have been proposed for the re-emergence of traumatic distress among older adults, so too a consideration of various coping mechanisms employed between event and symptom development can enhance our understanding of the experience of reactivation.

It has been suggested that many of those who suffer trauma maintain a strict problem-solving style of coping and internal locus of control (Rotter, 1966) during their younger years. However, this might be difficult to maintain as one enters senescence and result in a shift towards emotion-focused coping with an external locus of control bought about by the challenges of aging such as retirement (Busuttil, 2004). Similarly, Macleod (1994) notes that coping during earlier adult years can take the form of tenacious hard work and intense involvement in activities (see also Lipton & Schaffer, 1986), while for some it will also involve regular alcohol or drug (e.g. benzodiazepines) use. Other writers (e.g. Bonwick & Morris, 1996; Floyd et al., 2002) agree that activity based coping is a common feature in the literature describing the pre-reactivation period.

However, there does not seem to have been a systematic empirical attempt to relate coping style over time to later re-emergence in older adulthood. Such work could be

readily conducted using survey methods (see Chung, Werrett, Easthope & Farmer, 2004) and might inform treatment to introduce more functional ways of managing previous distress.

Attention to coping can inform us of the ways people survive and adapt to the sequelae of trauma prior to re-emergence in later life. While we know that reactivation can lead to considerable psychological suffering, we should also remember that exposure to severe traumatic experiences does not preclude very good social and occupational functioning for a considerable length of time (Aarts et al., 1996). This clearly remains a feature that can obviate accurate clinical assessments of current psychiatric difficulties among the elderly (Clipp & Elder, 1996).

4.5 Psychometry

Finally, further work could explore the psychometric properties of the TMI-DS and determine its reliability and construct validity, as well as considering its diagnostic sensitivity and specificity. An alternate to this would be to develop a questionnaire measure to screen for the specific effects of distant trauma among the elderly. This work might be particularly warranted (Busuttil, 2004) given the implicit assumption by many researchers that instruments and assessment procedures constructed for one population (e.g. working age adults) will necessarily remain valid and suitably applicable for another (e.g. older adults).

In relation to the above point, the phenomenology of reactivated trauma symptoms may be such that DSM-IV criteria do not fully apply and so further work to establish

the cardinal features of this facet of the disorder would help draw attention to it as a clinical entity.

5 Reflections on the research process

On reflection, this study has provided a valuable insight into the process of conducting psychological research. Perhaps the most important lesson I have learned throughout the year and three months it has taken to complete has been to remain flexible in the way research is approached. Quite simply, there is no single 'best' way to study human behaviour. An over-reliance on one methodology, or the belief that one method is in some way superior to another seems at best somewhat restrictive and at worse completely misguided. As others have suggested (Coolican, 1990; Breakwell, 1995), and I highlighted earlier, all methodological approaches have strengths and weaknesses and the current project has shown that there are no methodological heroes or design villains (Breakwell, 1995). Quite simply, there is no single best way to explore reactivated trauma among older adults.

Investigating psychological phenomena from a broad methodological perspective has provided me with a thorough overview of the topic at hand and will, where relevant, be used in future research endeavours. Discussing study ideas with workers experienced in different methodologies (e.g. neuropsychology, experimental psychology) has also been refreshing and has vitalised the whole research enterprise.

Although an oxymoron, the phrase 'expect the unexpected' sums up another lesson from the current work. Careful research planning helped reduce the impact of the major difficulties the study encountered (e.g. poor response rates resulting in

prolonged recruitment) and additional time built into the research implementation stage helped ameliorate problems as they arose.

Another learning point lies in the importance of realising it is not possible to study every aspect of the phenomena under scrutiny. While the preceding parts (One and Two) of this thesis have illustrated that a detailed exploration of the existing literature and an extensive piece of research are possible within the space of 15 months, there are clearly limits to how much can be accomplished in this time. In particular, my empirical study illustrates that research tends to generate more questions than answers and I have learned that a thorough understanding of a substantive topic remains a work in progress. The true nature of complex human difficulties unfolds over time.

I also feel that conducting one's own research allows a greater appreciation of the research efforts of others and, as a result of this experience, I have a greater understanding of the way in which a body of empirical findings accumulates over time.

A final point relates to the sense of accomplishment that can come from carrying out a detailed study into a scarcely researched facet of a disorder. Exploring aspects of a topic that only a handful of others have investigated has been very satisfying. Indeed, working in a single area can result in a considerable depth of knowledge and contributes to a growing empirical evidence base from which to ground real-world clinical decisions. In this way I better appreciate the relationship between scientist and practitioner and see that the two are fully compatible. Of course, while

conducting research with such a specific focus can be extremely rewarding it also has the potential to be somewhat isolating. I am therefore conscious of the balance I need to strike between carrying out my own work yet remaining aware of clinical psychology research beyond that related to older adult trauma. In doing this my own research and practice can be anchored within a wider knowledge framework.

6 Conclusion

The overall aim of this work has been to investigate the phenomenon of reactivated trauma among older adults and compare two possible explanations for its re-emergence during senescence. This has been achieved. My research has been the first to delineate the quality of distal trauma memory in terms of sensory components and underscore the sense of current threat that can accompany the experience.

I have shown how both developmentally based reminiscing and features of cognitive aging are implicated in the re-emergence of distant traumatic distress and have outlined a number of potential research projects to extend our knowledge of this field further.

To conclude, the process of carrying out this study has taught me a variety of useful research skills. It has allowed me to consider the advantages and disadvantages of competing methodologies and, in doing so, has afforded a greater understanding of reactivated posttraumatic stress. There remain many opportunities for further work to explore, understand and reduce the current effects of distant trauma among the elderly.

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Appendices

Appendix	Type
1	Ethical approval correspondence
2	Protocol in the event of participant distress
3	Research advertisement
4	Gatekeeper correspondence
5	Further information sheet
6	Consent form
7	Flow chart
8	Posttraumatic stress disorder scale (PDS)
9	Additional questions regarding time course of symptoms
10	Trauma memory inventory – distant events
11	Semi-structured interview – participant details
12	Autobiographical memory inventory (AMI)
13	Geriatric depression scale (GDS)
14	WAIS: working memory index subscales (WMI)
15	Reminiscence functions scale (RFS)
16	Directed forgetting trigram stimuli

Appendix 1

Ethical approval correspondence

North & Mid Essex Local Research Ethics Committee
2nd Floor LREC Office
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11 March 2005

Dr Syd Hiskey
Trainee Clinical Psychologist
University College London
Sub-Department of Clinical Health Psychology
University College London
Gower Street, London
WC1E 6BT

Dear Dr Hiskey

Full title of study: ***Older adult experiences of reactivated posttraumatic stress: The result of life stage integration or cognitive disintegration?***
REC reference number:
Protocol number: ***Version 1***

Thank you for your letter of 11 March 2005, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document Type:	Version:	Dated:	Date Received:
Application	ABC offline	24/01/2005	27/01/2005
Investigator CV	1	28/01/2005	27/01/2005
Protocol	1	21/01/2005	28/01/2005
Covering Letter		28/01/2005	27/01/2005
Covering Letter		28/02/2005	02/03/2005

Summary/Synopsis	1	21/01/2005	27/01/2005
Copy of Questionnaire	1	21/01/2005	27/01/2005
Copy of Questionnaire	1	21/01/2005	27/01/2005
Copy of Questionnaire		21/01/2005	27/01/2005
Copy of Questionnaire		21/01/2005	27/01/2005
Copies of Advertisements	1	21/01/2005	27/01/2005
GP/Consultant Information Sheets	1	21/01/2005	27/01/2005
Participant Consent Form	1	21/01/2005	02/01/2005
Research proposal review form	1	07/12/2004	28/01/2005
Academic Supervisor's CV		28/01/2005	27/01/2005
Non NHS gatekeeper letter	2	24/02/2005	02/03/2005
Email to NHS clinicians requesting assistance in recruitment	1	21/01/2005	27/01/2005
Thames Valley Test Company Scoring Sheet			27/01/2005
Directed forgetting experiment stimuli and procedure		21/01/2005	27/01/2005
Reminiscence Functions Scale	RFS Version 1		27/01/2005
Trauma memory Inventory (Reactivated) Audio tape responses	1	21/01/2005	27/01/2005
PIS	2	24/2/2005	2/03/2005

Management approval

The study should not commence at any NHS site until the local Principal Investigator has obtained final management approval from the R&D Department for the relevant NHS care organisation.

Membership of the Committee

A list of the members of the Ethics Committee who were present at the meeting is available upon request.

Notification of other bodies

The Committee Administrator will notify the research sponsor that the study has a favourable ethical opinion.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

Please quote this number on all correspondence

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

Yours sincerely,

Dr David Pevalin
Chair

E-mail: nmelrec@essexsha.nhs.uk

Enclosures Standard approval conditions
Site approval form (SF1)

North & Mid Essex Local Research Ethics Committee

LIST OF SITES WITH A FAVOURABLE ETHICAL OPINION

For all studies requiring site-specific assessment, this form is issued by the main REC to the Chief Investigator and sponsor with the favourable opinion letter and following subsequent notifications from site assessors. For issue 2 onwards, all sites with a favourable opinion are listed, adding the new sites approved.

REC reference number:		**Issue number:**	1	**Date of issue:**	11 March 2005
Chief Investigator:	Dr Syd Hiskey				
Full title of study:	Older adult experiences of reactivated posttraumatic stress: The result of life stage integration or cognitive disintegration?				

This study was given a favourable ethical opinion by North & Mid Essex Local Research Ethics Committee on 10 March 2005. The favourable opinion is extended to each of the sites listed below. The research may commence at each NHS site when management approval from the relevant NHS care organisation has been confirmed.

Principal Investigator	**Post**	**Research site** Kings Wood Centre Colchester	**Site assessor**	**Date of favourable opinion for this site**	**Notes** [1]

Approved by the Chair on behalf of the REC:

..... (Signature of ~~Chair~~/Administrator*)
(**delete as applicable*)

..... (Name)

[1] *The notes column may be used by the main REC to record the early closure or withdrawal of a site (where notified by the Chief Investigator or sponsor), the suspension of termination of the favourable opinion for an individual site, or any other relevant development. The date should be recorded.*

Appendix 2

Protocol in the event of participant distress

Protocol in the event of participant distress

Should distress be suspected (regular checks will be made throughout the study to ensure that the researcher is aware of the participant's current state) a break in the research will be introduced. During this period the participant will be given time to consider if they would like to continue with the study or not. It will be reiterated that they can withdraw at any time, without penalty, should they wish. Participants who withdraw from the study will be counted towards the 10% figure that would result in the whole research enterprise being discontinued. For those participants who decide to continue, the research will carry on at a sensitive pace with further checks along the way to ensure that they are prepared to proceed.

For those participants suffering distress as a result of taking part, the researcher will draw upon his clinical experience and therapeutic skills and offer initial support and guidance (e.g. relaxation techniques) allowing the participant time to regain their composure and manage their distress prior to the end of the session (the researcher will only leave the participant if their level of distress had reduced to pre-study levels). Opportunities for further, social, support from friends and family will also be discussed and as needed these resources will be enabled.

It is hoped that any participant experiencing distress will consent to further contact so that a follow-up (e.g. telephone call) could be conducted to determine their level of distress experienced over the following day. There is no reason to suspect that reactivated posttraumatic distress symptoms will not respond to social support in the same positive way reported in the existing adult PTSD literature. In addition, assuming consent is given, arrangements will be made to contact the participant's GP to discuss treatment options should their distress continue, including access to psychological therapies via a consultant clinical psychologist at the local general hospital, should this be desirable and indicated (and the participant not already receiving psychological input).

As such, those experiencing distress during the study will receive an empathic response, be initially supported, encouraged to activate their social network and be followed up by the researcher to ensure that they are afforded the opportunity to receive health-care to remedy their distress in the unlikely event it should persist.

Appendix 3

Research advertisement

Sub-Department of Clinical Health Psychology

UNIVERSITY COLLEGE LONDON

GOWER STREET LONDON WC1E 6BT

21st Jan 05

Remembering the past (V. 1)

We are a group of researchers from University College London interested in your memories of difficult life events from many years ago. We know that for some people memories of these events resurface again and have an impact in later life.

If you are over 65 years of age and have experienced a very difficult life event that you no longer think about much, or that has resurfaced again and is currently on your mind, we would very much like to hear from you.

The study involves answering some questions and taking part in a memory experiment. In all, the study takes between an hour and a half and two hours, with plenty of breaks in between.

The study will take place either in the Kings Wood Centre (on the grounds of the Colchester General Hospital) or in your own home, whichever you would prefer. If you would like to find out more please contact **Dr Syd Hiskey** (lead researcher) using one of the methods below:

- By telephone on: (please leave an answer phone message if I am unavailable and I will return your call as soon as I can).
- By post using the address at the top of the page
- Or by email at:

Finally, thank you for taking the time to read this information. We hope you would like to take part in this important research and look forward to hearing from you.

Appendix 4

Gatekeeper correspondence

Sub-Department of Clinical Health Psychology
UNIVERSITY COLLEGE LONDON
GOWER STREET LONDON WC1E 6BT

Older adults experiences of reactivated posttraumatic stress

Dear Sir / Madam, 5th August 2005

I am a clinical psychologist in training studying at University College London and am part of a research team interested in studying memory for traumatic life events.

Research suggests that there may be a significant number of older adults who experience ongoing psychological distress (e.g. bad dreams, unwanted intrusive thoughts) as a result of difficult earlier life experiences. In particular, there are some for whom a traumatic incident (or series of incidents) is initially disturbing but then becomes easier to cope with as time passes, only to lay dormant and become troublesome and preoccupying once more in later life.

Although many health professionals recognise the above pattern of difficulties exists there is a shortage of research that has explored this phenomenon in detail and which provides guidance in terms of the best way to help. Our study seeks to rectify this situation by exploring memory processes but in order to do this we need to recruit as many participants as possible into the research, described overleaf (please see attached research advertisement and further information document which would be sent to potential participants). We also need help from those who encountered difficult events early in their lives but who are not currently bothered by them.

In particular, it is hoped that the results of our work will help inform psychologists with regards the development of suitable treatments to help alleviate chronic distress. As such, I would be grateful if you would peruse the information enclosed and consider distributing the advertisement, or making it available to, your members for their consideration.

I would be happy to discuss this research in greater detail and, to this end, look forward to hearing from you.

Yours sincerely,

Dr Syd Hiskey

Appendix 5

Further information sheet

Sub-Department of Clinical Health Psychology
UNIVERSITY COLLEGE LONDON
GOWER STREET LONDON WC1E 6BT

Participant's Information Sheet (v. 2) 24th February 2005

Older adult experiences of reactivated posttraumatic stress

You are being invited to take part in a research study. Before you decide whether to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others who are not involved in the study e.g. family and friends, if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Who is conducting the research:
Dr Syd Hiskey is the chief investigator of the study. He is currently studying for a doctorate in Clinical Psychology at the University College London and this research is being undertaken as a part of that course.

What is the purpose of the study?
Some older adults suffer a re-emergence of psychological distress associated with earlier traumatic life events that have not troubled them for many years. This research asks "specifically, how is this distress experienced?"

In addition, the study also asks "is the re-emergence of people's psychological distress more related to general aging of memory or more to do with reminiscing about the past as one gets older?"

By understanding more about the ways people experience difficult thoughts concerning the past we hope to be in a better position to develop specific psychological therapies to help those in distress.

Why have I been approached?
There are two different reasons why you have been approached. The first is that you belong to a group or organization whose members are recognized as having experienced difficult events in earlier years (for instance, you may have been a soldier and are now a member of the Royal British Legion).

Alternatively, you may be an NHS patient and, knowing that your history may have involved difficult life events, your health care provider has mentioned this study to you.

Regardless of how you became aware of the study, we hope that both people who do currently experience difficulties related to earlier serious life events and those who do not will take part in the study. The event in question must have occurred more than five years ago.

Do I have to take part?
No, participation in this research is purely voluntary. It is up to you to decide whether or not you wish to take part. You have been sent this information sheet as you requested further information about the study but you are under no obligation to take part. In order to take part you would need to sign a consent form and give it to Dr Hiskey. If you decide to take part you are still free to withdraw at any time, and without giving a reason. **If you are an NHS patient, a decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive in any way.**

What will happen to me if I take part?
If you decide to take part, you will meet Dr Hiskey either at the Kings Wood centre in Colchester (which is on the grounds of the Colchester General Hospital) or at your home. You will be asked to complete a series of questionnaires, you will also be interviewed and you will take part in a memory experiment that involves remembering and forgetting word-like material presented to you. In all, people usually take between an hour and a half to two hours to complete the whole study. We can take breaks on the day or complete the study over two days if you would prefer.

What are the advantages and disadvantages of taking part?
This study does not involve any therapeutic treatment and as such there are no direct advantages in taking part. With that said, some people find that talking to others about their experiences can help them make sense of what happened in their past.

However, it should also be noted that some people can find talking about what happened to them distressing and there is a small chance that taking part in the study may re-evoke previous unpleasant feelings that you may find upsetting. Please be aware that we will not be asking for specific details of the whole event, nor precise details about what happened to you and you are under no obligation to discuss anything you would rather remained private. Rather, we are interested in the ways you find yourself thinking about it now (such as what you experience when it comes to mind).

In the unlikely event that you do become distressed, procedures are in place to help manage your discomfort. For example, Dr Hiskey is undergoing clinical training in helping people deal with distress and will be on hand to provide initial support. In addition, we would also hope to be able to enable friends and family who can be a source of comfort and, as necessary, would be able to offer an appointment for you to see a Consultant Clinical Psychologist at the Kings Wood Centre should the difficulties persist. Even though it is quite unlikely that people will become distressed as a result of the study, we ask you to bear this possibility in mind when deciding whether you would like to take part.

Will my taking part in this study be kept confidential?
Any information that is collected about you during the course of the research will be kept strictly confidential. Only Dr Hiskey (Trainee Clinical Psychologist) will have access to information that may identify you. He is bound by confidentiality rules, however, if you tell him something that makes him believe that you or someone else

is at risk from harm he may have to pass this information on. All questionnaires and interview data will be given a numerical code with identifying details removed so that you cannot be recognised from it. All information will be kept in a secure office.

If you are an NHS patient, information you disclose will **not** be entered in to your medical notes **nor** lead to a change in your medication / usual care. With your permission however, your GP or carer will be informed of your participation in this research by letter.

What will happen to the results of the research study?
The results will be used for Dr Hiskey's thesis and for academic journal publications. If you wish in due course to obtain a copy of the published results, please ask Dr Hiskey. Any information that could be used to identify you will be removed from such work.

Who is organising the funding for the research?
The study is not being directly funded. North Essex Mental Health Partnership NHS Trust is however sponsoring Dr Hiskey's doctoral research.

Who has reviewed the study?
The University College London's Sub-Department of Clinical Health Psychology research committee, as well as the North Essex Mental Health Partnership Trust's research ethics and research and development committees have reviewed the study.

Contact for further information:
Dr Syd Hiskey, Sub-Department of Clinical Health Psychology, University College London, Gower Street, London, WC1E 6BT.

Thank you for reading this information sheet and for considering participating in this study.

Appendix 6

Consent form

Sub-Department of Clinical Health Psychology

UNIVERSITY COLLEGE LONDON

GOWER STREET LONDON WC1E 6BT

Participant Consent Form (v. 1) 21st January 2005

Older adult experiences of reactivated posttraumatic stress

- I can confirm that I have spoken to Dr Syd Hiskey about this research study.
- I understand that my participation in this research study is voluntary and that I may choose to withdraw at any time without giving a reason, and this will not affect any care I receive from the NHS.
- I have read and understood the information sheet dated 24th February 2005 for the above research study, and have been given sufficient time to consider this information and discuss it with other people not involved in the study.
- I confirm that I have been given enough information about the study and I am satisfied with the answers given to any questions I have asked about the study.
- I give permission to Dr Hiskey to inform my GP or carer of my participation in this study.
- * I do / do not give permission to Dr Hiskey to view sections of my medical notes where it is relevant to my taking part in this study.

(* Please delete as appropriate)

- I agree to take part in this study

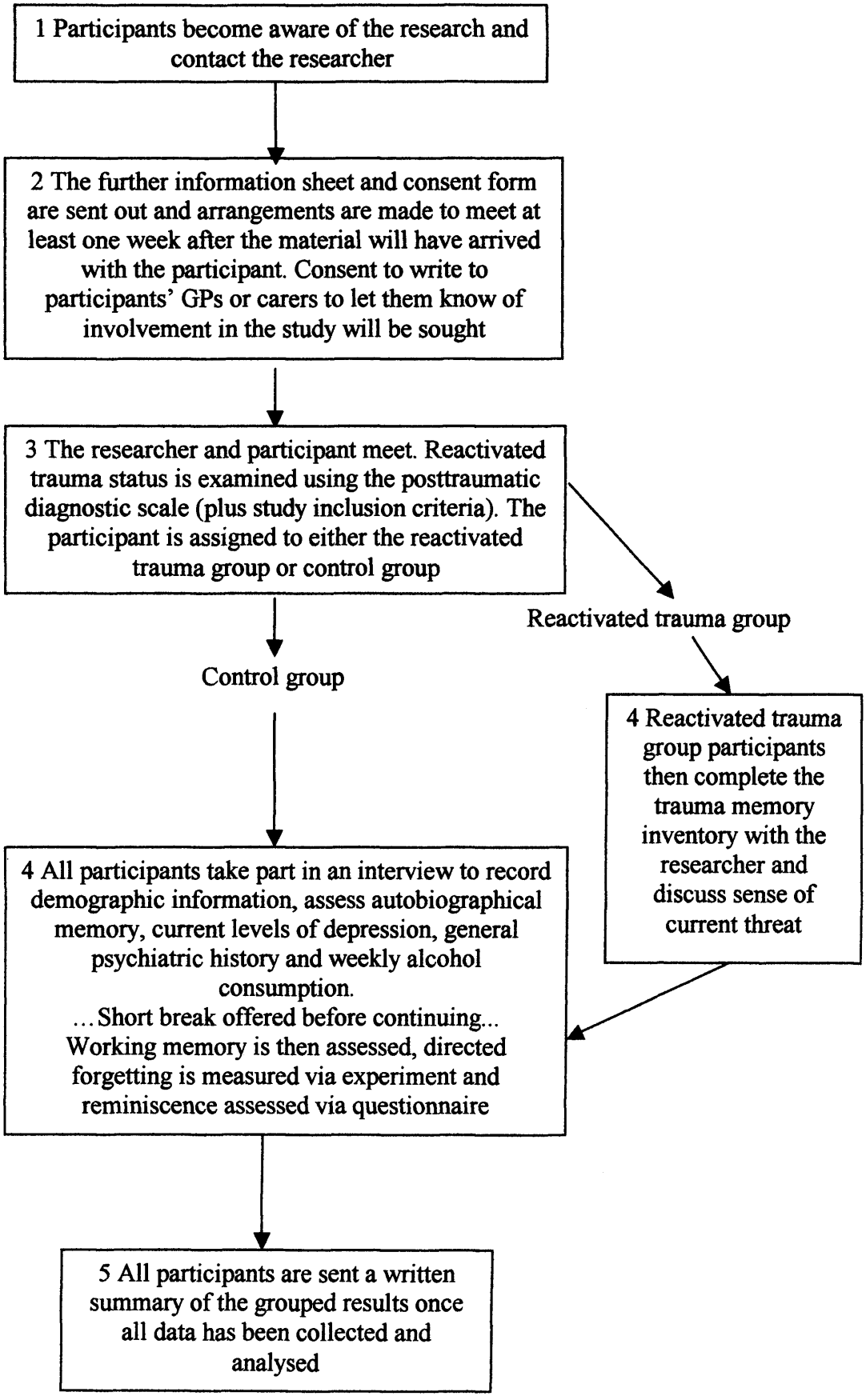
Name of Participant: Signature: Date:

Name of person taking consent: Signature: Date:

Appendix 7

Flow chart

Study flow chart



Appendix 8

Posttraumatic stress disorder scale (PDS)

Note – The measure is not reproduced here as it is copyrighted

Appendix 9

Additional questions regarding time course of symptoms

Trauma symptom course questions

Briefly review the symptoms already discussed in the PDS and then ask-

Q1a When did you notice the symptoms we discussed for the very first time?

b were your symptoms as bad then as they have been more recently

c how long did they last for?

Q2. How long was the period of time when you subsequently didn't have any symptoms?

Q3 How would you describe the course of your symptoms over the years?

a) no difficulties (at all)

b) continuous symptoms (even if minor)

c) early improvement (symptoms that then got better)

d) later improvement (symptoms that took a long time to get better)

e) reactivation (symptoms that got better but then reappeared at some later date)

f) fluctuating (improvement, decline, improvement, decline cycle)

g) long-delayed onset (no symptoms then onset many years after the event)

Q4 Were you ever completely symptom free and if so how long for?

Q5 If you weren't ever completely symptom free what symptoms did you always have?

Appendix 10

Trauma memory inventory – distant events

Trauma Memory Inventory (Distant Events)

Audio-tape participant's responses:

Focusing on the difficult life event you mentioned at the start of the study (detailed in the PDS):

1 How old were you when it happened? .....
2 How long did it last for in total? .....

3 Typically, when it comes to mind, how do you think about it? (Listen for participant's report and write below. Ask follow-up clarifying questions sparingly and record them as well. Is there a focus on the meaning of the event? Is there a sense of current threat, when the event is thought about? Rate threat out of 10).

Memories can have a variety of components. They may include visual images, physical sensations, sounds etc. the next questions are about these possible components of your memory for the event.

Intensity	Reliving	
.....	.....	4 Were there any visual images? Y N What did you see? (if prepared to discuss this) .....
.....	.....	5 Were there any physical sensations? Y N What did you feel in your body? (if prepared to discuss this) .....
.....	.....	6 Were there any smells? Y N What did you smell? (if prepared to discuss this) .....

.... 7 Were there any sounds? Y N
What did you hear? (if prepared to discuss this) .....
.....
.....

.... 8 Were there any emotions? Y N
What did you feel emotionally? (if prepared to discuss this) .....
.....
.....

Y N 9 Were there thoughts about the situation? What do you remember thinking (if prepared to discuss this) .....
.....
.....

Y N 10 Components together? Of those components present, did you remember them all at the same time? .....
.....
.....

Y N 11 As a story? Could you tell it to someone as a coherent story?.....
.....
.....

Y N 12 Would you be able to talk about it without being interrupted by associated feelings or perceptions? Explain .....
.....
.....

I'm going to ask you two questions about some components of the memory. First, I will ask you to rate their intensity, with 0 being not at all present and 10 being the most intense possible (13 – 17).

Now I'm going to ask you whether you re-live any images, sensations, etc., as opposed to just remembering them. For example, you may have felt like you were hearing the same sound all over again (as it happened at the time), or just remembering hearing that sound. Do you understand the difference? (18 – 22).

23 Were you thinking of anything else that we have not covered in the above questions? .....
.....
.....

24 Have you always known that the event happened to you? (Was there a time when you had no recollection that it ever happened to you?)

0	1	2	3
No recollection at times		Always know what had happened	

If participant's answer is 3, skip to Question 27

25 How have you remembered the event over time?

1 Always had memories but did not think of event as trauma
2 Always had some memories but details were filled in later
3 Had period of complete amnesia, now have clear memories
4 Had complete amnesia, filled in some blanks, but missing pieces remain
5 Have fragments of memories but no coherent picture of what happened
6 Have no clear memories, but feelings, or other evidence makes me believe that I was traumatised

26 Under what circumstances did forgotten memories come up?

1 Related to anniversary
2 Related to emotions having to do with the trauma (such as intimacy, trust, power, fear, anger)
3 Related to sensory reminders (e.g. sounds, sights, smells, etc)
4 Retrieved in talking therapy
5 Retrieved in altered state of consciousness (hypnosis, meditation, drugs)
6 Spontaneous (no awareness of precipitants)
7 Other (please specify)
.....

27 What sort of things trigger memories of the event?

1 Anniversaries
2 Being upset with people
3 People being upset with me
4 Other emotions
5 Sensory reminders (such as sounds, sights, smells)
6 Being touched in certain ways
7 In talking therapy
8 Relived in altered state of consciousness (hypnosis, mediation, drugs)
9 Getting off alcohol or drugs
10 Spontaneous
11 Other (specify)
.....
12 Nothing triggers memories

28 Do you think that your perceptions of the event have changed over time (i.e. your role in the trauma or the extent of the trauma)? Y N .....
.....
.....

29 What sense did you make of the re-emergence of your thoughts about the event and do you have any idea why they emerged? (Do they relate recent life events to the emergence of symptoms?) .....
.....
.....

Appendix 11

Semi-structured interview – participant details

Sub-Department of Clinical Health Psychology
UNIVERSITY COLLEGE LONDON
GOWER STREET LONDON WC1E 6BT

Older adult experiences of reactivated posttraumatic stress

Participant Details Interview schedule v. 1 (21st Jan 05)

We would like to ask you a number of questions:

What is your name ..... Age ..... Gender .....

Ethnic background? (White, Black, Asian, Chinese etc) .....

How many years did you spend in education? .....

What is / was your main occupation? .....

Have you ever suffered mental health difficulties? (if so please describe the nature of the difficulties)

.....

.....

.....

.....

How much alcohol do you consume in an average week?

.....

Appendix 12

Autobiographical memory inventory (AMI)

Note – The measure is not reproduced here as it is copyrighted

Appendix 13

Geriatric depression scale (GDS)

Mood scale

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

1. Are you basically satisfied with your life? **YES / NO**

2. Have you dropped many of your activities and interests? **YES / NO**

3. Do you feel that your life is empty? **YES / NO**

4. Do you often get bored? **YES / NO**

5. Are you in good spirits most of the time? **YES / NO**

6. Are you afraid that something bad is going to happen to you? **YES / NO**

7. Do you feel happy most of the time? **YES / NO**

8. Do you often feel helpless? **YES / NO**

9. Do you prefer to stay at home, rather than going out and doing new things? **YES / NO**

10. Do you feel you have more problems with memory than most? **YES / NO**

11. Do you think it is wonderful to be alive now? **YES / NO**

12. Do you feel pretty worthless the way you are now? **YES / NO**

13. Do you feel full of energy? **YES / NO**

14. Do you feel that your situation is hopeless? **YES / NO**

15. Do you think that most people are better off than you are? **YES / NO**

Appendix 14

WAIS: working memory index subscales (WMI)

Note – Subscales of this measure are not reproduced here as it is copyrighted

Appendix 15

Reminiscence functions scale (RFS)

Note – The measure is not reproduced here as it is copyrighted

Appendix 16

Directed forgetting trigram stimuli

Trigram stimuli

Trial	Condition	Trigram 1	Trigram 2
1	Single item	FRK	
2	Interference	TEY	VJX
3	Directed forgetting	PYE	GXR
4	Interference	MOW	VND
5	Directed forgetting	UMB	ZFP
6	Single item	LRK	
7	Single item	UOA	
8	Directed forgetting	CWE	SGN
9	Directed forgetting	HBW	DRM
10	Interference	XDA	OWJ
11	Interference	JIU	LFZ
12	Single item	WOY	
13	Single item	QOM	
14	Interference	BLQ	TJU
15	Single item	EOP	
16	Directed forgetting	EQS	KZI
17	Directed forgetting	WRP	QSI
18	Directed forgetting	IZP	HFO
19	Single item	PKS	
20	Interference	RPA	NVM
21	Single item	CFE	
22	Interference	KCU	DZA
23	Directed forgetting	HNU	GKV
24	Directed forgetting	ZLO	MTR
25	Single item	FUH	
26	Interference	YCF	BGD
27	Directed forgetting	AES	IPR
28	Interference	SBN	JVE
29	Interference	NHQ	OMW
30	Single item	RYH	