Group reminiscence, memory and well-being: A social identity framework

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ABSTRACT

Objective: Previous research into reminiscence as a psychosocial intervention in dementia has shown an improvement in cognition performance in the context of improving well-being. Social Identity Theory (SIT) offers a novel theoretical perspective in arguing that the improvements in well-being arise from increased identification formed by sharing memories from the personal past with others.

Method: In the present study, 59 participants with cognitive impairment and dementia were recruited from residential homes; 34 took part in group reminiscence and 25 took part in individual reminiscence. The intervention took place over a six week period, with cognitive screening, mood, well-being, and social identity measures administered before and after the intervention.

Key findings: Results showed an improvement in memory performance for those in group reminiscence only. Analysis showed that there was little difference between group and individual reminiscence on measures of mood, quality of life, and social identity.

Conclusions: The results add to the literature on reminiscence therapy with older people with and without dementia, including

improved understanding of the impact upon memory in the absence of changes in well-being. The findings are discussed in relation to improved interventions and implications for future research.

Key words: *older people, dementia, depression, quality of life, reminiscence therapy, psychosocial interventions*.

PROLOGUE

The purpose of this section is to contextualise the present research as it represents a departure from the original research proposal. The original aim was to focus on the impact of group reminiscence upon memory, mood, quality of life, and social identification in participants living in residential homes. The aim was to look at whether the group activity of reminiscence was critical in eliciting improved memory, which has been found in previous research. This would be compared with a group activity (skittles) and individual reminiscence to clarify if it was the activity of reminiscence or group activity per se that was the process involved in improving well-being. The research was part of a larger project within the University of Exeter involving a team of researchers, including two trainees on the Doctorate of Clinical and Community Psychology course. One trainee would focus on the impact of the interventions in residential care (myself) and the other (Adam Bevins) would focus on specialist residential care.

The levels of attrition had a considerable impact on the planned analyses given the impact on power. Sufficient numbers were not reached to continue with the original proposal and thus a revision was required. Examination of the dataset from both the dementia care (specialist residential care) and standard care settings (residential care) revealed that there was a considerable degree of cognitive impairment in the standard care sample, making a distinction between the two populations less clear cut. A decision was made between the researcher, supervisor, and a fellow trainee to collapse the data set with the effect of increasing participant numbers and the statistical power of the study, following advice from an external examiner.

Thus the revised position in consultation with the entire research team was made that this researcher would focus on a comparison of the effectiveness of group reminiscence with individual reminiscence, and the other researcher (Adam Bevins) to focus on a comparison of group reminiscence with a group control activity.

INTRODUCTION

There have been substantial increases in life expectancy at birth achieved over the past century (Bowling & Dieppe, 2005). The challenge of adding years to the lifespan for health and social care systems is to “add life to years” (The World Health Organisation (WHO); Kim Farley, 1999). A “misery” perspective on aging (Tomstam, 1992) has predominated cultural beliefs and stereotypes of aging, and disregards the fact that the elderly are a heterogeneous social category (Luken, 1987). In fact, many older people report leading fulfilling lives, but there are others for whom the challenges of older age result in reduced well-being (Age Concern, 2006). There is a need for psychosocial interventions to enhance well-being across all health and social services for older people. The framework of social group membership and well-being can inform the development and understanding of group based interventions, and offers a novel perspective to explain the process by which reminiscence is effective in improving well-being in older people. In this study, the impact of group versus individual reminiscence on memory, social identity, and well-being was investigated in older people with dementia [A1, p61] living in residential care.

NICE Guidelines for Dementia

In 2006, NICE published recommendations for the identification, treatment, and care of people with dementia and the support of their carers in primary healthcare, secondary healthcare, and social care. Of particular relevance are the recommendations that those with mild to moderate dementia of all types should have the opportunity to participate in a cognitive stimulation programme; defined as activities involving cognitive processing, usually in a social context and often group based with an emphasis on enjoyment of activities. Also that people with dementia should be assessed and monitored for depression and/or anxiety, cognitive behaviour therapy (CBT) should be considered, and that a range of tailored interventions e.g. reminiscence therapy, multi sensory stimulation, and exercise should be available for people with dementia who have depression and/or anxiety. Thus group based interventions in dementia care are identified as having a role in promoting cognition and memory function, and alleviation of mental health problems of depression and/or anxiety. This research sets out to consider the mechanism by which a group based intervention (reminiscence therapy) addresses the cognitive, emotional, and social consequences associated with dementia.

Sense of belonging in mental health literature

The primary emphasis in clinical psychology has been on the analysis of individual processes as predictors of adjustment and well-being, while the influence of social groups has often been

studied in relation to negative influences e.g. conformity, tyranny (Haslam & Reicher, 2005). Recent studies suggest that social groups can positively influence well-being at an individual level; having a greater number of social identities has been associated with better mental health (Thoits, 1983).

A sense of belonging has been inferred to decrease depression in the mental health literature (Hagerty et al., 1992; Hagerty & Patusky, 1995) and regarded as a basic human need (Maslow, 1954). Despite the assertion that sense of belonging should be promoted in retirement and nursing homes to improve well-being (Bailey & McLaren, 2005), little attention has been paid to devising interventions that may do so, despite research demonstrating that sense of belonging may need to be facilitated rather than being a natural progression from participating in activities with other people (Bailey & McLaren, 2005).

Social Identity Theory: the role of social groups in well-being

Social identity theory (Tajfel & Turner, 1979) defines identity in terms of social group membership; “that *part* of an individuals self concept which derives from his memberships in a social group or groups together with the value and emotional significance attached to that group (Tajfel, 1981, p225). In this context, identities are often perceived as role identities (established social roles such as teacher, wife) (Stryker, 1980) or categorical identities (broader social categories such as gender, ethnic or national categories) (Calhoun, 1997). Identity is neither secure nor stable. Rather it is

the outcome of a constant and ongoing process of negotiation (MacRae, 2002). Erikson's (1964) theory of life span development placed the formation and development of a coherent identity as a key task across the lifespan.

Group identification can be an important resource in dealing with stress, changes, and challenges (Postmes & Branscombe, 2002). Correlation studies suggest a sense of shared social identity protects from unfavourable environmental pressures especially in low status groups (Branscombe, Schmitt, & Harvey, 1999; Postmes & Branscombe, 2002). Together, studies suggest that social identity predicts stress appraisal (Haslam, O' Brien, Jetten & Vormedal, 2005) and social support (Haslam, Jetten, O'Brien & Jacobs, 2004) leading to collective self realisation (social power) and enhanced well-being (Haslam & Reicher, 2006).

In addition to group memberships playing a central role in identity formation, they have also been shown to have an important role to play in adjustment to transitions and changes throughout life. Transitions may involve moving to a higher status group, social identification with that group has positive implications for the individual's self esteem which negate the adverse consequences of the change. However, negative life changes often involve loss of social group memberships or moving to a lower status group, which can have negative implications for self esteem and interacts with

the adverse consequences of the change. Unsurprisingly, people are reluctant to disengage from valued group memberships (Ellemers, 2003) and resist adopting new group memberships (Jetten, O'Brien & Trindall, 2002) when a valued social identity is lost and/or a new valued social identity is not taken on (Hauschild, Moreland & Morrel, 1994). For example, many older people do not identify themselves as being old, illustrating that although others may ascribe a social group membership to individuals, they may not align their identity with that group (Baum, 1984) as the social group of "older people" may be seen as having lower status in Western society (Minichiello, Browne, & Kendig, 2000).

Much of the research on identity in older adulthood has focused primarily on identity loss in dementia, particularly Alzheimer's disease[A1, p68] (AD) (Beard, 2004; Cohen-Mansfield, Golander, & Arnheim, 2000; Surr, 2006). In their work with older adults, Sabat & Harre (1992) conceptualise "self" in three different ways: personal identity expressed by the use of I and me (Self 1); attributes (past and present), beliefs, and beliefs about attributes (Self 2); and social selves constructed only with the cooperation of others (Self 3). The latter acknowledges the psychosocial context of dementia and the role that others around the dementia sufferer play in loss of self. Single case studies (Sabat, 1994; Sabat & Collins, 1999; Sabat, 2002; Sabat, Neopolitano & Fath, 2004) present evidence of all three types of self, and conclude that

threats to self are not associated directly with neuropathology, but in interpersonal relationships with others. It highlights the potential for others to contribute to maintenance of self; and the possibility of intervention in this process. Given the negative views of old age in Western societies, it would seem likely that social interactions with older people may be subject to the same processes (Minichiello et al., 2000) and suggests that intervention may focus on improving social interactions in older age, with the aim of facilitating a valued and shared social identity.

Memory & Continuity of Identity

Memory and identity are viewed to be intrinsically linked in the Western world (Basting, 2003) as exemplified in statements such as “we are what we remember” (Wilson & Ross, 2005 p313). Neither memory nor identity are completely separable from the other (Klein, 2001). An essential characteristic of both memory and identity is continuity; a sense of past, present and future creating the perception that the person is the same person that they were in the past (Chandler & Lalonde, 1995). One crucial psychological process implicated in maintaining continuity is autobiographical memory (memory for experiences of one’s own life) (Bluck & Alea, 2008). The ability to maintain a coherent long term self is by the creation of a life story (McAdams, 1999) that relies on autobiographical memories of ones personal past, in a dynamic and integrative relationship (Bluck & Alea, 2008). This occurs

automatically in many circumstances but can be challenged by others in the context of life transitions (Bluck & Alea, 2008) or neurological disease (Addis & Tippett, 2004) and may require more conscious efforts to maintain the life story and thus continuity of identity. These will be discussed briefly in relation to older adults.

In relation to life transitions, relocation has been widely studied in later life as it frequently occurs to older people (Anmer, 1996) with the most significant relocation being a transition to a residential home (for a review see Lee, Woo & Mackenzie, 2002). Whilst interviews with residents of homes have highlighted some positive aspects of this type of living arrangement (Oldman & Quilgars, 1999), many older people desire to stay in their own homes and avoid institutionalised care at all costs (Heathcote, 2000) meaning that the transition to a residential home may be an unwanted or unexpected transition. In addition, an accumulation of losses of their own home (Haight & Webster, 1995), physical health, financial status, and spouse (Rosswurn, 1983), social networks (Johnson & Barker, 1996), and independence (Heathcote, 2000) are likely to result in a diminished sense of group memberships and threaten continuity of identity.

Neurological disease may affect memory abilities and therefore the ability to connect the past to the present. Such discontinuity affects one’s ability to retrieve memories of important social group

memberships, thereby disrupting self (or identity) continuity. This has led to some researchers to predict that loss of memory continuity reduces strength of identity (Addis & Tippett, 2004; Klein, 2001). A sole study has investigated the relationship between autobiographical memory and identity (Addis & Tippett, 2004) in participants with mild to moderate Alzheimer's disease (AD) living in the community and compared with healthy age matched controls. Results showed that those with AD had a weaker, more abstract, and negative sense of identity compared to the control group although the overall structure of identity did not differ.. This was the first quantitative study to explore the relationship between memory and identity in people with dementia. The sample as a whole had mild to moderate dementia, so it is unclear if the findings are generalisable to people with more severe dementia. The identity measure used was for personal identity and the ability of the participants with AD to complete it may have been affected by their cognitive difficulties.

The relationship between social group membership, identity continuity, and well-being suggests a potential avenue for increasing well-being in clinical populations (e.g. older adults with dementia living in residential homes) by enhancing shared social identities. To date, the bulk of research into social identity and well-being has been in social and organisational contexts with non-clinical populations (e.g. Haslam & Reicher, 2006; Haslam, Jetten,

O'Brian & Jacobs, 2004; Postmes & Branscombe, 2002). Social identity studies in the clinical domain are still scarce but the relationship between memory/identity loss and well-being has been explored in older adults who experienced a stroke (Haslam et al.,, in press). The number of group memberships before and after stroke were measured for each participant using a social identity questionnaire. The findings were that individuals who had belonged to multiple groups prior to their stroke reported higher levels of well-being post stroke, and when pre existing group memberships were maintained after stroke (identity continuity) this was associated with higher levels of well-being. Perception of cognitive impairment was found to reduce well-being as it interfered with one's ability to sustain social life.

Thus, social and cognitive factors are important to consider in the well-being of clinical populations. Haslam et al.. (in press) identify the need for further research with clinical populations including more measures of mental health and further use of the newly developed social identity measure (Exeter Identity Transition Scales; EXITS) to add to clinicians' understanding of the role of group membership in wellbeing.

Reminiscence therapy

Reminiscence therapy (RT) has no standard definition in the literature (Bluck & Levine, 1998) but involves the discussion of past activities and events, often in a group setting, aided with

prompts such as items from the past, photographs, music or sound archives (Woods et al., 1998). Reminiscence is a popular activity in older adult care settings and is rated highly by both staff and participants (Woods et al., 1998). Despite its popularity, the research evidence for the benefits of reminiscence is very weak and has no theoretical basis; a recent review (Woods et al., 1998) concluded that there was inconclusive evidence of the effectiveness of reminiscence for dementia. A meta analysis of RT and life review in older adults found a reduction in depressive symptoms; the effect size for reminiscence was similar to that of cognitive behaviour therapy (Bohlmeijer, Smit, & Cuijpers, 2003; Bohlmeijer et al., 2007). The majority of the studies of reminiscence are descriptive or observational, prohibiting inclusion in meta-analysis or review (Bohlmeijer et al., 2003). Nonetheless, a recent Cochrane review (Woods et al., 1998) highlighted the importance of further research on reminiscence with a particular need for more randomised controlled trials, clearer descriptions of the approach taken, and a broadening of outcome measures to include well-being, mood, and quality of life.

There are a number of aims of reminiscence work: to enhance communication, increase a sense of personal identity, to provide an enjoyable social activity, improve mood and well-being, and to increase individualised care (Woods et al., 1998). Yet the relationships between the aims and the outcomes have not been

rigorously evaluated. Outcome measures have included depression, self-esteem, quality of life, and performance on the Mini Mental State Examination (MMSE; Folstein, Folstein & McHugh, 1975). Importantly, increased coherence of autobiographical memory is often noted as an additional outcome of reminiscence, as it may facilitate connections between past and present memories thereby enhancing self continuity (Woods et al., 1998). Yet studies have failed to include measures of ABM or identity, so to date the proposition that RT can improve integrity of identity is limited to speculation.

Whilst reminiscence has been shown to improve memory and well-being in people with dementia, the mechanism by which this occurs is unclear. The Cochrane review (Woods et al., 1998) noted that improvements in mood might be responsible for the improvements in cognition (namely memory performance). Social identity theory offers a novel interpretation on such findings in arguing that the improvements in well-being arise from increased identification formed by sharing memories from the personal past with others. Development of shared (social) identities has been shown to promote well-being in social and organisational contexts and this may explain the improvement in mood shown in previous reminiscence research.

Reminiscence may be an important psychosocial intervention for two reasons; both in terms of life transition (moving into residential care) and to improve well-being. Transition into residential care is the most significant life transition in older age (Lee et al.,, 1995), and tends to be precipitated by becoming unable to care for themselves without support (Power, 1989) with two thirds of care home residents in the UK having dementia (Alzheimer's Society, 2007). People in residential homes report poorer quality of life compared to those living at home [A1, p61] (Beaumont et al.,, 2003) and higher rates of depression than those in the community (Godfrey, 2005). Frail older people in care homes cite sense of self, environment and care, relationships, and activities as important components of quality of life (Tester et al., 2000).

Brooker & Duce (2000) evaluated the effect of reminiscence therapy upon well-being using dependent measures from Dementia Care Mapping (Kitwood & Bredin, 1994) to index well-being. The study was conducted in three day hospitals within the NHS with twenty five participants with dementia. Well-being measures were taken within the reminiscence condition, so it was not known whether participants maintained these benefits beyond the sessions. The highest levels of well-being were observed in the group reminiscence; although importantly, facilitated group activities also resulted in reports of enhanced well-being, relative to unstructured time. The focus on a single observational measure

during the activity does not provide insight in *how* the process of reminiscence may have increased well-being. The authors suggest that it may have been simply increased enjoyment, but no measure was taken of this.

In another study, older people in residential homes who participated in reminiscence activities over a period of a month were interviewed about their views on reminiscence (Mc Kee et al., 2001). Participants cited the most helpful aspect of reminiscence as a way of conveying meaningful identities and events in their lives to care staff. They expressed feelings of discontinuity from their true-self and the world. The study concluded that engagement with these feelings of discontinuity should be integrated within the activity of reminiscence. Social Identity Theory would predict that group based reminiscence would be effective in promoting social identity by enabling participants to recall sense of shared social identities across the lifespan.

Present Research: Hypotheses

Previous research (Woods et al., 1998) has demonstrated that reminiscence can improve cognitive and memory performance in people with dementia, but the mechanism by which this occurs is unclear. The Cochrane review on reminiscence with older people (Woods et al., 1998) suggested that an improvement in mood might be responsible for the improvements in cognition. This study

formulates that the improvement in cognition is mediated by increased social identification with the group which *in turn* impacts on well-being. Previous research has demonstrated a relationship between social identity and well-being in studies from social and organisational psychology and recently in a clinical population (Haslam et al., in press).

The present study aimed to draw upon social and clinical psychological theory and research in considering the ability of a group intervention to improve memory and cognitive performance, increase social identification, and improve well being.

The hypotheses of the present study were;

- A group reminiscence intervention would result in greater improvements on memory performance and general cognitive functioning than an individual reminiscence intervention.
- In line with social identity theory, it was predicted that a group reminiscence condition would result in increased social identification in the group reminiscence condition, relative to an individual reminiscence condition.
- Since social identity has been shown to be associated with wellbeing on an individual level, it was predicted that relative to an individual reminiscence condition, group reminiscence would have a greater impact on wellbeing, as indexed by quality of life, and anxiety and depression symptomology.

METHOD

Design

The design employed in the present study was between-subjects as participants were allocated to one of two levels of the independent variable; individual reminiscence and group reminiscence. There were four dependent variables; cognitive functioning, social identity, mood, and quality of life taken at two points; before and after the interventions. The study utilised a pretest-posttest control design (Brogan & Kutner, 1980) as participants were assigned to either the experimental or control condition, and measures were administered before and after the independent variable. This enabled the level of individual change to be measured and individual differences prior to the intervention to be controlled for.

Participants

The participants in the study were permanent residents in nine residential homes across Somerset and Cornwall. The residential homes were privately run by two care companies; Somerset Care Limited and Cornwall Care Limited. Both care companies have similar agendas in the provision of care for older people who use their services. Residential care (RC) units provide fulltime care for people who are unable to manage in their own homes due to decreased physical mobility. Specialised residential care (SRC) units provide fulltime care for people with dementia who are

unable to remain in the community and require a more specialised and intensive level of care than is provided in RC.

Participants were recruited through coffee mornings held at the care homes [A2, p71].

The inclusion criteria for the study were that participants were permanent residents in either residential or specialised residential units. Participants were excluded if they occupied a nursing care bed, had a prior history of psychiatric illness, or presented with significant language difficulties (either expressive or receptive), or significant sensory disturbance (i.e. visual or auditory) that would preclude completion of the measures and participation in the interventions.

From this process, a total of 75 participants were recruited; 38 older adults from the standard care units and 37 older adults in the dementia care units. Between the recruitment phase and the post intervention follow up, 15 participants either received less than half of the intervention, and/or were unable to complete both pre and post intervention measures, and consequently were excluded from the study (the flowchart in extended method details attrition). Another participant was excluded from the final data set due to a considerable quantity of missing data [A2, p74].

The final sample was comprised of 59 participants (12 males and 47 females) between the ages of 58 and 100 years (M = 83.83, SD = 7.80). Twenty nine participants were from SRC and 30 from RC. MMSE (Folstein, Folstein & McHugh, 1975) scores were calculated for each participant from the pre intervention administration of the Addenbrookes Cognitive Examination Revised (ACE-R, Mioshi et al.,). The MMSE scores for residential care (RC) and specialist residential care (SRC) were compared and this showed that those in residential care scored higher (M = 19.43, SE = 1.223, range 4-29) than those in specialist residential care (M = 14.10, SE = 1.119, range 3-28). However, there was considerable overlap between the cognitive abilities of those in residential and specialist care **A2, p75 & A3, p146**.

For the sample as a whole (RC and SRC combined), MMSE scores ranged from 3 to 29 (M = 16.67, SD = 6.79). Thus, 8 participants would be classed as having severe dementia, 29 as having moderate dementia, 15 as having mild dementia, and 6 participants scored in the normal range.

Power analysis **A2, p84** showed that with a large effect size (d = .80) for 80% power at 5% significance level, 26 people would be required in each group for a parametric independent samples t-test. This estimated that a minimum of 52 participants were required in total with random allocation of 26 people to group

reminiscence and individual reminiscence. The estimated number of participants was achieved for group reminiscence condition (n = 34) but was slightly below for the individual reminiscence condition (n = 25)

Materials

In the intervention phase, everyday objects acted as the stimuli **[A2, p79]** in the two treatment conditions of group reminiscence and individual reminiscence. The purpose of these were to act as visual (e.g. photos), auditory (e.g. bell), tactile (e.g. embroidery), and olfactory (e.g. laundry soap) prompts to stimulate conversation about past recollections of these items in everyday life. Approximately six stimuli were used in each session. They were loaned from a memory box scheme[1]. The same stimuli were used in both the group reminiscence and individual reminiscence interventions.

Measures

All measures are described briefly below, with further information on the validity and reliability of standard questionnaires and previous use of the measures in the extended method **[A2, p80]**.

Cognitive functioning

Addenbrooke's Cognitive Examination Revised (ACE-R)

[1] see extended method for more details

The ACE-R [A7, p183] (Mioshi, Dawson, Mitchell, & Arnold, 2007) is a brief cognitive test that assesses five cognitive domains of attention/orientation (18 points), memory (26 points), verbal fluency (14 points), language (16 points), and visuospatial ability (16 points). The ACE-R has a maximum score of 100 composed of the addition of the scores on the five domains with a higher score demonstrating better cognitive ability.

Memory

Repeatable Battery of Neuropsychological Status (RBANS; Randolph, 1998)

In addition to the memory component of the ACE-R, the Story Memory subtest of the RBANS [A7, p199] was used to assess immediate verbal memory. A short story (12 items of information) was read to the participant, and they were asked to immediately recall as much as they could. A recognition component was designed consisting of 8 yes/no questions to measure recognition memory.

Social Identity

The Exeter Identity Transition Scales (EXITS; Haslam et al.*,, in press).*

This questionnaire is a social identity measure [A7, p189] developed at the University of Exeter, which has been used in a previous study with stroke patients . Items were read aloud by the interviewer and participants were asked to rate their agreement with a five-point

scale (1 = disagree completely, 2 = disagree a little, 3 = neither agree nor disagree, 4 = agree a little, 5 = agree completely). The items in each scale were averaged to create an overall score for analysis. The EXITS was adapted and tested with older adults who had experienced a stroke (Haslam et al,, 2008) with five subscales used in the present study:

Multiple Group Memberships. Three items (α = 0.86, α = 0.85)[2] assessed present membership in multiple groups. These three items were: “I am a member of lots of different groups”, “I am active in lots of different groups”, and “I have friends who are in lots of different groups”.

Maintenance of Group Memberships. Three items (α = 0.87, α = 0.78) assessed maintenance of old group memberships since moving to residential care. These items included: “Since moving to residential care, I still belong to the same groups”, Since moving to residential care, I am still active in the same groups,” and “Since moving to
residential care, I still have friends in the same groups”.

New Group Memberships. Three items (α = 0.89, α = 0.85) assessed the experience of new group memberships in residential care. These items were:

[2] Cronbach’s alpha is reported for both pre-intervention and post-intervention.

"Since moving to residential care, I have joined one or more new groups", "Since moving to residential care, I am active in one or more new groups", and "Since moving to residential care, I have become friends with people in one or more new groups".

Contiinuity. Two items (r = 0.90, r = 0.92) assessed perception of self-continuity, the extent to which they saw themselves as the same person throughout their life. These items were: "I am the same person as I always was" and "Over time lots of things have changed but I am still the same person".

Personal Identity. Six items (α = 0.77, α = 0.78) assessed perceptions of personal identity strength. These items were: "I know what I like and what I don't like", "I know what kind of person I am", "I know what my morals are", "I have strong beliefs", "I know what I want from life", and "I am aware of the roles and responsibilities I have in my life".

Mood

Hospital Anxiety and Depression Scale **[A7, p179]** *(HADS; Zigmond & Snaith, 1983).*

This is a self report questionnaire indexing symptoms of anxiety and depression. It consists of 14 questions of which seven screen for anxiety and seven screen for depression. The higher a person scores, the higher the level of anxiety/depression. On both the anxiety and depression subscales, the maximum score is 21. Snaith & Zigmond (1983) suggest that a score of 11 or over on either subscale demonstrates a probable clinically relevant level of either anxiety or depression.

Quality of Life

Quality of Life in Alzheimer's disease [A7, p196] *(QoL-AD; Logsdon, Gibbons, McCurry, & Teri, 1999)*

This is a self assessment questionnaire consisting of 13 items about the individual's relationships with friends and family, concerns about finances, physical condition, memory, mood, and an overall assessment of life quality. Respondents rate each item on a four point scale (1 = poor, 2 = fair, 3 = good, 4 = excellent). The maximum score is 52. The higher a person scores, the higher the perceived quality of life.

Staff perceptions of participants' well-being

Staff ratings of participant well-being [A7, p200]

Two members of staff in each residential home were asked to rate their perceptions of participant well-being according to a number of descriptive statements about their behaviour over the past week.

They were asked to rate all residents on their level of alertness, daily memory, past memory, insight, engagement, happiness, and physical well-being. A five-point scale, ranging from 1 "*very untrue*" to 5 "*very true*", was used. The staff members were unaware of which intervention each participant was receiving, and the same two staff members completed the ratings each week.

Intervention Feedback [A7, p201]

At the post assessment phase, each participant was asked to respond to three questions: "How worthwhile were the sessions?", "How much did you enjoy the sessions?", and "How much did you get out of the sessions? by rating their experience using a five point Likert scale with higher points on the scale relating to greater enjoyment. They were also asked for any comments about their experience of the intervention.

Procedure

Ethical approval for the research was obtained from the School of Psychology at the University of Exeter [A5, p169]. The Commission for Social Care Inspectorate (CSCI) is the regulatory body for all adult social care services in the public, private, and voluntary sectors in England, and they were consulted regarding the research by the care organisations. Residents, family members, and staff at the care homes were invited to attend informal coffee mornings held within each care home, at which residents were given an

information sheet[A6, p172] about the study, and separate information sheets were given to family members and care home staff[A6, p175] . Residents were given the opportunity to ask questions before being invited to read and sign the consent form attached to the information sheet. Special consideration was taken with the recruitment of residents within dementia care units, in accordance with the Mental Capacity Act (2005). Guidance was sought from care home staff on an individual basis, and when indicated, consent obtained from a resident's next of kin[A6, p174]**.** An advocate from Age Concern was present during the coffee mornings at the dementia care units for independent guidance. The information sheets and consent forms were developed in collaboration with the care organisations, to ensure information about the study was presented in such a way to enable residents to give informed consent e.g using short and clear sentences, keeping to one page, and using a large font size.

Participants were allocated to one of two treatment conditions; group reminiscence and individual reminiscence. Due to geographical distances between the homes and mobility difficulties within the homes, the group intervention consisted of residents within the same care home and care level. Participants were allocated within these constraints, with five residents being allocated to each group intervention. There were three stages in

the research; pre-intervention assessment, the intervention phase, and post-intervention assessment.

1) Pre- intervention assessment

Two weeks prior to the intervention in June 2007, participants were asked to complete a number of measures. Participants were seen individually, either in their own room at the home or in a private room away from other residents. The measures were administered in the same order to all participants (as reported in the measures section) in interview format. Questionnaire items were read aloud by the researcher in accordance with test instructions and possible responses were presented visually in large font on paper to facilitate responding. This process took between one to one and a half hours. Breaks were given as required throughout and whenever requested by the participant to reduce the impact of fatigue.

2) Intervention [A2, p80]

Participants were randomly allocated to the two experimental conditions (group reminiscence or individual reminiscence) within each residential home by a researcher not involved in delivery of either intervention. The interventions ran for six weeks from July 2007 to August 2007, with weekly 30 minute sessions. For both interventions, the purpose was to promote a life span approach to the reminiscence starting with childhood, and then progressing to

early adult years and then to later years (e.g. Childhood toys, Schooldays, Domestic Life, Weddings, Family Life, and Holidays). Each session began by orienting the participant(s) to the phase of the intervention e.g. “This is the first week we will be meeting out of six weeks in total. The topic this week is Childhood toys. I have some items here for you to look at and I would like us to talk about what you remember about these objects”. Participants were encouraged to look, listen, smell, and touch the items to facilitate discussion.

The individual reminiscence involved a researcher meeting one to one with a participant, and the group reminiscence involved a researcher and a member of staff from the residential home meeting with up to five participants from the same care home and care setting. Sessions were held in the participants’ room or a private room of the residential home for the individual reminiscence sessions and in a private room in the care facility for the group reminiscence sessions. They were held at the same time and the same location each week to ensure regularity and familiarity for the participants. The role of the researcher and member of staff were to provide a structure for the session and to facilitate discussion. In the group sessions this extended to ensuring that each week all participants were introduced to each other, and ensuring each participant had the opportunity to contribute to the discussion as they wished.

3) Post intervention phase

The post intervention phase took place two weeks after the last session of the intervention in August 2007. The same procedure was followed as the pre-interview assessment. At the post assessment phase, participants were asked to rate their experience of the intervention they had received.

The staff rating sheets were left with the residential homes for two members of staff to complete at 5 time points; 2 weeks before the intervention, week 1 of the intervention, week 4 of the intervention, week 6 of the intervention, and 2 weeks after the intervention.

RESULTS

Results are reported in two sections, the first covering analysis of demographics, and second covering the results of the intervention. The data collected from the study was entered into and analysed using SPSS Windows Version 15.0. All data were screened before analysis **A3, p89**

1) Demographic data. This included the age of participants, gender, and MMSE scores prior to the intervention. Table 1 gives

demographic information for treatment condition broken down as a function of intervention and care level.

Table 1: Demographic information by intervention and care level.

	Group reminiscence		Individual reminiscence	
	N = 34		N = 25	
	Residential care n=16	Standard care n=18	Residential care n=14	Standard care n=11
Age	M = 83.13 SD = 6.5 Median = 85 Range 62-89	M = 86.39 SD = 8.85 Median = 86.5 Range 58-98	M = 81.43 SD = 7.72 Median = 82 Range 62-91	M = 83.73 SD = 7.62 Median = 83 Range 70-100
Gender	M = 4 (25%) F = 12 (75%)	M = 3 (16.70%) F = 15 (83.30%)	M = 2 (14.30%) F = 12 (85.70%)	M = 2(18.8%) F = 9 (71.2%)
MMSE	M = 14.00 SD = 6.72 Median = 12 Range 4 – 28	M = 18.18 SD = 6.10 Median = 19 Range 7 -27	M = 14.21 SD = 5.62 Median = 13.50 Range 3 – 26	M = 21.36 SD = 6.90 Median = 23 Range 4 -29

The MMSE score was calculated from the participants score on the ACE-R (Mioshi et al.,, 2006) before the intervention. The data for

age, MMSE score and pre intervention depression symptoms did not meet parametric assumptions and hence were analysed using non parametric Mann Whitney U tests. These analyses revealed no significant differences between the two groups in age (U = 303.00, Z = -1.876, p = .061, two tailed), MMSE score (U = 367.00, Z = -.717, p = .474, two tailed), or depression (U = 405.50, Z = -.301, p = .768, two tailed), suggesting that these factors were unlikely to have a bearing on the experimental study. The proportion of male to female participants reflects the gender demographic of the nursing homes as a whole.

Preliminary analyses **A3, p87**

Given the potential noninterdependence of responses due to the fact that data were obtained from interacting groups, preliminary tests were conducted for the effect of group using hierarchically nested ANOVA with seven groups in total . The effect of group for the majority of the dependent variables was above or sufficiently close to the minimum recommended level (p > .25) (Anderson & Ager, 1978) for each dependent variable, demonstrating no statistical interdependence between group and treatment condition. Therefore this allowed the main effect of condition to be explored further in subsequent analysis. There was evidence of interdependence on three of the EXITS subscales which requires caution in interpreting further analysis on these subscales.

In addition the data was explored to check assumptions for parametric testing. Shapiro-Wilks tests were conducted to check if the data was drawn from a normally distributed population, and Levene's test was used to check homogeneity of variance. Where these assumptions were not met, and data transformations were not successful in transforming the data for parametric testing, non-parametric tests were used instead.

For the purpose of analysis, difference scores were calculated for each participant for their memory, overall cognition, identity strength, HADS anxiety, HADS depression, and quality of life score. This entailed subtracting the pre score from the post score. Thus a positive difference score indicated an improvement in ability after the intervention, and a negative difference score indicated a decrease in ability after the intervention, with the exception of the HADS anxiety and depression scores when this was reversed.

Main Findings

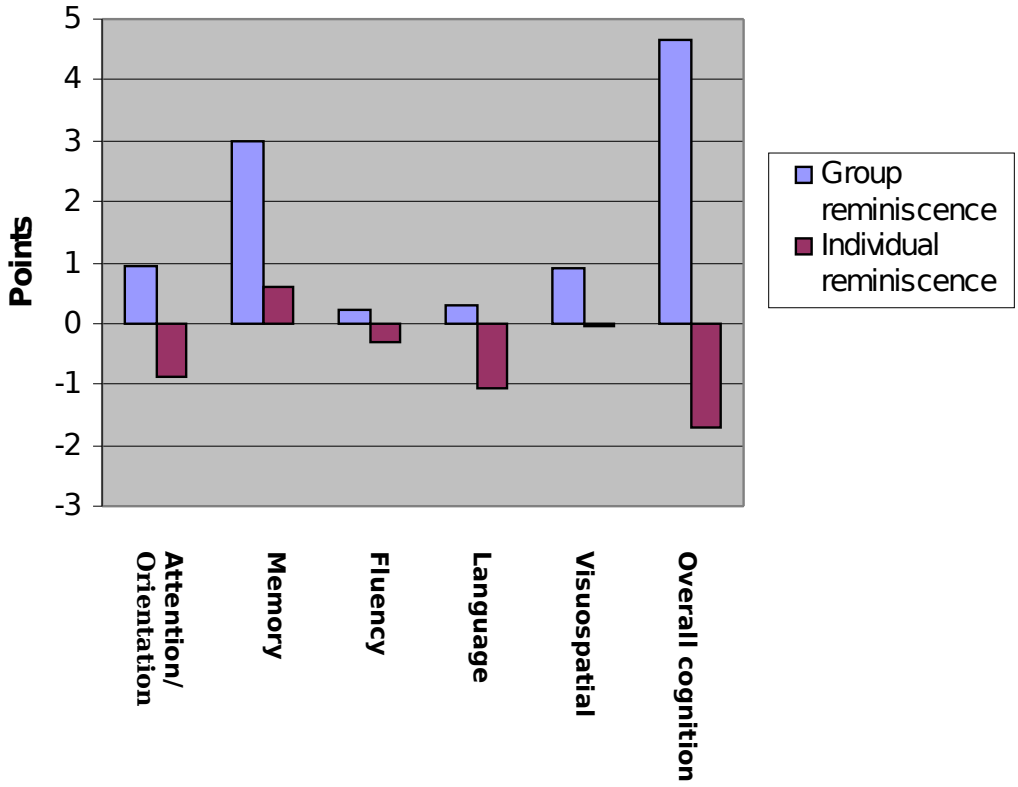
Memory and Cognition

The impact of group versus individual intervention on memory and overall cognition is below in Figure 1, and suggested differences between group reminiscence and individual reminiscence on all subtests and overall performance on the ACE-R.

On average, participants in the group reminiscence performed better on overall cognition (M = 4.68, SE = 1.61) than those in individual reminiscence (M = -1.71, SE = 1.47). This difference was statistically significant (t = 2.84, p = .003, one tailed) and represents a medium effect size (r = 0.36).

On average, participants in the group reminiscence performed better on the memory section of the ACE-R (M = 2.71, SE = .61) than those in individual reminiscence (M = .56, SE = .77). This difference was statistically significant (t = 2.21, p = .0015, one tailed) and represents a medium effect size (r = 0.28). These findings were both in line with the predictions of the study.

Figure 1: Change in ACE-R performance by type of intervention

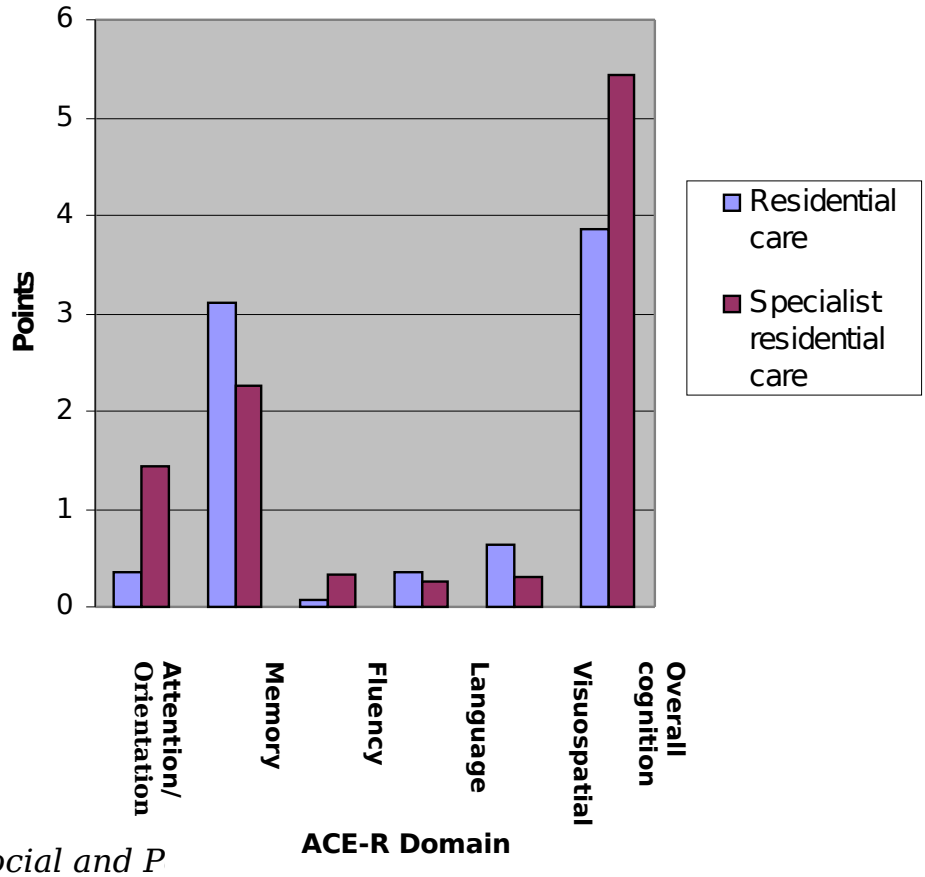


ACE-R Domain

It had been planned to combine scores from the ACE-R memory with the scores on the RBANS recall and recognition to create a single measure of memory; however screening of the RBAN scores **A3, p119** showed a floor effect for the recall component and at chance performance for the recognition component so the RBAN data was excluded from analysis.

It was possible that there were differences between the residents in residential care and specialist residential care in how they responded to the group reminiscence. Figure 2 shows the change in ACE-R performance for those in group reminiscence only, by care level. This could not be analysed due to the small sample size, but the figure suggests that both those in residential and specialist residential care experienced improvements in memory and overall cognition.

Figure 2: Change in ACE-R performance for group reminiscence by care level



Social and P

The ten subscales of the EXITS questionnaire were analysed for reliability [A3, p127]. The five subscales relevant to the present study met the criteria of Cronbach alpha greater than 0.80 (Field, 2005). An adjusted alpha level of 0.01 was applied to correct for multiple comparisons. The median differences for group and individual reminiscence conditions are reported in Table 2. Mann Whitney *U* Tests were used to analyse the difference scores on five subscales of multiple group memberships, maintenance of group memberships, new group memberships, identity continuity, and personal identity. No significant differences were found between

group and individual reminiscence, against predictions that there would be increased social identification in the group reminiscence condition.

Table 2: Results of significance tests for social identity measure as a function of reminiscence type.

	Group Rem.		Ind. Rem.			
	Mdn	SE	Mdn	SE	U	Z P
Subscale						
Multiple group membership	-.33	.32	-.33	.29	398.00	-.032 .978
Maintained group membership	.00	.24	-.17	.28	371.00	-.017 .990
New group memberships	.00	.32	-.17	.25	329.50	-.537 .597
Identity Continuity	.00	.45	.00	.33	359.00	-.849 .401
Personal Identity	.42	.70	-.17	.85	361.00	-.627 .536

Note: As these data are based on gain scores (post minus pre), the minimum value is 0 and maximum value is plus/minus 5. All p values relate to two tailed tests. Mdn = median , SE = standard error.

Well-being

Well-being was measured using the HADS anxiety and depression scales, and the QoL-AD measures, and thus an adjusted alpha level

of 0.017 was applied for multiple comparisons. Table 3 shows the mean pretest, posttest, and difference scores for the group reminiscence and individual reminiscence conditions. This indicated that both before and after the reminiscence interventions, the mean anxiety and depression symptoms reported by participants was in the non-clinical range.

Table 3: Descriptive statistics of well being variables

Measure	Reminiscence Condition	Mean	Median	SD	SE
Pretest HADS-A	Group Reminiscence	5.75	5.00	4.69	0.83
	Individual Reminiscence	6.08	4.00	4.38	0.91
Pretest HADS-D	Group Reminiscence	4.78	4.00	3.56	0.63
	Individual Reminiscence	4.73	4.00	3.43	0.71
Pretest QoL Total	Group Reminiscence	36.31	36.00	4.66	0.82
	Individual Reminiscence	35.17	36.00	4.46	0.93
Posttest HADS-A	Group Reminiscence	5.75	5.00	3.65	0.64
	Individual Reminiscence	6.08	4.00	4.92	1.03
Posttest HADS-D	Group Reminiscence	4.87	4.00	3.46	0.61
	Individual Reminiscence	4.09	3.00	2.76	0.58
Posttest QoL-AD	Group Reminiscence	36.00	36.00	4.56	0.81

		Individual Reminiscence	34.26	35.00	4.54	0.95
Difference		Group Reminiscence	-0.2	0.00	4.54	0.80
HADS-A		Individual Reminiscence	-0.7	0.00	4.11	0.86
Difference		Group Reminiscence	0.10	0.00	3.53	0.62
HADS-D		Individual Reminiscence	-0.65	0.00	3.23	0.67
Difference QoL-AD		Group Reminiscence	-0.31	0.50	3.75	0.66
		Individual Reminiscence	-0.91	-0.20	3.89	0.81

Note: HADS-A refers to anxiety items, HADS-D refers to depression items, and QoL-AD is the total score.

The difference scores for the measures of wellbeing were analysed with a t test (for the HADS Depression) and Mann Whitney U tests (for HADS Anxiety and QoL-AD). The difference in anxiety scores was not statistically different for participants in group reminiscence compared to participants who received the individual reminiscence, $U = 403.50$, $Z = -.142$, $p = .446$, one tailed. For depression scores, the difference between participants in group reminiscence and individual reminiscence was not statistically different, ($t = 1.05$, p=. 149, one tailed). Lastly, in relation to quality of life ratings, the difference between participants in group reminiscence and individual reminiscence was not statistically different, $U = 347.50$, $Z = -.54$, $p = .229$, one tailed. Thus there were no significant improvements in well-being for participants in

group reminiscence, compared to participants who received individual reminiscence.

Staff perceptions of well-being and participant feedback on intervention

Due to the poor response rate [A3, p159] on staff questionnaires for participant's well-being, it was not possible to analyse the data collected. Participant feedback was collected for 20/34 participants in group reminiscence and 17/25 participants in individual reminiscence. The remaining participants were unable to provide any feedback as they could not recall the sessions taking place. There were no significant differences between group and individual reminiscence on ratings in relation to the three questions asked [A3, p157]. This is shown in Table 4.

Table 4: Participant feedback as a function of reminiscence type.

	Group Rem. N =20/34		Ind. Rem. N = 17/25			
	Mdn	SE	Mdn	SE	U	Z P
Q1. How worthwhile	4.00	.27	4.00	.38	179.50	-.015 .988

were the sessions?

Q2. How much did you enjoy the sessions?	5.00	.21	5.00	.42	175.50	-.147 .897
Q3. How much did you get out of the sessions	4.00	.31	4.00	.37	162.00	-.257 .821

Note: Ratings for each question were from 1-5 with higher values representing more positive response. Mdn = median SE = standard error.

DISCUSSION

The aim of the study was to investigate whether people who received group based reminiscence derived greater benefit in cognition, mood, quality of life, and sense of identity than people who received individual reminiscence. Reminiscence has been shown to increase well-being and memory performance in previous studies (Woods et al.,, 1998), but the lack of a coherent framework for understanding the mechanisms via which it improves outcomes has impeded understanding of how it may be employed for optimum effectiveness. Findings from this study could provide a theoretically based understanding using Social Identity Theory (SIT) to understand how this popular activity in older adult settings enhances the well-being of those who participate in it.

Main findings

Those in the group reminiscence showed improvement in their overall cognitive performance compared to those who participated in individual reminiscence, which was driven by improvement in memory performance. However, there were no significant changes in mood, quality of life, or perceived sense of identity. There were no differences in enjoyment ratings between group and individual reminiscence. In the following discussion, each finding will be addressed in turn with the implications.

Impact of reminiscence on memory and cognition

The first hypothesis was that those in group reminiscence would show greater improvements in memory and cognition than those in individual reminiscence. The results supported this prediction. A review of reminiscence research found that cognition improved after group reminiscence compared to no treatment and social contact control conditions (Woods et al., 1998) but it could not be determined whether this was driven by the activity of reminiscence or the context in which the activity occurred (a group). Previous studies have employed group *or* individual modalities of reminiscence, and although a meta analysis (Bohlmeijer et al., 2003) suggested that group and individual modalities were equally effective, it should be kept in mind that data was compared between different treatment protocols and it may have been that the individual formats followed more of a life review format than a reminiscence format. The present study aimed to control for this

possibility. The reason for comparing group with individual in this study was explicitly to test mechanisms offered by Social Identity Theory, which predicted that a group format would be superior to individual format in eliciting changes in memory, identity, and well-being, due to a sense of shared social identity in the group format. Group format was found to produce benefits in memory performance which was not found in the individual format. Thus, this suggests that group reminiscence is more effective and is also a more cost and time effective way of delivering the activity. One person in the group reminiscence commented after the intervention, “It made me think I ought to concentrate more on what other people say” and another participant commented “ It brought me out of myself” showing their awareness of this outcome.

The Cochrane review (Woods et al., 1998) states that “in the case of cognition, there was an encouraging trend at post treatment” but in fact one study (Goldwasser, 1987) did not find a significant improvement in cognitive status for those receiving reminiscence therapy, while another (Lai et al., 2004) found a significant improvement in cognition at follow up. Thus findings have been inconsistent across studies. It has been suggested that the improvements found in group reminiscence in previous research may be due to increased enjoyment compared to other activities (Brooker & Duce, 2000). In this study, we obtained ratings of

enjoyment after the intervention from participants and this showed that there were no significant differences between enjoyment ratings of group versus individual reminiscence. This controlled for the possibility that any improvements in cognition or well-being were responsible for increased enjoyment of the activity.

Impact of reminiscence on social identification

The second prediction related to perceived sense of identity, namely that identification would be increased for those in the group reminiscence only. There were no changes for those in group reminiscence or individual reminiscence on a measure of identity looking at group memberships (numbers of groups, past and new groups), sense of continuity, and sense of self. This was not consistent with the prediction that a group format would be superior to an individual format in strengthening sense of identity, due to individuals in the group forming a shared social identity. Whilst an increase in sense of identity has been frequently referred to as an aim of reminiscence (Woods et al., 1998), previous studies have neither defined the construct or included it as an outcome measure. It was hypothesised in the current study that group reminiscence would lead to increased sense of shared identity (group membership) and thus a measure of this was taken before and after the reminiscence intervention. Whilst no significant findings were found, the broadening of outcome measures into

other domains of well-being is in line with recommendations of a recent review of reminiscence (Woods et al., 1998).

There are three possible reasons why a strengthening of identity was not found in the study. First, in some groups, it was clear that participants were heterogeneous in respect of their cognitive impairments and ability to interact appropriately with other people. A comment made by a participant reflects this; “The people there – some weren’t so helpful. Couldn’t contribute very much. They did their best but for your memory you got to remember what you did. It was hard to understand what other people were saying sometimes, not very clear.” From a Social Identity perspective (Tajfel & Turner, 1979), there are three key elements of group membership (categorisation of people into distinct groups), identification (with certain groups, leading to group memberships) and social comparison of one’s group with other groups which can impact on sense of self. Within the groups, it is possible that some residents categorised other residents as less able and more impaired, and did not identify with them, which impeded a sense of solidarity developing. Another participant remarked “I have all my senses. It was not relevant for me” suggesting that they may have viewed it as more relevant for those with memory difficulties. Future research may need to consider ensuring members of groups are matched more closely in terms of cognitive abilities, as for some group members this affected their enjoyment of the sessions.

Second, the intensity and duration of the intervention (a weekly 30 minute session for a total of six weeks) may not have been sufficient to impact on sense of identity in the current study, particularly as criterion for inclusion in analysis was taking part in at least 3 sessions out of a maximum of 6. This may not have been sufficiently long for participants to feel a sense of shared group membership with others in the group. Reminiscence interventions have varied between three/four sessions (Davis, 2004; Serrano, Latorre, Gatz, & Montanes, 2004), whilst a few have consisted of up to 28 sessions (McMurdo & Rennie, 1993). Given the interdependence between memory and identity, it is likely that those with greater memory impairment may take longer to gain an increased sense of self and identification with the group. It has been suggested that for older adults, the rate of change may be slower and that longer term interventions are better suited (Knight, 1988). A meta-analysis of reminiscence (Bohlmeijer et al., 2007) did not find that duration of intervention was a significant factor, although it is acknowledged that the length of the intervention was sufficient to improve cognition and memory in the present study.

Third, the validity and reliability of self report measures of identity with people with cognitive impairment should be considered as they assume a certain capacity to report experiences accurately, However insight can be affected in dementia, even in the earlier

stages (Onor, Trevisiol, Negro, Aguglia, 2006). The social identity measure had been used before with older adults with stroke (Haslam et al., 2008) and older adults with cognitive impairment (Jetten et al., in press). The participants in this study had a greater degree of cognitive impairment than previous samples, and whilst some participants did not have difficulty in completing it, others struggled to answer some items, perhaps due to the abstract nature of statements such as "I am the same person I have always been". It was important to give people the opportunity to respond if they could but if they found some statements too difficult, this was coded as missing data.

Effect of reminiscence on well-being

The prediction was that group reminiscence would lead to improvements in well-being, as measured by lower symptoms on a mood measure and higher ratings on a quality of life measure. The results did not support this prediction as there were no changes in mood or quality of life in either the individual or group reminiscence conditions. Previous research into reminiscence has not utilised quality of life measures and a review of reminiscence (Woods et al., 1998) recommended broadening use of outcome measures to include these. Mood measures have been more commonly used in reminiscence research and a meta-analysis focusing exclusively on the effects of reminiscence on depression found a "statistically and clinically significant effect of

reminiscence on depressive symptomatology in elderly people" (Bohlmeijer et al., 2003, p1088). Thus, our results were not consistent with previous research as there was no reduction in depressive or anxiety symptoms on the HADS measure. There are two possible reasons why an improvement in mood and quality of life was not found in the present study, which will now be discussed.

Bohlmeijer et al., (2003) found that reminiscence was more effective in participants with more symptoms of depression. In the current study, participants generally scored in the normal ranges for anxiety and depression, and therefore may have benefited less than participants who scored in the mild, moderate, or severe ranges on the measure. The results we found may not be generalisable to older people who are depressed or anxious, and the sample may have been biased towards participants who were not experiencing anxiety or depression. There may been an inherent bias towards the latter as people experiencing anxiety or depression may be less likely to volunteer to participate in the research due to poor motivation, social withdrawal from activities or other people, or worry about being in a group of people. The possibility of this needs to be considered as it may result in a skewed sample atypical of the majority of residents of residential homes, although can not be overcome due to the voluntary nature of participation.

The Quality of Life Measure chosen in the present study was designed for people with and without dementia living in residential care, and can be used with people with MMSE scores as low as 3 (Thorgrimsen *et al.* 2003). No change was found on the total quality of life score after intervention. Previous research has not used quality of life measures in reminiscence research so the research was novel in including it as an outcome measure. However, one reflection upon its inclusion in this research is that it is a broad quality of life measure tapping domains that are unlikely to be affected by a reminiscence intervention e.g. physical health, money, energy, living situation, ability to do chores around the house, thus reducing its sensitivity to effects of reminiscence. Several items may be more relevant, such as perception of memory, friends, perception of self as a whole, but other items may need to be included such as social interaction, loneliness, boredom, enjoyment of sessions, looking forward to groups etc which are more specific quality of life facets in relation to reminiscence work. This needs to be more thoroughly considered in future research when quality of life is included as an aim of research and an outcome measure.

It had been planned to incorporate staff ratings of cognition, social engagement, and quality of life in the research, however a low completion rate before, during, and after the interventions

prohibited this. There were practical difficulties in identifying staff members within each home who knew participants sufficiently well to rate them whilst remaining unaware of which intervention they received, and in being able to rate them consistently over a ten week period. Also, the measure used was devised by the research team, and the unfamiliarity of the items for care staff may have been a factor in the low completion rate. Consulting with those selected to complete the measure and involving them in the development of the measure may have improved their understanding of the rationale for item inclusion and provided a face to face opportunity to ensure care staff were clear in how to complete and return the measures. Alternatively, as care staff at the home had been trained in dementia care mapping (DCM; Kitwood & Bredin, 1992) and their familiarity with this measure may have resulted in more data; however this needs to be balanced against the increased time to collect data using this method.

Clinical Implications

Reminiscence therapy is a routine activity in many care settings such as residential homes where two thirds of care home residents are likely to have dementia, despite many not having been formally diagnosed. The implications of these findings are that reminiscence therapy can impact on cognitive functioning by means of improving memory. This may impact on functional abilities such as activities of daily living and behaviour, although these were not measured in

the present study. Improvements in quality of life and wellbeing were not evident after a six week period of reminiscence therapy but some participants commented on their expectation that on entering residential care, they would form new social relationships. For many they did not feel this had happened, citing the size of the residential home, mobility problems, shyness, as barriers although impaired cognitive functioning would also impact on the ability to interact socially with others. Reminiscence groups as run in this study may vary from reminiscence activities in residential homes in some important ways; closed membership of groups, group size limited to five people, a systematic lifespan approach to reminiscence which was explained to participants at the start of each session, and the role of the facilitator in shaping social interactions within the group. It is possible that reminiscence therapy will impact on social interactions and friendships both within the group and outside in the wider home context.

Strengths and Limitations

Much research on reminiscence has been based on small sample sizes (Woods et al.,) with several exceptions (Arean et al., 1993; Fry, 1983; Haight, 1998; ReVille, 1996). The sample size in this research was on par with these latter studies, and incorporated nine large residential homes within this. Thus the groups were composed across different residential homes and geographical areas, reducing the likelihood that the results found were

particular to one residential home. Importantly, preliminary analyses indicated there was no interdependence as a function of residential home or care level for the cognition and well-being variables. Interdependence of observations is an issue that needs to be considered and incorporated into analysis when the research involves group delivery of interventions. It is important that future research into reminiscence accounts for this phenomenon as if ignored, it can result in missing significant results or inappropriate conclusions being drawn from analysis (McGarty & Smithson, 2005).

In considering the limitations of the research, the design of the study did not include a no-treatment control which would have allowed the evaluation of effect of attention upon cognition, mood, and quality of life. The robustness of the study design would be improved by the addition of a no treatment control, but discussion with the care organisations revealed a reluctance to do this for ethical reasons and thus it was decided that everyone who participated would receive an intervention. A no-treatment control would also address the issue of potential harm; however it must be noted that there was no evidence of increased depression/anxiety or reduced quality of life as a result of the interventions.

The effects of reminiscence were measured two weeks after the intervention ceased, so it is unclear how long the effects upon

cognition would be maintained in the absence of continued intervention. In light of the significant improvement on cognition over the course of six weeks, the benefits of a longer intervention and maintenance of benefits beyond cessation of reminiscence need to be explored in further research.

A further caution relates to the outcome measures for cognition in this and other studies of reminiscence in that although a statistical improvement in cognition is found, the implications of this for behaviour, communication, or functional abilities is not clear. Inclusion of a measure of behaviour, communication, and self care skills is recommended for future research, to evaluate the impact of an improvement of cognitive performance upon other outcomes of interest. In addition, using more comprehensive and personal measures of memory (such as the Autobiographical Memory Interview; Kopelman, Wilson, & Baddeley, 1990) and cognitive performance, and subjective measures of memory and cognition should be considered in further research to provide a clearer understanding of the relationship between reminiscence, memory, and cognition. This should be balanced against the challenges of asking older people with dementia to complete extensive testing which may cause distress, or fatigue.

Conclusions

The findings of the current study indicate that group reminiscence results in improvements in memory performance and cognitive engagement, in the absence of any change in the individual reminiscence condition, suggesting that the improvements are exclusively mediated by the group context as the reminiscence delivery was the same for both interventions. Social Identity Theory predicts that group interventions would be superior as they facilitate a shared social identity between members of the group. In the present study, group reminiscence did not result in increased identity strength, mood, or quality of life as predicted, which may reflect problems with appropriate matching of participants in the groups on cognitive status, a bias of participants with better psychological health volunteering for the research, the non specificity of the quality of life measure for the effects of reminiscence, and the short length of the intervention. Importantly, the results do not support the hypothesis that improved cognition is mediated by improved well-being, as suggested by Woods et al., (1998) and the present study suggests that it is the group context of the intervention that improves memory and cognition. Addressing the methodological limitations of the present study in future research could enhance understanding of the relationship between reminiscence, cognition, identity, and well-being in older adults with cognitive impairment.

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Part Two: Extended Appendices

Appendix 1: Extended Introduction

In the main introduction, there was insufficient space to describe cognitive difficulties associated with older age and the causes of these. They are discussed here in relation to intervention and well-being to clarify the context of the research. Dementia and identity loss were introduced in the introduction; here a summary of relevant literature expands on this.

Mild Cognitive Impairment, Dementia and Well-being

Mild cognitive impairment (MCI) refers to the presence of cognitive impairment that is not sufficiently severe enough to meet the criteria of a diagnosis of dementia. It is a form of memory/cognitive decline that is subtle in nature and may be caused by a dementing process but could also indicate physical illness, or anxiety and depression (Visser, 2006). It is characterised by episodic memory impairments with relative sparing of other cognitive functions but with a similar but milder pattern to that observed in dementia (Morris et al.,, 2001).

Prevalence and incidence rates of MCI vary as a result of different diagnostic criteria, and sampling and assessment procedures (Petersen, Smith & Waring, 1999). People with MCI develop dementia at a rate of 10-15% a year whilst the rate for healthy

controls is 1-2% a year (Petersen et al.,, 1999). The conversion rate of MCI to dementia has been estimated to be between 6-85% in a clinical setting compared to 2-30% in a population based setting (Visser, 2000). Therefore the rates in residential and nursing homes are likely to be high.

Dementia is a term used to describe various different brain disorders that have in common a loss of brain function that is usually progressive and eventually severe. There are over 100 types of dementia with the three most common types being Alzheimer's disease (50%), vascular dementia (20%), and Lewy Body Dementia (10-15%) although some people may have more than one type e.g twenty percent of people with dementia have Alzhiemer's disease and Vascular dementia (Alzheimer's Society, 2008).

Alzheimer’s disease (AD) is the most common form of dementia, affecting around 417,000 people in the UK, one third of whom live in care (Alzheimer’s Society, 2007). It is a denegenerative organic disorder of the brain for which there is currently no known method of prevention or cure (MacRae, 2002). During the course of the disease 'plaques' and 'tangles' develop in the structure of the brain, leading to the death of brain cells. It is a progressive disease, which means that gradually, over time, more parts of the brain are damaged and as this happens, the symptoms become more severe (Alzheimer’s Society, 2008). Symptoms such as confusion, forgetfulness, disorientation, and agitation are experienced by sufferers alongside deterioration in intellectual and cognitive functioning. There is no cure for AD but some drug treatments can ameriolate symptoms or slow the progression in the middle stages.

No single factor has been identified as a cause for Alzheimer’s disease. Age is by far the biggest risk factor; one in fourteen people over 65 and one in six people over the age of 80 are affected (Alzheimer’s Society, 2008).

Vascular dementia is a type of dementia caused by problems in the supply of blood in the brain. If the vascular system within the brain becomes damaged and blood cannot reach the brain cells they will eventually die leading to the onset of vascular dementia.

Vascular dementia can be caused by a single stroke, multiple strokes, or small vessel disease or a mixture of these. The speed of the progression varies from person to person. Some symptoms may be similar to those of other types of dementia. However, people with vascular dementia may particularly experience problems with concentration, communication, depression, physical weakness or paralysis, memory, Typically there is a 'stepped' progression, with symptoms remaining at a constant level and then suddenly deteriorating, alongside periods of acute confusion (Alzhimer’s Society, 2008) .

The earlier a diagnosis is made, the better the chance of treatment to slow the progression of the disease. Although the brain damage that causes vascular dementia cannot be reversed, it may be possible to slow the progression of the disease in a number of ways including medication to underlying health problems that may be causing it (e.g. high blood pressure), adopting a healthier lifestyle (e.g. by stopping smoking, taking regular exercise, eating healthily) or receiving rehabilitative support, (e.g. physiotherapy or occupational therapy to help the person maximise their opportunities to regain their lost functions).

Dementia with Lewy bodies (DLB) is a form of dementia that shares characteristics with both Alzheimer's and Parkinson's diseases. Lewy bodies are protein deposits in nerve cells which disrupts normal functioning by interrupting the action of neurotransmitters in conducting neural messages in the brain.

It is a progressive disease, progressing at about the same rate as Alzheimer’s disease, typically over several years. It is commonly misdiagnosed as Alzheimer’s disease or vascular dementia. Symptoms include the memory loss, spatial disorientation and communication difficulties associated with Alzheimer’s disease, and these are sometimes accompanied by symptoms of Parkinson's disease, including slowness, muscle stiffness, a tendency to shuffle when walking, loss of facial expression. Specific symptoms characteristic of DLB include daily or hourly fluctuation in symptoms, fainting or falling, sleeping easily in the day but with restless nights with confusion, nightmares and hallucinations. It is more common with advancing age and currently there is no cure or effective medication.

The National Institute for Clinical Excellence (NICE, 2006) provide guidance on identification, treatment, and care for people with mild cognitive impairment or dementia in health and social care. As recently as 2001, it was noted that “only recently have we understood that people with dementia need to be more than clean, warm, and comfortable” (Department of Health, 2003). In 2005

NICE announced that acetylcholinerase medication would no longer be prescribed for people in the early stages of dementia, as although the drugs were proven to be clinically effective, it was said that they were not cost-effective. This led to an unprecedented response from professionals, people with dementia, and their carers challenging the basis of the evidence underlying the decision (Sharp, 2008). Above all, it brought into the public awareness, the interplay between cognition, treatment, and quality of life for people with dementia.

Whilst medication has a role to play in dementia care, the value of investing in good quality dementia care has been understated. Medication is prescribed to slow cognitive decline, reduce challenging behavior, or treat emotional problems associated with dementia. But it has been implicated in an increased risk of stroke and death for people with dementia and therefore it is essential to ensure the person with dementia is physically healthy, comfortable, and cared for before prescribing medication (Alzheimer's Society, 2007). Whenever possible, the person should be supported to leave an active life, with interesting and stimulating activities, minimizing distress and agitation, which is often sufficient to avoid sedating drugs (Alzheimer's Society, 2008). Two thirds of care home residents have dementia (Alzheimer's Society, 2007) although 85% of people newly admitted to care homes who scored less than 9 on the MMSE had not been formally diagnosed with dementia or

a neurological/psychiatric impairment (Challis, Mozley, & Sutcliffe, 2000).

It is important to be aware that poor performance on cognitive tests can be due to a range of factors, such as malnutrition, dehydration, fatigue, depression, medicaton side effects, thyroid or metabolic disorders, viral or bacterial infections, or Parkinson's disease (Alzheimer's Society, 2008).

There is growing interest in factors relevant to health and social care and in particular the impact of residential care on well-being, both in relation to quality of life achieved by clients as well as absence of negative affect e.g. symptoms of depression or anxiety. Researchers have found people in residential care report lower quality of life and higher rates of depression compared to people living in the community (Beaumont & Kenealy, 2004). These two outcomes will be discussed briefly in relation to people with dementia, with special reference to residential care settings.

Defining and measuring quality of life (QoL) is complex, particularly when applied to people with dementia living in residential care (Sloane et al.,, 2005). Most definitions of QoL are broad, whilst others are narrower concentrating on aspects affected by health or disease status. Lawton (1994) suggests that there are both objective (what the person experiences and does)

and subjective components (how the person feels about it) to QoL. Various perspectives to consider include resident's report, staff report, family report, and direct observation.

Some studies have attempted to define the particular aspects of QoL that are most valued by people with AD and/or residents in care (Cohen & Sugar, 1991) and have found answers differed markedly depending on the questions asked. Hubbard, Tester, Downs & Hubbard (2000) interviewed frail older people who had recently moved to a nursing home about key components of QoL; sense of self, environment and care, activities, and relationships were the main themes that emerged. In healthy older people, the individual's perception of health, freedom from depression, well retained cognitive abilities, aspects of the physical environment, and personal optimism emerged as factors in good QoL (Beaumont & Kenealy, 2004).

Many people with dementia living in care may have difficulty responding due to difficulties with memory, attention, insight, language, as well as a reluctance to complain (Lawton, 1994) necessitating proxy informant. QoL assessments from different sources correlate poorly and exhibit systematic biases (Schnelle, 2003). Some have argued that the residents point of view should take precedent and several instruments have been developed specifically for people with AD (Logsdon, Gibbons, McCurry, & Teri,

2000), with carer version alongside. Lawton (1997) concludes that no “gold standard” QoL measure exists and therefore both subjective and objective data from multiple sources should be considered. A review of QoL measures with people with dementia (Sloane et al.,, 2005) concluded that most of the assessed instruments had good to excellent inter-rater reliability, but no single instrument could claim superiority.

In addition to those older people who have an identifiable mental illness such as depression, there are many who experience psychological or emotional distress associated with isolation, loneliness or loss (Mental Health Foundation, 2008). Unfortunately, mental health problems are often seen as “normal” in old age (Age Concern, 2006). Rates of clinical depression are estimated as 10-15% in the community and 40% in care homes, whilst rates of clinical anxiety are between 2-4% in the community and 16-30% in care homes (Godfrey, 2005).

There are a number of risk factors that play a role in increasing an older person’s vulnerability to depression including being widowed, divorced or retired, neurobiological changes associated with ageing, use of medication for other conditions, greater physical impairment and disease, loneliness and isolation, and genetic susceptibility, which increases with age. Depression is often associated with anxiety, and it is common for people to have had

anxiety for a number of years without diagnosis and treatment (Age Concern, 2006).

Depression in older adults may present differently; older people may report physical symptoms such as loss of appetite or disturbed sleep rather than feeling sad or tearful, or not report symptoms at all, particularly if they have dementia and associated communication problems. The Geriatric Depression Scale (GDS; Sheikh & Lesavage, 1986) and Hospital Anxiety and Depression Scale (HADS; Snaith & Zigmond, 1983) achieved high ratings on a number of relevant factors in clinical use, namely practicality, feasibility, relevance to a UK population, content of measure, and psychometric properties (Sperlinger, Clare, Bradbury & Culverwell, 2004).

Dementia and Identity Loss

A loss of self or identity is typically reported in association with dementia and is usually attributed to a deterioration in cognitive functioning, namely memory and language (Cohen, Mansfield, Parpura Gill, & Golander, 2006). Loss of identity is cited as one of the most distressing aspects for families as they “endure the loved ones inexorable dissolution of self” (Cohen & Eisdorfer, 1986, p22).

Identity loss as been regarded as an unavoidable consequence of the disease but this view has been challenged in recent years. Kitwood & Bredin (1992) proposed that personhood is not the "property" of the individual but instead is status created, maintained, or lost in the context of relationships between the person with AD and people around them. Sabat & Harre (1992) define social identity as requiring interaction with others in order to be materialised and can diminished or lost over the entire course of dementia. Social identities of wife, mother, and retired bookkeeper are lost and in their place those of "Alzheimer's Patient" or "Difficult resident" are construed.

Recent research has explored the impact of being diagnosed with AD on identity constructions (Beard, 2004) and revealed that participants were engaged in a process of preserving their personal and social identities. Another study (Surr, 2006) found that the ability to adopt desirable social roles related to being part of a family, work, caring for others, and being cared for were significant for preservation of self. Participants who felt they held less desirable roles or were not permitted to maintain independent or desirable roles felt their sense of self was undermined. The conclusion drawn was that a personalised approach to care for people with dementia could enhance sense of selfhood, revive social identities and roles, and improve well-being.

To date, only one study has utilised this in exploring g the impact of interventions devised to enhance past social identities. Cohen Mansfield, Golander, & Arnheim (2000) explored four domains of role identity (work, family, leisure, and personal) in people with dementia in day centres and nursing homes. They found a decrease in all domains as the disease progressed, with the familial role the most likely to be recalled. Identities that had been the most important to the person were more likely to be maintained. Building on the gathered knowledge about the most salient and recalled identities for each participant in the study, they devised interventions to engage participants in interactions related to their role identities; for example a family role intervention for one participant was to create a family tree using family photos. Measures of behaviour, mood, and identity awareness were taken before and after the intervention (five sessions in one week). Compared to a control group who received regular activities, the intervention group had reduced agitation and disorientation, and increased positive affect, and levels of involvement in activity.

Identity is a cumulative image of the self and constantly changing (MacRae, 2002). Continuity of identity enables the individual to see themselves as the same person over time, despite changes in roles or life situations (Chandler & Lalonde, 1995). Sense of continuity is achieved by integrating past, present, and future selves (Damasio, 1999) possibly through the process of creating a coherent life story

which is inherently reconstructive in nature (McAdams, 1993). This process relies on autobiographical memory (AM) of our personal and semantic memories, which is impaired in Alzheimer's disease (Addis & Tippet, 2004).

Appendix 2: Extended Method

There was insufficient space in the main method section to elaborate with respect to 1) recruitment, 2) attrition, 3) cognitive status of the participants, 4) stimuli used in reminiscence and how these were obtained, 5) expanded discussion of the reliability and validity of the measures in the research, 6) the training undertaken by researchers to deliver the reminiscence sessions and 7) power analysis of the study. This extended method section describes these in more detail.

1: Recruitment Procedure

Participants were recruited with the assistance of managers and staff at Cornwall Care Limited and Somerset Care Limited. Meetings were held with company managers to explain the objectives of the study and to discuss ways of recruiting clients in the home to the study. The company managers felt that the best way to recruit clients from the homes would be coffee mornings within each home to introduce the researchers and enable one-to-one contact between the researchers and potential participants. The aims of the coffee mornings was for the researchers to personally introduce themselves to potential participants, give out personalised letters explaining the study and what it involved,

answer any questions that potential participants had, and ensure informed consent was given.

Researchers were guided by care staff as to the individual needs of those attending the coffee mornings such as whether larger font information sheets and letters were required, if people were hard of hearing etc.
Prior to the coffee mornings being held, meetings were also held with managers of the care homes and the activity co-ordinator in the home to explain the study in greater depth, the recruitment procedure to discuss ethical issues (e.g. informed consent, procedures to counter distress).

At the coffee mornings in April 2007, all the residents of the homes were invited to attend. A standard letter was handed out to each resident explaining the study and what participation in the study would involve. Researchers spoke to each resident individually to reiterate the points in the letter and answer any questions. If the resident indicated verbally that they wished to participate they were asked to sign a written consent form. Special consideration was taken when recruiting participants in specialised dementia care (SRC; see Ethics Documents section). The table below shows the numbers of people who agreed to take part relative to the potential number of participants in each home. However, of the potential number of participants, some had physical illnesses,

comprehension problems, or severe sensory impairments which meant they were unable to participate.

Table 4: Numbers of residents participating relative to potential number of participants in each care home.

Home	Care level	Number who participated in research	Number of potential participants	Percentage recruitment to research study
Home A	RC	8	31	25.81
	SRC	5	15	33.33
Home B	RC	10	34	39.41
	SRC	3	16	18.75
Home C	RC	3	27	11.11
	SRC	2	14	14.28
Home E	RC			
	SRC	5	19	26.31
Home F	RC	4	58	6.89
	SRC	Not recruited for this study		
Home G	RC			
	SRC	6	8	75.00
Home H	RC	2	36	5.55
	SRC	1	31	3.22
Home I	RC			
	SRC	6	18	33.33
Home J	RC	2	19	10.52
	SRC	2	19	10.52

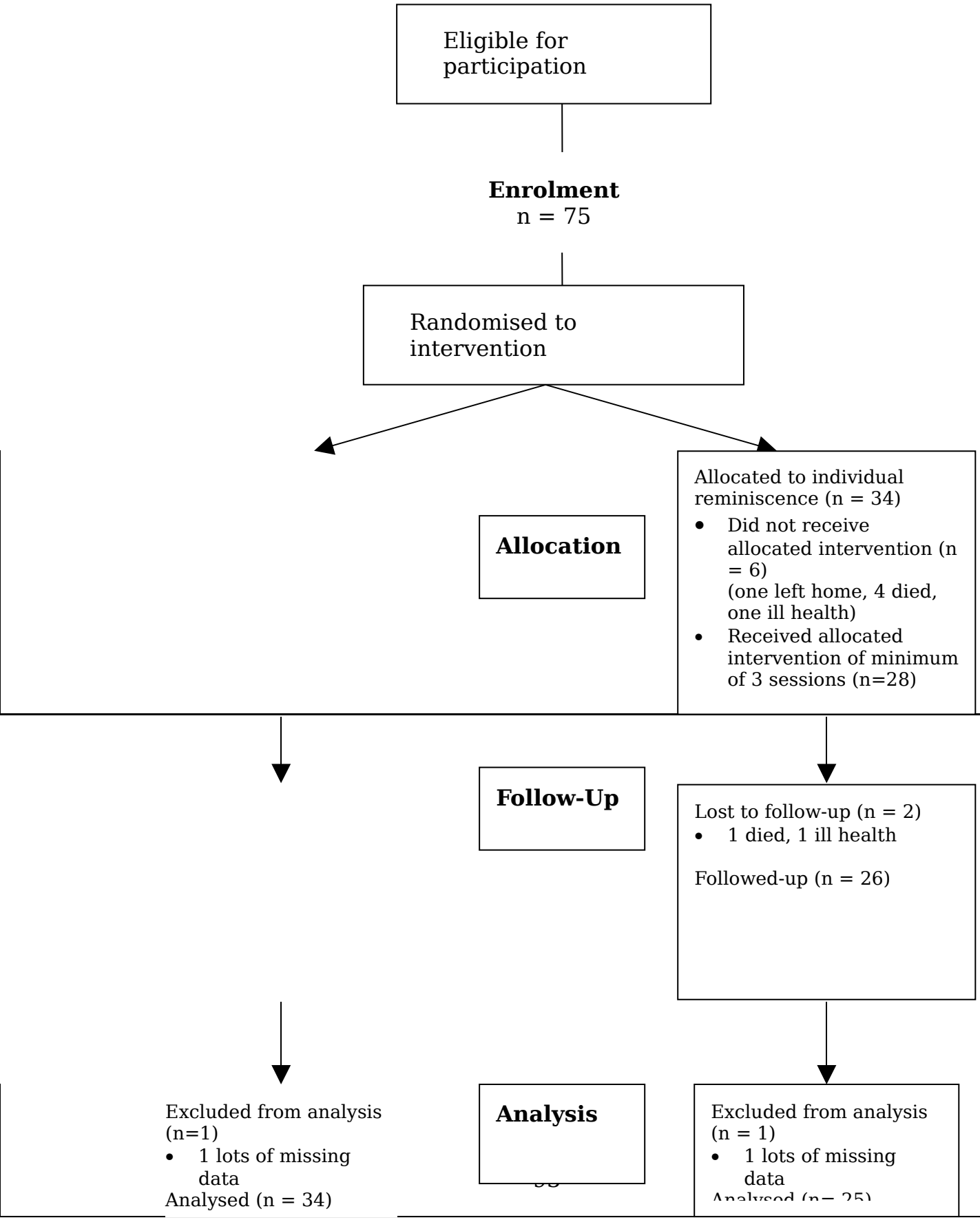
TOTAL	**RC**	**29**	**248**	**11.69**
	SRC	**30**	**162**	**18.52**

2: Attrition

In line with CONSORT guidelines for randomised control trials (Atman et al.,, 2001; Moher, Schulz & Altman, 2001), a flow diagram is included to depict the passage of participants through the research . It depicts information from the four stages of the research (enrolment, intervention allocation, follow-up, and analysis).

16 participants dropped out from enrolment to analysis, giving a drop out rate of 21%, which is comparable with other studies of older people in residential care with a similar mean age (as compared with studies in a meta analysis of reminiscence (Bohlmeijer et al.,, 2003))

Figure 3: Flowchart of participants through research in CONSORT flow diagram



The main reasons for attrition were death (7 participants), ill health (5 participants), loved home (1 participant), and withdrawal from research (1 participants). 2 participant's data was excluded from analysis due to considerable amount of missing data.

3: Cognitive status of participants

The MMSE (Folstein et al., 1975) is a brief 30 item screening tool for dementia and is widely used across health and social care settings but also to convey the nature of a research samples cognitive status in older adult research. A score of 27/30 or over is regarded as normal, whilst 20-26 denotes mild dementia, 10-19 moderate dementia and below 10 is severe dementia. The MMSE can be administered as a separate test, but in this case it was derived from the administration of the ACE-R (Mioshi et al., 2006). For the sample as a whole, the mean MMSE score was in the moderate range (M = 16.67, SE = .892, range 3-29). Using MMSE scores, 6 people would be classed in the normal range, 15 as mild dementia, 29 as moderate dementia, and 8 as severe dementia. This allows comparison with other research samples.

MMSE scores by care level

Table 4: Descriptives of MMSE scores pre intervention by care level

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	CareLevel	N	Percent	N	Percent	N	Percent
MMSE pre intervention	Standard Care	28	96.6%	1	3.4%	29	100.0%
	Dementia Care	30	100.0%	0	.0%	30	100.0%

Descriptives

CareLevel			Statistic	Std. Error
MMSE pre intervention	Standard Care	Mean	19.43	1.223
		95% Confidence Interval for Mean Lower Bound	16.92	
		95% Confidence Interval for Mean Upper Bound	21.94	
		5% Trimmed Mean	19.74	
		Median	20.00	
		Variance	41.884	
		Std. Deviation	6.472	
		Minimum	4	
		Maximum	29	
		Range	25	
		Interquartile Range	7	
		Skewness	-.833	.441
		Kurtosis	.256	.858
	Dementia Care	Mean	14.10	1.119
		95% Confidence Interval for Mean Lower Bound	11.81	
		95% Confidence Interval for Mean Upper Bound	16.39	
		5% Trimmed Mean	13.93	
		Median	12.50	
		Variance	37.541	
		Std. Deviation	6.127	
		Minimum	3	
		Maximum	28	
		Range	25	
		Interquartile Range	6	
		Skewness	.776	.427
		Kurtosis	.661	.833

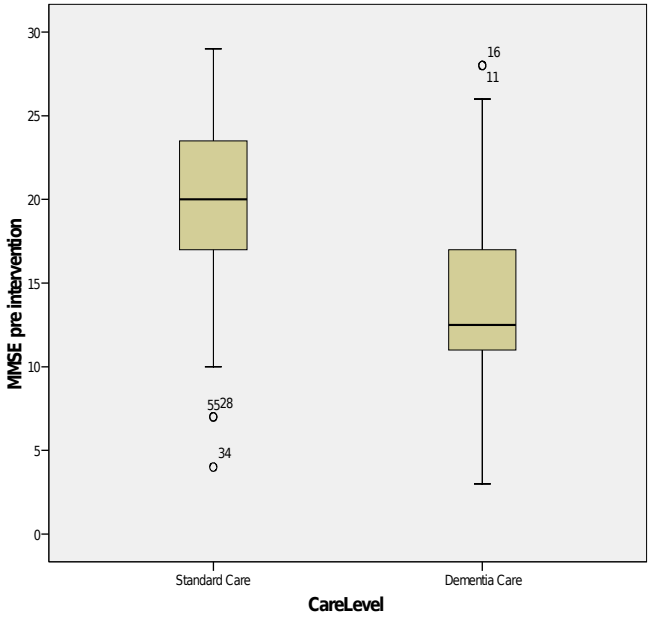


Figure 3: Box plot of MMSE scores pre intervention by care level
MMSE of combined sample

Table 5: Descriptives of MMSE scores pre intervention by care level

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
MMSE pre intervention	58	93.5%	4	6.5%	62	100.0%

Descriptives

			Statistic	Std. Error
MMSE pre intervention	Mean		16.67	.892
	95% Confidence Interval for Mean	Lower Bound	14.89	
		Upper Bound	18.46	
	5% Trimmed Mean		16.75	
	Median		17.00	
	Variance		46.154	
	Std. Deviation		6.794	
	Minimum		3	
	Maximum		29	
	Range		26	
	Interquartile Range		11	
	Skewness		.011	.314
	Kurtosis		-.825	.618

MMSE pre intervention

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	1	1.6	1.7	1.7
	4	2	3.2	3.4	5.2
	7	3	4.8	5.2	10.3
	9	2	3.2	3.4	13.8
	10	2	3.2	3.4	17.2
	11	4	6.5	6.9	24.1
	12	5	8.1	8.6	32.8
	13	3	4.8	5.2	37.9
	14	3	4.8	5.2	43.1
	16	3	4.8	5.2	48.3
	17	4	6.5	6.9	55.2
	18	3	4.8	5.2	60.3
	19	2	3.2	3.4	63.8
	20	5	8.1	8.6	72.4
	21	1	1.6	1.7	74.1
	23	5	8.1	8.6	82.8
	24	1	1.6	1.7	84.5
	26	3	4.8	5.2	89.7
	27	3	4.8	5.2	94.8
	28	2	3.2	3.4	98.3
	29	1	1.6	1.7	100.0
	Total	58	93.5	100.0	
Missing	99	1	1.6		
	System	3	4.8		
	Total	4	6.5		
Total		62	100.0		

4: Further information about the stimuli used in reminiscence sessions

The objects used in the reminiscence were kindly loaned from the Dorset Memory Box Scheme. The scheme is based at Weymouth Community Hospital, Dorset and is run by volunteers on a not for profit basis. The service it offers is hire of “memory boxes” containing items of memorabilia for use in reminiscence work with older adults. Boxes are loaned to hospitals and residential homes, and they also kindly agreed to loan boxes to the University of Exeter for use in the present research.

They have around 40 boxes, typically containing 10-12 items. Each box has a theme (e.g. childhood toys, weddings, laundry, or holidays). As the sessions were aimed at promoting temporal continuity with topics spanning the lifespan, given the range of boxes available, six themes were chosen in accordance with this; childhood, school days, domestic life, weddings, family life, days out/holidays.

As the sessions were 30 minutes long, approximately 4-5 items were employed in each session. The items used in each session are listed below.

Childhood (Session 1)

- Tanks (a game)
- Smock and pattern
- The Yellow Book

- Chessboard

School Days (Session 2)
- Geometry kit
- Slide rule
- School pictures x2
- Milk bottle
- Exercise books

Domestic Life (Session 3)
- Trowel
- Bird feeder
- Pipes and snuff
- Knitting

Weddings (Session 4)
- Wedding charms
- Hats x2
- Wedding photo

Family Life (Session 5)
- Rinse label
- Spoons
- Baby comb and brush
- Terry nappy with pins

Days Out/Holidays
- Paper money
- Spoons
- Balls
- Photographic paper
- Beauty contest photo

5: Questionnaires

The questionnaires were described in the main method section but in this section, discussion is expanded to include additional information on reliability and validity, and previous use of measures.

Cognitive functioning

Addenbrooke's Cognitive Examination Revised (ACE-R)

The ACE-R (Mioshi, Dawson, Mitchell, & Arnold, 2007) was devised as a brief screening measure for dementia and to differentiate between Alzheimer's disease and Fronto Temporal Dementia. Normative data for the measure are based on 63 healthy older adults, aged between 52 and 75, and 142 dementia patients aged 46-86. A score of less than 88 gives 94% sensitivity and 89% specificity for dementia.

The purpose of employing the ACE-R in the current study was to provide an overall measure of cognitive functioning and separate measures for key cognitive abilities. Detailed cognitive batteries are time consuming and it would have been difficult to engage the participants for the time required. The MMSE is widely used but is over reliant on verbal cognitive functions of memory and attention. The ACE-R typically takes between 12 and 20 minutes to administer and provides more information on an individuals cognitive abilities, overcoming these difficulties.

Memory

Repeatable Battery of Neuropsychological Status (RBANS; Randolph, 1998)

This is a brief, individually administered test that measures cognitive status in adults who have neurologic injury or disease

such as dementia, head injury or stroke. It consists of 12 subtests to obtain a measure of five cognitive areas: immediate memory, visuospatial/constructional, attention, language, and delayed memory.

For the present study, only one subtest was used; the immediate memory subtest. This consists of a short story which is read out to participants of 12 pieces of information. They are asked to recall the story immediately and can score up to a maximum of 12 points for this. For the present study, a recognition version was created of 8 questions about the story which the participants were asked respond with yes/no and to guess if they were unsure.

Mood

Hospital Anxiety and Depression Scale (HADS)

The Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) was devised to provide a state measure of both anxiety (seven items) and depression (seven items). It was designed for use in medical outpatient clinics to detect clinical cases of anxiety and depression and to assess the severity of anxiety and depression without contamination of scores by reports of physical symptomatology. The scale is self administered with instructions on the printed form and takes about 10 minutes to complete.

Respondents rate each item by selecting the reply which comes closest to how they have been feeling in the past week. Each item is scored from 0 to 3, and the total scores range from 0 to 21 for the anxiety subscale and also for the depression subscale.

The HADS is routinely used in clinical settings, is straightforward to administer, administration time is typically 2-5 minutes, and it is valid for use in an older adult population (Snaith, 2003). Many mood scales (e.g. Geriatric Depression Scale, Sheikh & Yesavage, 1986) include items that are confounded by physical health difficulties that may be more likely in an older adult sample; the HADS does not include such items which is another reason for its choice as a measure.

The internal consistency of the two subscales as measured by Cronbach's alpha is reported to be 0.93 for anxiety and 0.90 for depression (Moorey et al.,, 1991). It has good face validity and respondents find it easy and acceptable to complete. These data were based on specific populations (medical outpatients and people with cancer) but it has also been recommended as a measure for older people in clinical practice on account of its psychometric properties, its relevance to a UK sample, and its practicality and feasibility of use (Spurlinger, Clare, Bradbury & Culverwell, 2004).

Quality of Life

Quality of Life in Alzheimer's disease (QoL-AD; Logsdon, Gibbons, McCurry, & Teri, 1999)

The Quality of Life in Alzheimer's disease was designed to obtain a rating of the patient's quality of life from both the patient and the caregiver, but it has also been used in assisted living settings with older adults without dementia (R. Logsdon, personal communication, 19th January 2007). In the present study the patient version was used with participants to obtain a measure of self perception of quality of life. The 13-item questionnaire covers the individual's relationships with friends and family, concerns about finances, physical condition, mood, and an overall assessment of life quality which are equally relevant domains of concern for people in a residential context. The patient is asked to rate each domain on a four point scale, of excellent (4), good (3) , fair (2), or poor (1) with the range of total score from 13 to 48. It takes 10 minutes to complete in an interview format with patients. The validity and reliability of the measure in a UK sample is described in Thorgrimsen et al.,. (2003).

Social Identity

Measures of personal identity exist (e.g. Twenty Statements Test; Kuhn & McPartland, 1954) but these are in the form of self statements which are difficult for older adults with dementia to generate responses, as acknowledged by Addis & Tippett, 2004). An alternative

measure was derived based on the Exeter Identity Transition Scales (EXITS) which were adapted for use with an older adult population (Jetten et al.,, in press). The EXITS has ten scales, five of which were used for the hypotheses of the current study. A 5 point scale was used for each item; 1 = disagree completely, 2 = disagree a little, 3 = neither agree nor disagree, 4 = agree a little, 5 = agree completely. The items in each scale were averaged to create an overall score for analysis.

Multiple group membership. Two items (r = .899) assessed the extent to which participants felt affiliated with multiple groups: “I am a member of lots of different groups” and “I have friends who are in lots of different groups”.

Maintenance of group membership. Two items (*r* = .873) assessed the extent to which participants had maintained their group memberships after they had moved into residential care: “Since moving into residential care, I still belong to the same groups” and “since moving into residential care, I still have friends in the same groups”.

New group membership. Two items (*r* = .901) were used to assess the extent to which participants had

joined new groups: “Since moving into residential care, I have joined one or more new groups” and “since moving into residential care, I have become friends with people in one or more new groups”.

Continuity of self. Two items (r = .898) were used to assess the extent to which participants experienced continuity of their identity: “I am the same person as I always was”, and “Over time things have changed but I am still the same person”.

Personal identity strength. Five items (α = .509) were used to assess the extent to which participants had a clear understanding of who they were: “I know what I like and what I don’t like”, “I know what my morals are”, “I have strong beliefs”, “I know what I want from life”, and “I am aware of the roles and responsibilities I have in my life”.

6: Training undertaken for delivering reminiscence sessions

To assist in preparing for the delivery of reminiscence sessions, following was undertaken:

- Visit to the Melcombe Day Hospital (MDH) based at Weymouth Day Hospital in Dorset. Melcombe provides assessment and daycare facilities for older people from the Weymouth and Portland area who have various degrees of dementia. They have been held up as an example of good

practice for providing care to people with dementia and their carers. One of the therapeutic activities provided is reminiscence. A day was spent at the unit, meeting staff and clients, and observing reminiscence sessions which was followed by a discussion with about their experience of reminiscence.

- Visit to the Dorset Memory Box Scheme (based at Weymouth Day Hospital in Dorset). The staff were able to provide advice on popular topics for reminiscence and the appropriate number of items given the length of the sessions planned.
- Attendance at a two day workshop on “Reminiscence in Dementia Care” at The Reminiscence Centre, Age Exchange, London. The Centre is recognised for its international excellence into research and practice of reminiscence and the training was delivered by a clinical psychologist.

7: Power analysis to determine sample size for the research.

A recent meta analysis of the effects of reminiscence upon depression in later life (Bohlmeijer, Smit & Cuijpers, 2003) found an overall effect size of 0.84 across the 20 studies, which constitutes a large effect size (Cohen, 1992). No effect sizes for other outcome measures were available for cognition, identity, or quality of life. This was used as a basis for a *priori* power analysis to estimate sample size. Using power tables in Clark- Carter (2004) for an independent samples t –test for two conditions, for 80% power at 5% significance level and a large effect size, 26

participants were required in the two treatment conditions (group reminiscence and individual reminiscence).

Data screening showed that the results from this study violated parametric assumptions and therefore non-parametric tests would have to be used. Recognising that non parametric analyses are less powerful, the power analysis was adjusted using Pitman's Asymphotic relative efficiency which requires the combined figure to be divided by 0.864 (Noether,1987). This estimated that 60 participants were required in total , with 30 participants in each group. This was achieved with the group reminiscence (n = 34) but not for individual reminiscence (n = 25).

Appendix 3: Extended Results

There was insufficient space in the main results section to elaborate with respect to 1) participant recruitment and retention through the study, 2) screening of demographic information of gender, age, and MMSE scores, 3) screening for cognition, mood, identity and well-being measures, 4) reliability analysis of identity measure, 5) analysis of demographic characteristics and dependent measures, 6) intervention feedback, 7) staff perception of resident well-being. This extended results section describes these in more detail.

1: Participant recruitment and retention through the study

Prior to analysis, a number of checks were carried out to screen for the presence of errors in data entry. This included carrying out frequency and descriptive tables for the data, along with manual checks, ensuring that all of the data had been entered correctly. Initially a total of 74 participants were recruited to the research; however, 14 participants did not attend the minimum of three out of six intervention sessions or did not complete measures at both the pre and post intervention stage, and having failed to meet this inclusion criteria, were not included in the analysis. This left a total of 60 participants. One participant was then excluded from the analysis as a significant amount of pre and post data was missing.

This left a total of 59 participants; 34 in group reminiscence and 25 in individual reminiscence.

Data analysis strategy

Ideally in interventions of this type, the data analysis strategy should be “intention to treat”. This means that participants are analyzed in the group they were randomised into, regardless of whether they received the intervention. This is useful because it overcomes crossover and dropout effects which affect the randomization of the participants. However, this could not be carried out for the following reasons:

- It was anticipated from the outset that attrition would be likely as not all participants would be able to attend all six sessions due to illness and hospitalization or other commitments. Accordingly, it was specified that participants should have attended three or more of the intervention sessions to be included in the analysis, as any attendance less than this would be unlikely to have any effect on the dependent variables.
- If participants decided that they didn’t wish to attend the intervention sessions, they were viewed as withdrawing their consent to participate in the research, and thus were not asked to complete post intervention measures.

- A large proportion of those for whom post intervention measures were not collected, had died during or after the intervention had been delivered or were not able to complete due to poor health or hospitalisation.
- In the residential care settings, some participants with dementia had deteriorated over the course of the research to the extent that they could not participate in completing the measures.

The design of the study consisted of both individual and group interventions and this raised the possibility of observational dependency. This exists when data collected from members of the same group are more similar to each other than they are to data collected from another small group receiving identical treatment and can result in an inflated Type I error (Burlingame et al., 1997). As a result, the data was analysed for the effect of group using hierarchically nested ANOVA (Anderson & Ager, 1978) of the nested effect (group x condition) to see if this qualifies the main effect for condition. The dependent variables of wellbeing, and cognition had acceptable significance levels of $p > .25$, indicating that there was no interdependence (Jetten et al.,, 2002) but four of the five subscales on the EXITS had significance values well below .25 indicating interdependence. No statistically significant differences were found with analysis

of this variable; if one had been found, the interdependence analysis would suggest that this may in fact be false.

Table 6: Interdependence analysis of dependent variable

Measure	Dependent variable	Group x Condition *p* value
Well-being	Diffdepression	.93
	Diff anxiety	.97
	DiffQualityofLife	.44
Cognition	diffACE-Rattention	.44
	diffACE-memory	.39
	diffACE-Rfluency	.51
	diffACE-Rlanguage	.65
	diffACE-Rvisual	.40
	diffACE-Rtotal	.24
EXITS	Diffmemdiffgroups	.14
	Diffkeepgroup	.23
	Diffjoinnewgroups	.08
	Diffcontinuity	.11
	Diffpersonlaidentity	.22

2: Screening of demographic information of gender, age, and MMSE scores.

Descriptives were calculated for age and MMSE scores. Box plots were used to screen for the presence of outliers, recognising the

disproportionate influence they can have on statistical analyses. This identified the presence of outliers on age but as this data relates to demographic information, and parametric assumptions were also found to be violated, these outliers were left in place (Field, 2005). Non parametric Mann-Whitney tests were carried out to check for any differences between the two groups.

Gender

Table 7: Gender proportions by care level and intervention type

	Group reminiscence		Individual reminiscence	
	N = 34		N = 25	
	Residential care n=16	Standard care n=18	Residential care n=14	Standard care n=11
Gender	M = 4 (25%) F = 12 (75%)	M = 3 (16.70%) F = 15 (83.30%)	M = 2 (14.30%) F = 12 (85.70%)	M = 2(18.8%) F = 9 (71.2%)

Table 6: Gender proportions in the sample as a whole

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	12	19.4	20.3	20.3
	female	47	75.8	79.7	100.0
	Total	59	95.2	100.0	
Missing	System	3	4.8		
Total		62	100.0		

The proportion of males (20.33%) to females (79.66%) in the study reflects men die on average seven years earlier than women and

consequently there are fewer men than women in nursing and residential care.

Age

Table 8: Descriptives for age in the sample

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Age	group reminiscence	34	100.0%	0	.0%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
Age	group reminiscence	Mean		84.8529	1.35376
		95% Confidence Interval for Mean	Lower Bound	82.0987	
			Upper Bound	87.6072	
		5% Trimmed Mean		85.5915	
		Median		86.0000	
		Variance		62.311	
		Std. Deviation		7.89373	
		Minimum		58.00	
		Maximum		98.00	
		Range		40.00	
		Interquartile Range		7.00	
		Skewness		-1.742	.403
		Kurtosis		4.742	.788
	individual reminiscence	Mean		82.4400	1.52105
		95% Confidence Interval for Mean	Lower Bound	79.3007	
			Upper Bound	85.5793	
		5% Trimmed Mean		82.6111	
		Median		82.0000	
		Variance		57.840	
		Std. Deviation		7.60526	
		Minimum		62.00	
		Maximum		100.00	
		Range		38.00	
		Interquartile Range		6.00	
		Skewness		-.484	.464
		Kurtosis		1.875	.902

Table 9: Tests of Normality and Homogeneity for Age variable

	Intervention type (group Remisc, ind reminisc, skittles)	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.

Age	group reminiscence	.195	34	.002	.842	34	.000
	Individual reminiscence	.185	25	.027	.943	25	.170

a Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Age	Based on Mean	.000	1	57	.998
	Based on Median	.015	1	57	.904
	Based on Median and with adjusted df	.015	1	56.295	.904
	Based on trimmed mean	.009	1	57	.927

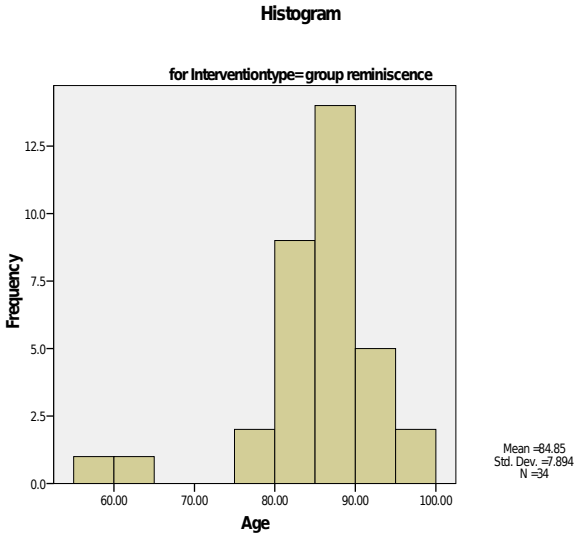


Figure 4: Age distribution for group reminiscence

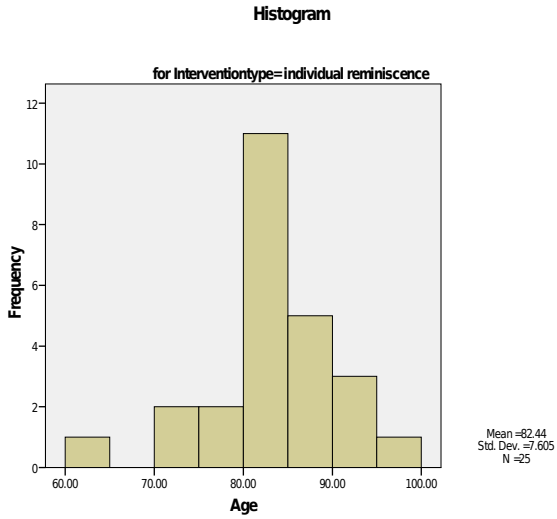


Figure 5: Age distribution for individual reminiscence

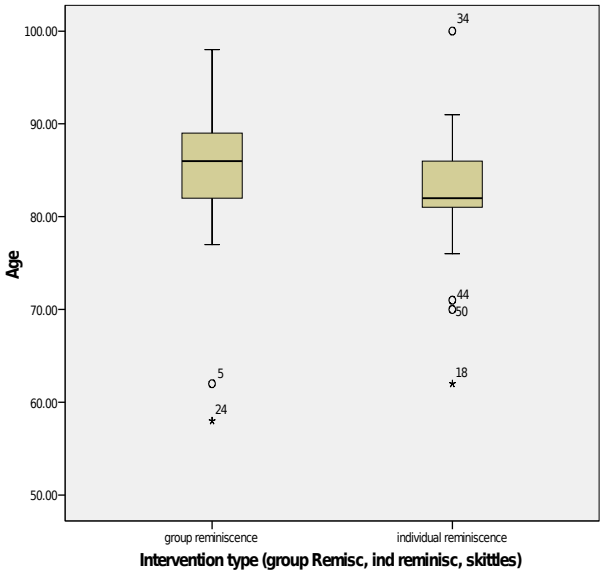


Figure 6: Box plot of age for group and individual reminiscence

MMSE scores at baseline

Table 10: Descriptives for MMSE scores at baseline

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
MMSE pre intervention	group reminiscence	33	97.1%	1	2.9%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%

Descriptives

Intervention type (group			Statistic	Std. Error
MMSE pre intervention	group reminiscence	Mean	16.15	1.155
		95% Confidence Interval for Mean Lower Bound	13.80	
		95% Confidence Interval for Mean Upper Bound	18.50	
		5% Trimmed Mean	16.10	
		Median	16.00	
		Variance	44.008	
		Std. Deviation	6.634	
		Minimum	4	
		Maximum	28	
		Range	24	
		Interquartile Range	10	
		Skewness	.160	.409
		Kurtosis	-.884	.798
	individual reminiscence	Mean	17.36	1.415
		95% Confidence Interval for Mean Lower Bound	14.44	
		95% Confidence Interval for Mean Upper Bound	20.28	
		5% Trimmed Mean	17.52	
		Median	17.00	
		Variance	50.073	
		Std. Deviation	7.076	
		Minimum	3	
		Maximum	29	
		Range	26	
		Interquartile Range	11	
		Skewness	-.191	.464
		Kurtosis	-.581	.902

Table 11: Tests of Normality and Homogeneity for Age variable

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
MMSE pre intervention	Based on Mean	.035	1	56	.852
	Based on Median	.031	1	56	.861
	Based on Median and with adjusted df	.031	1	54.996	.861
	Based on trimmed mean	.038	1	56	.846

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
MMSE pre intervention	group reminiscence	.107	33	.200*	.967	33	.409
	individual reminiscence	.107	25	.200*	.965	25	.513

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

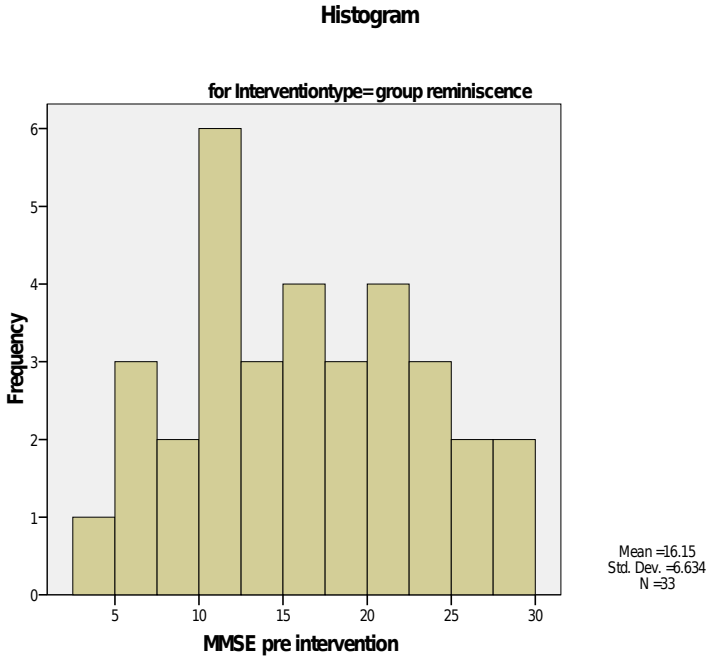


Figure 6: MMSE score distribution for group reminiscence

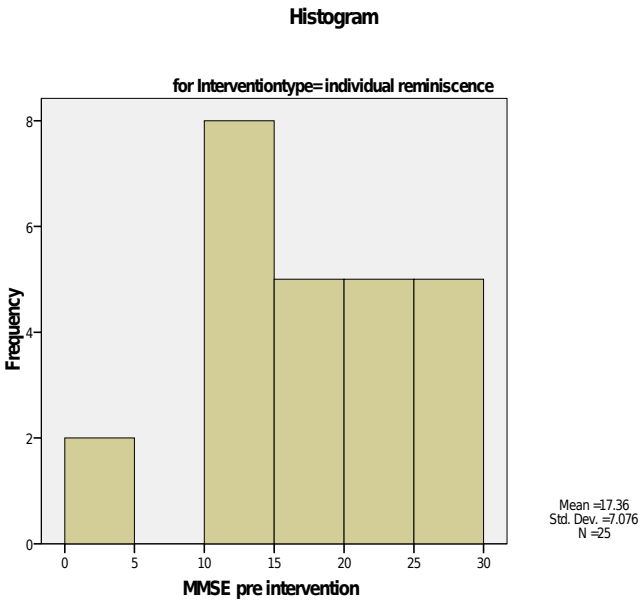


Figure 7: MMSE score distribution for individual reminiscence

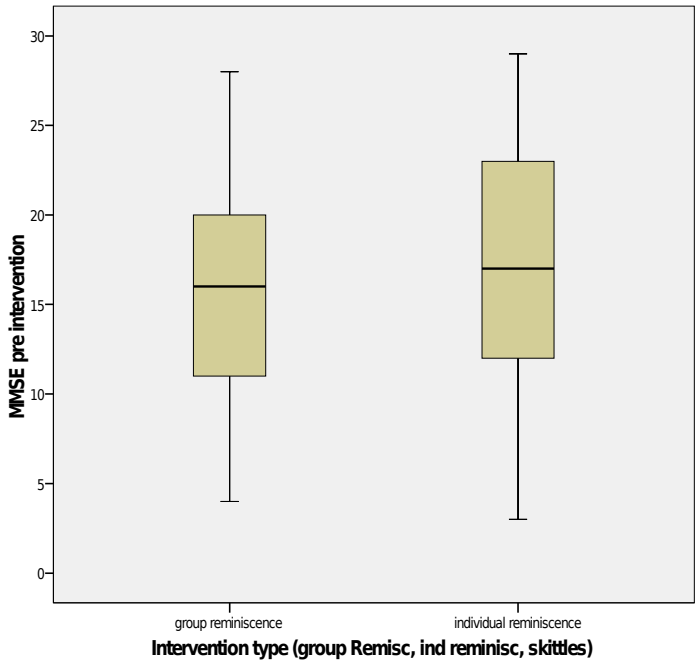


Figure 8: Box plot of MMSE scores pre intervention by reminiscence conditions

HADS Depression Scores at Baseline

Table 12: Descriptives for depression symptoms pre intervention

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
HADS depression total score	group reminiscence	34	100.0%	0	.0%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%

Descriptives

Intervention type (group			Statistic	Std. Error
HADS depression group reminiscence total score	Mean		4.7059	.59787
	95% Confidence Interval for Mean	Lower Bound	3.4895	
		Upper Bound	5.9223	
	5% Trimmed Mean		4.5621	
	Median		4.0000	
	Variance		12.153	
	Std. Deviation		3.48616	
	Minimum		.00	
	Maximum		12.00	
	Range		12.00	
	Interquartile Range		5.25	
	Skewness		.540	.403
	Kurtosis		-.627	.788
individual reminiscence	Mean		4.9200	.67804
	95% Confidence Interval for Mean	Lower Bound	3.5206	
		Upper Bound	6.3194	
	5% Trimmed Mean		4.6667	
	Median		4.0000	
	Variance		11.493	
	Std. Deviation		3.39018	
	Minimum		.00	
	Maximum		15.00	
	Range		15.00	
	Interquartile Range		3.50	
	Skewness		1.288	.464
	Kurtosis		2.058	.902

Table 13: Normality and Homogeneity Tests for Depression variable

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
HADS depression total score	group reminiscence	.158	34	.030	.936	34	.048
	individual reminiscence	.175	25	.047	.903	25	.021

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
HADS depression total score	Based on Mean	.705	1	57	.405
	Based on Median	.566	1	57	.455
	Based on Median and with adjusted df	.566	1	54.701	.455
	Based on trimmed mean	.695	1	57	.408

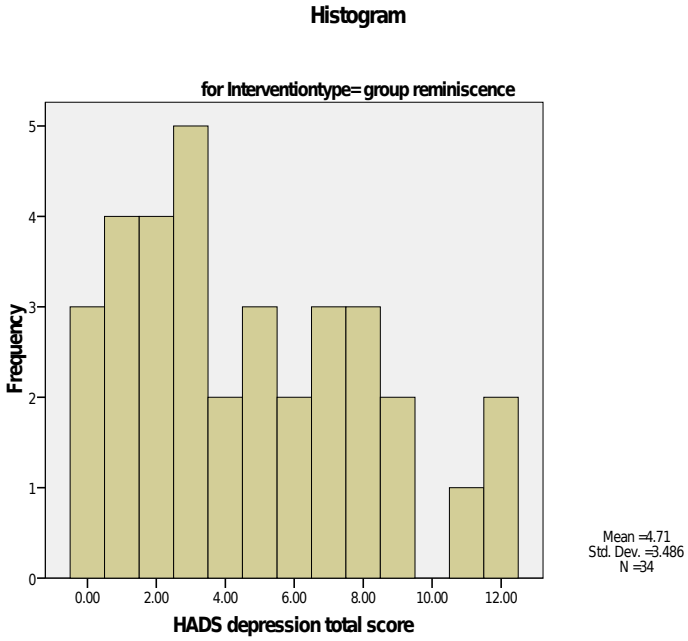


Figure 9: Distribution of depression scores pre intervention for group reminiscence

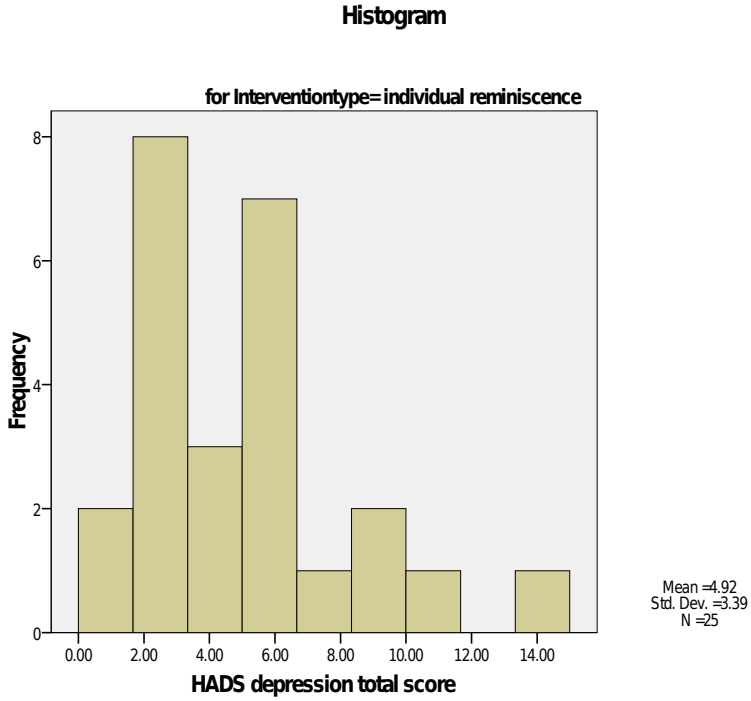


Figure 10: Distribution of depression scores pre intervention for individual reminiscence

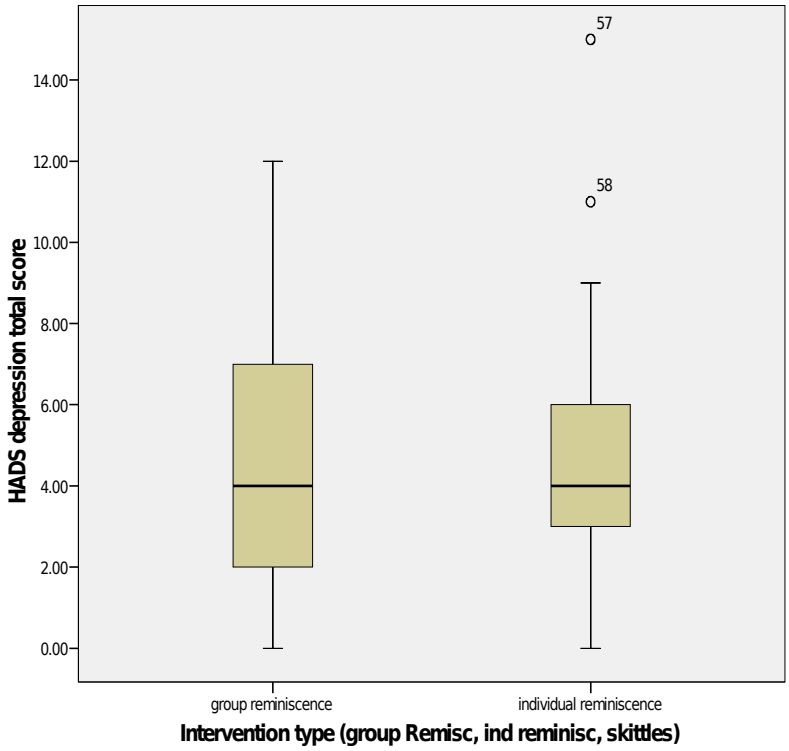


Figure 11: Box plot of depression scores pre intervention for group and individual reminiscence

3: Data Screening for Cognition, Mood, Identity, and Well-being Measures

Difference scores were calculated for the memory and overall ACE-R, HADS depression, HADS anxiety, total Quality of Life, and the five scales of the EXITS. This was done by subtracting the post from the pre measurement scores to create a difference score. The reason for doing this was because the interest was in *change* from pre to post, and clearly participants would differ in their pre scores on the variables.

The difference scores were then explored using box plots to identify outliers, histograms to look at the shape of the distribution, and additional tests were performed to investigate homogeneity of variance and normality of the distributions.

The difference scores for memory and overall performance on the ACE-R were shown to have a normal distribution (despite outliers) and normal variances so were subjected to parametric independent samples t-tests.

The HADS anxiety difference scores were not normally distributed, had many outliers but met assumptions of homogeneity of variance. Efforts to normalise the variables using log transformations and square root transformations were attempted. However, neither of these procedures were successful and only led to further outliers appearing. Therefore the data was left in its original form and analysed using a non-parametric Mann Whitney t-test.

The HADS depression difference scores were normally distributed, met assumptions of homogeneity of variance, and no outliers so were analysed with a parametric independent samples t-test.

The five EXITS scales met homogeneity of variance but were not normally distributed. Given the nature of the variable as a scale, it was felt that non parametric analysis would be more appropriate and the scales were analysed using non parametric independent samples t-tests.

The data from both pre and post RBANS showed that free recall was at floor level for all groups and two-alternative forced choice recognition was no better than chance. The task may have been too difficult for the participants. For this reason, this data was excluded from further analysis.

Difference scores for memory performance on ACE-R

Table 14: Descriptives for difference memory scores on the ACE-R

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
DiffACERmem	group reminiscence	34	100.0%	0	.0%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
DiffACERmem	group reminiscence	Mean		2.7059	.61260
		95% Confidence Interval for Mean	Lower Bound	1.4595	
			Upper Bound	3.9522	
		5% Trimmed Mean		2.7516	
		Median		3.0000	
		Variance		12.759	
		Std. Deviation		3.57202	
		Minimum		-5.00	
		Maximum		10.00	
		Range		15.00	
		Interquartile Range		4.25	
		Skewness		-.325	.403
		Kurtosis		-.150	.788
	individual reminiscence	Mean		.5600	.76829
		95% Confidence Interval for Mean	Lower Bound	-1.0257	
			Upper Bound	2.1457	
		5% Trimmed Mean		.7000	
		Median		.0000	
		Variance		14.757	
		Std. Deviation		3.84144	
		Minimum		-9.00	
		Maximum		7.00	
		Range		16.00	
		Interquartile Range		4.50	
		Skewness		-.429	.464
		Kurtosis		.321	.902

Table 15: Tests of Normality and Homogeneity for Difference Memory Scores on ACE-R

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
DiffACERmem	group reminiscence	.128	34	.176	.968	34	.399
	individual reminiscence	.122	25	.200*	.964	25	.491

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
DiffACERmem	Based on Mean	.056	1	57	.814
	Based on Median	.076	1	57	.784
	Based on Median and with adjusted df	.076	1	56.467	.784
	Based on trimmed mean	.067	1	57	.797

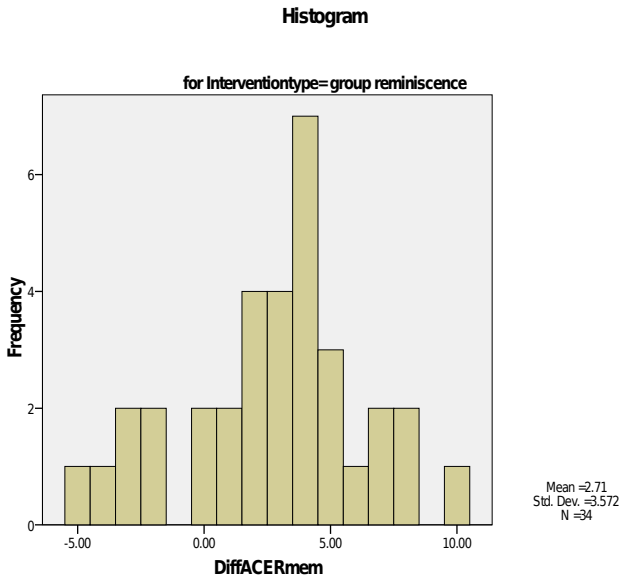


Figure 12: Distribution of difference scores for memory subtest of ACE-R for group reminiscence.

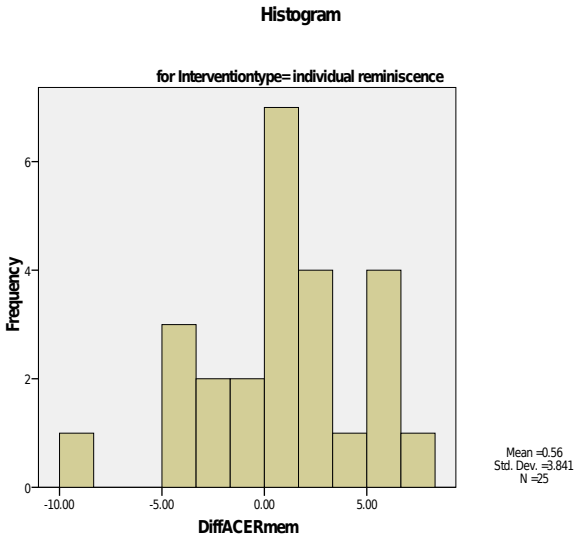


Figure 13: Distribution of difference scores for memory subtest of ACE-R for individual reminiscence.

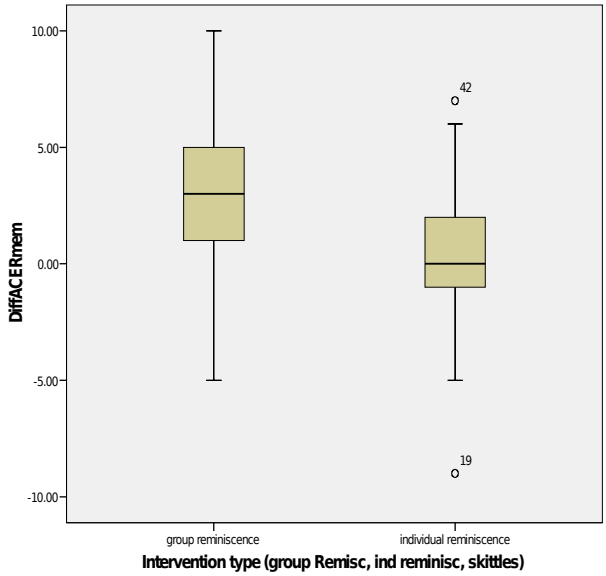


Figure 14: Box plot of Difference Memory Scores for ACE-R by Reminiscence Condition.

Difference scores for memory difference by care level

Table 16:Descriptives for difference in memory scores on ACE-R

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	CareLevel	N	Percent	N	Percent	N	Percent
DiffACERmem	Standard Care	18	100.0%	0	.0%	18	100.0%
	Dementia Care	16	100.0%	0	.0%	16	100.0%

Descriptives

CareLevel			Statistic	Std. Error
DiffACERmem	Standard Care	Mean	3.1111	.97313
		95% Confidence Interval for Mean Lower Bound	1.0580	
		95% Confidence Interval for Mean Upper Bound	5.1642	
		5% Trimmed Mean	3.1790	
		Median	4.0000	
		Variance	17.046	
		Std. Deviation	4.12865	
		Minimum	-5.00	
		Maximum	10.00	
		Range	15.00	
		Interquartile Range	4.75	
		Skewness	-.495	.536
		Kurtosis	-.137	1.038
	Dementia Care	Mean	2.2500	.72169
		95% Confidence Interval for Mean Lower Bound	.7118	
		95% Confidence Interval for Mean Upper Bound	3.7882	
		5% Trimmed Mean	2.2778	
		Median	2.5000	
		Variance	8.333	
		Std. Deviation	2.88675	
		Minimum	-3.00	
		Maximum	7.00	
		Range	10.00	
		Interquartile Range	3.75	
		Skewness	-.361	.564
		Kurtosis	-.505	1.091

Table 17: Tests of Normality and Homogeneity for Difference Memory Scores

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	CareLevel	Statistic	df	Sig.	Statistic	df	Sig.
DiffACERmem	Standard Care	.156	18	.200*	.949	18	.411
	Dementia Care	.153	16	.200*	.958	16	.623

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
DiffACERmem	Based on Mean	1.213	1	32	.279
	Based on Median	.815	1	32	.373
	Based on Median and with adjusted df	.815	1	26.469	.375
	Based on trimmed mean	1.185	1	32	.284

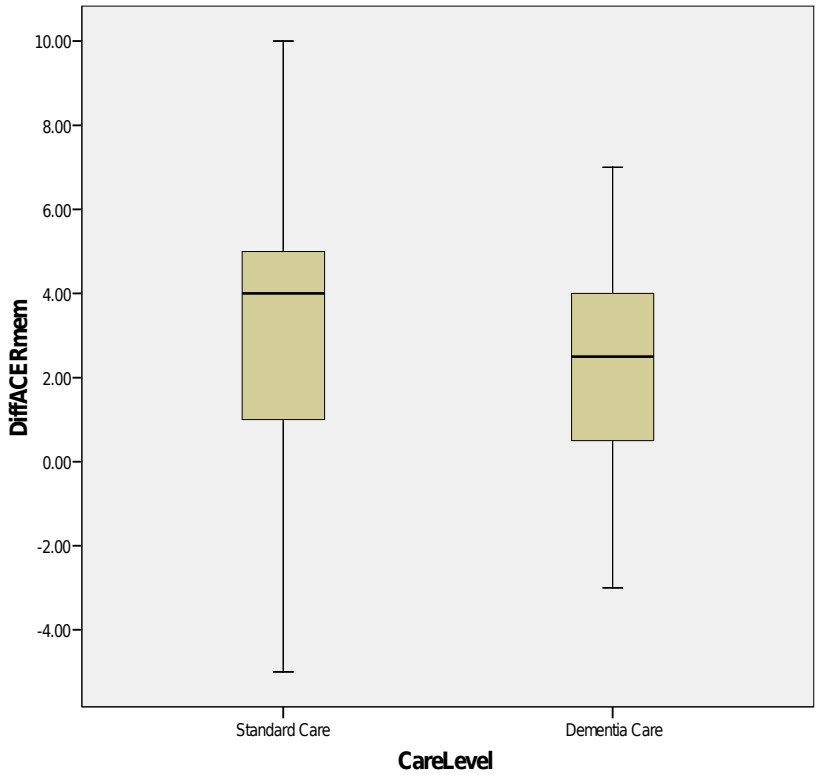


Figure 15: Box plot of Difference Memory Scores by care level

Difference scores for overall performance on ACE-R

Table 18: Descriptives for difference scores on ACE-R by reminiscence condition

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
DiffACERtotal	group reminiscence	31	91.2%	3	8.8%	34	100.0%
	individual reminiscence	24	96.0%	1	4.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
DiffACERtotal	group reminiscence	Mean		4.6774	1.61404
		95% Confidence Interval for Mean	Lower Bound	1.3811	
			Upper Bound	7.9737	
		5% Trimmed Mean		4.8674	
		Median		6.0000	
		Variance		80.759	
		Std. Deviation		8.98661	
		Minimum		-17.00	
		Maximum		24.00	
		Range		41.00	
		Interquartile Range		14.00	
		Skewness		-.331	.421
		Kurtosis		.354	.821
	individual reminiscence	Mean		-1.7083	1.47009
		95% Confidence Interval for Mean	Lower Bound	-4.7494	
			Upper Bound	1.3328	
		5% Trimmed Mean		-1.4074	
		Median		-2.0000	
		Variance		51.868	
		Std. Deviation		7.20193	
		Minimum		-23.00	
		Maximum		13.00	
		Range		36.00	
		Interquartile Range		8.50	
		Skewness		-.710	.472
		Kurtosis		2.452	.918

Table 19: Tests of Normality and Homogeneity for Difference Total ACE-R Scores

Tests of Normality

	Intervention type (group Remisc, ind reminisc, skittles)	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
DiffACERtotal	group reminiscence	.095	31	.200(*)	.982	31	.866
	individual reminiscence	.157	24	.129	.944	24	.196

* This is a lower bound of the true significance.
a Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
DiffACERtotal	Based on Mean	1.512	1	53	.224
	Based on Median	1.284	1	53	.262
	Based on Median and with adjusted df	1.284	1	51.403	.262
	Based on trimmed mean	1.442	1	53	.235

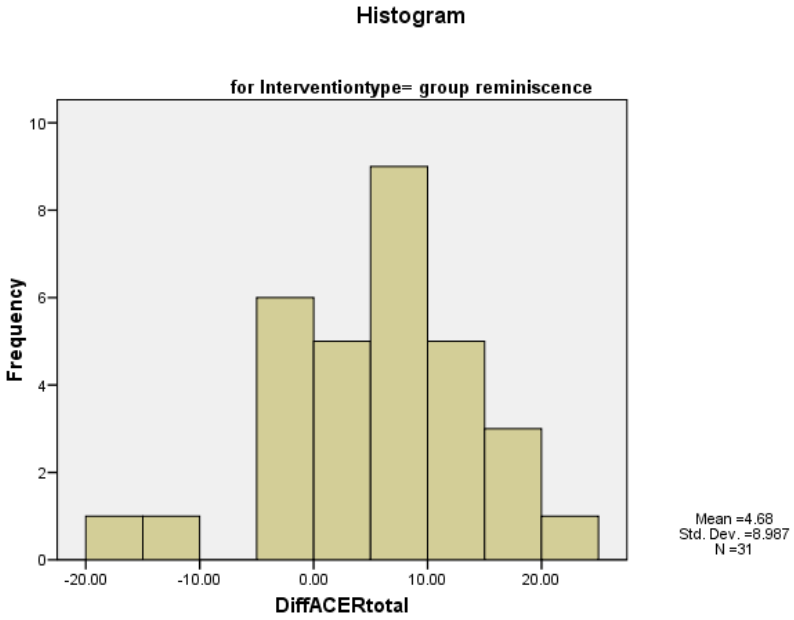


Figure 16: Distribution of ACE-R Total Scores for group reminiscence

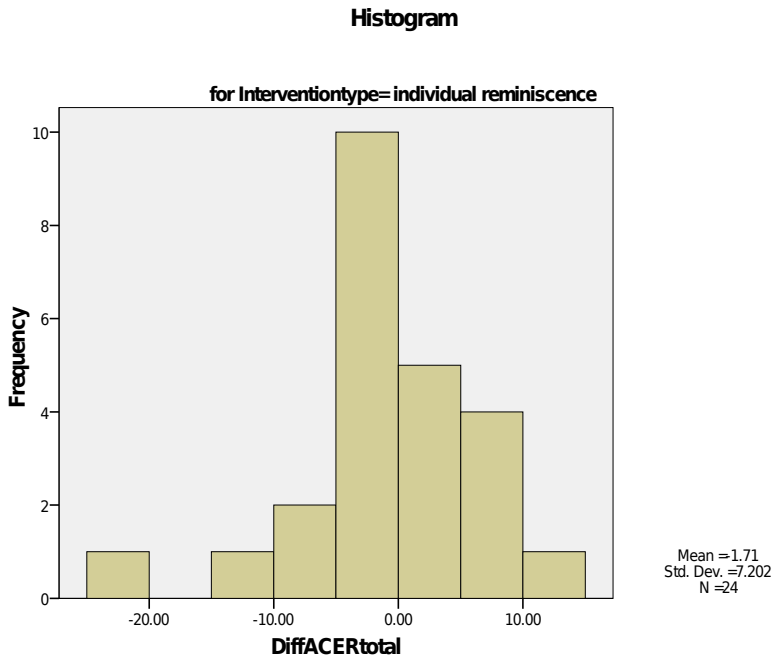


Figure 17: Distribution of ACE-R Total Scores for group reminiscence

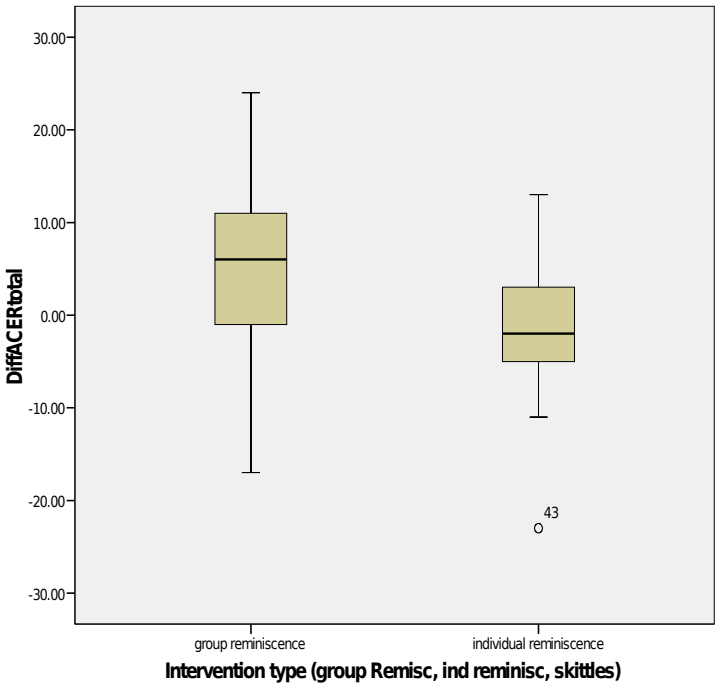


Figure 18: Box plot of difference ACE-R total scores by reminiscence type

Difference scores for cognition difference by care level

Table 20: Descriptives for difference ACE-R total scores

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	CareLevel	N	Percent	N	Percent	N	Percent
DiffACERtotal	Standard Care	15	83.3%	3	16.7%	18	100.0%
	Dementia Care	16	100.0%	0	.0%	16	100.0%

Descriptives

CareLevel			Statistic	Std. Error
DiffACERtotal Standard Care	Mean		3.8667	1.96121
	95% Confidence Interval for Mean	Lower Bound	-.3397	
		Upper Bound	8.0730	
	5% Trimmed Mean		4.2407	
	Median		5.0000	
	Variance		57.695	
	Std. Deviation		7.59574	
	Minimum		-14.00	
	Maximum		15.00	
	Range		29.00	
	Interquartile Range		10.00	
	Skewness		-.620	.580
	Kurtosis		.829	1.121
Dementia Care	Mean		5.4375	2.57871
	95% Confidence Interval for Mean	Lower Bound	-.0589	
		Upper Bound	10.9339	
	5% Trimmed Mean		5.6528	
	Median		7.5000	
	Variance		106.396	
	Std. Deviation		10.31484	
	Minimum		-17.00	
	Maximum		24.00	
	Range		41.00	
	Interquartile Range		15.75	
	Skewness		-.356	.564
	Kurtosis		.218	1.091

Table 21: Tests of normality and homogeneity for difference ACE-R total scores

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	CareLevel	Statistic	df	Sig.	Statistic	df	Sig.
DiffACERtotal	Standard Care	.105	15	.200*	.958	15	.658
	Dementia Care	.123	16	.200*	.973	16	.889

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
DiffACERtotal	Based on Mean	1.187	1	29	.285
	Based on Median	.900	1	29	.350
	Based on Median and with adjusted df	.900	1	26.196	.351
	Based on trimmed mean	1.166	1	29	.289

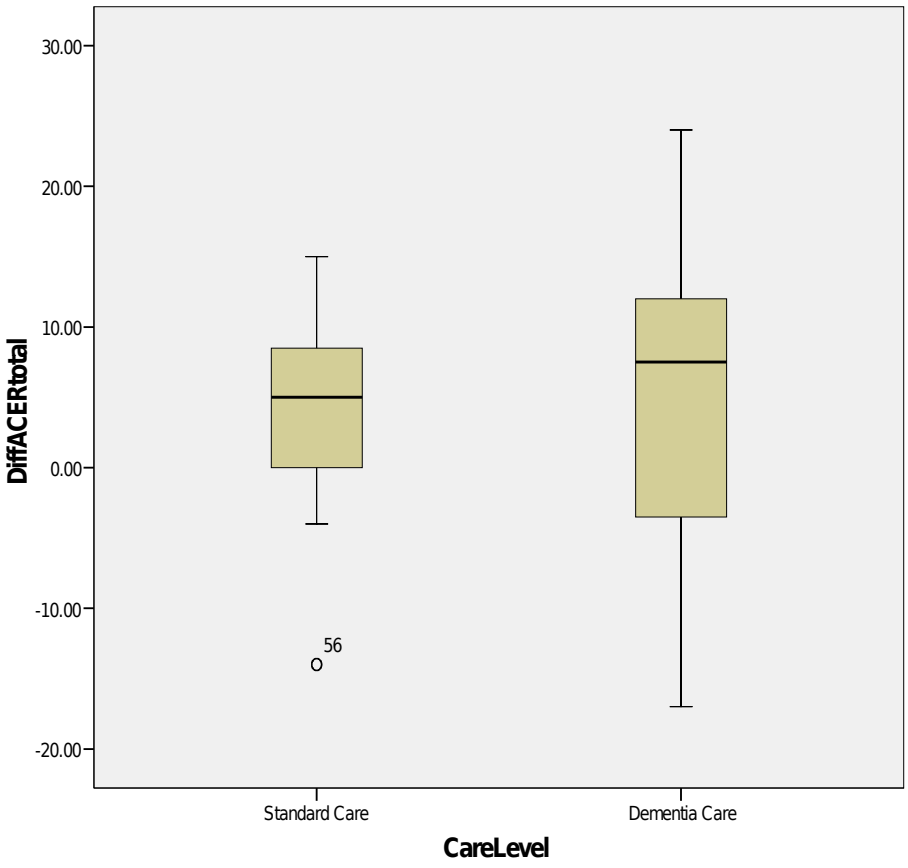


Figure 19: Box plot of difference ACE-R total scores by care level

Difference scores for HADS anxiety

Table 22: Descriptives for difference ACE-R memory by care level

Case Processing Summary

		Cases					
	Intervention type (gro Remisc, ind reminisc, skittles)	Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
DiffHADSAnxiety	group reminiscence	33	97.1%	1	2.9%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
DiffHADSAnxiety	group reminiscence	Mean		.2424	.87476
		95% Confidence Interval for Mean	Lower Bound	-1.5394	
			Upper Bound	2.0243	
		5% Trimmed Mean		.2795	
		Median		.0000	
		Variance		25.252	
		Std. Deviation		5.02513	
		Minimum		-12.00	
		Maximum		13.00	
		Range		25.00	
		Interquartile Range		4.00	
		Skewness		-.204	.409
		Kurtosis		1.103	.798
	individual reminiscence	Mean		.5600	.80225
		95% Confidence Interval for Mean	Lower Bound	-1.0958	
			Upper Bound	2.2158	
		5% Trimmed Mean		.4444	
		Median		.0000	
		Variance		16.090	
		Std. Deviation		4.01123	
		Minimum		-8.00	
		Maximum		11.00	
		Range		19.00	
		Interquartile Range		5.00	
		Skewness		.570	.464
		Kurtosis		1.220	.902

Table 23: Tests of Normality and Homogeneity for Difference Anxiety Scores

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
DiffHADSAnxiety	group reminiscence	.190	33	.004	.959	33	.242
	individual reminiscence	.136	25	.200*	.963	25	.467

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
DiffHADSAnxiety	Based on Mean	.491	1	56	.486
	Based on Median	.546	1	56	.463
	Based on Median and with adjusted df	.546	1	53.288	.463
	Based on trimmed mean	.519	1	56	.474

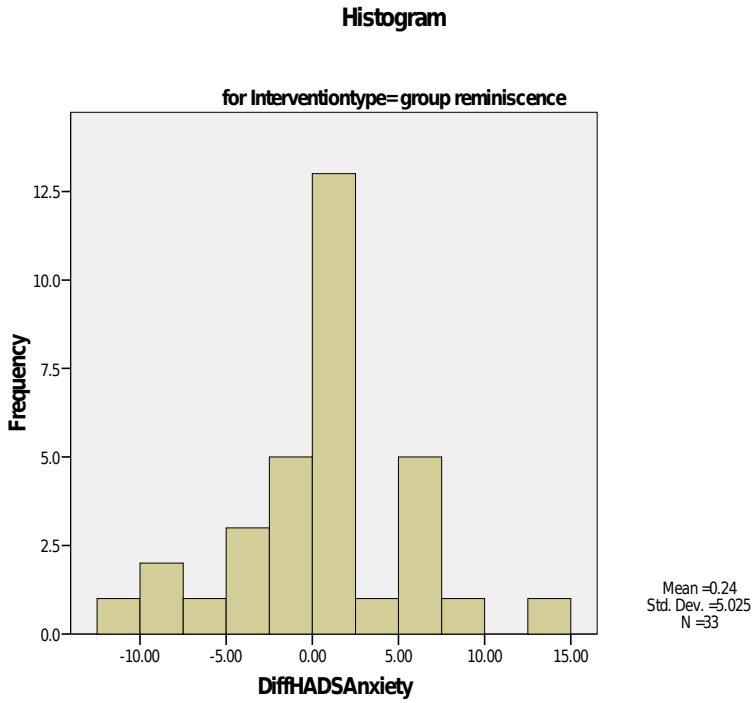


Figure 20: Distribution of difference anxiety scores for group reminiscence

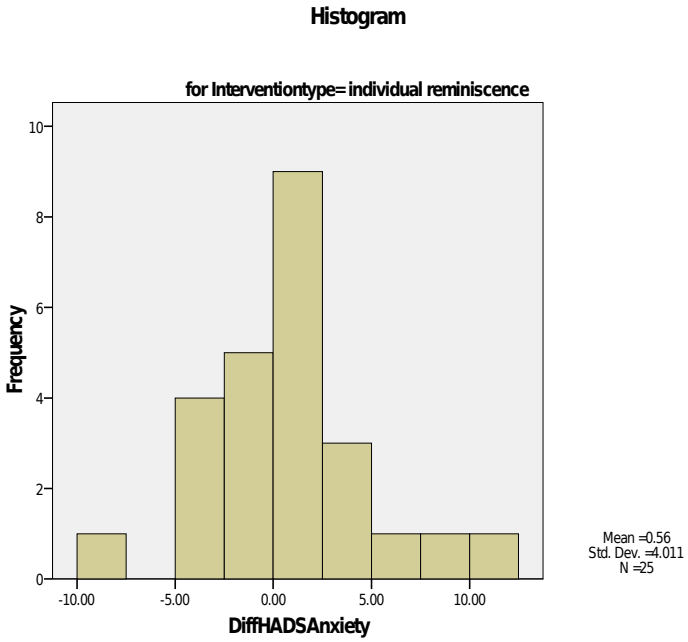


Figure 21: Distribution of difference anxiety scores for group reminiscence

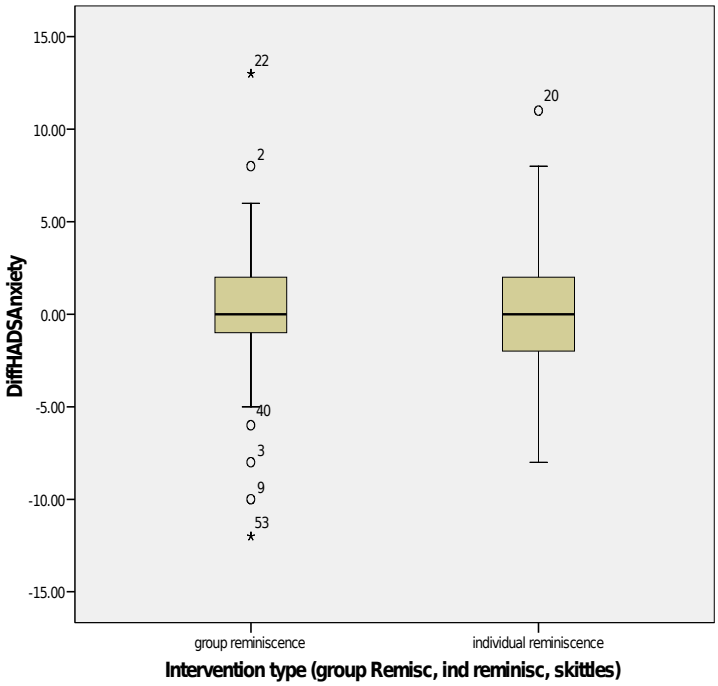


Figure 22: Box plot of difference anxiety scores by reminiscence condition

Difference scores HADS depression

Table 23: Descriptives for difference depression scores

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
DiffHADSDepression	group reminiscence	33	97.1%	1	2.9%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
DiffHADSDepression	group reminiscence	Mean		.3333	.65085
		95% Confidence Interval for Mean	Lower Bound	-.9924	
			Upper Bound	1.6591	
		5% Trimmed Mean		.2037	
		Median		.0000	
		Variance		13.979	
		Std. Deviation		3.73887	
		Minimum		-5.00	
		Maximum		8.00	
		Range		13.00	
		Interquartile Range		5.50	
		Skewness		.382	.409
		Kurtosis		-.555	.798
	individual reminiscence	Mean		-.6400	.62418
		95% Confidence Interval for Mean	Lower Bound	-1.9282	
			Upper Bound	.6482	
		5% Trimmed Mean		-.6667	
		Median		-1.0000	
		Variance		9.740	
		Std. Deviation		3.12090	
		Minimum		-8.00	
		Maximum		7.00	
		Range		15.00	
		Interquartile Range		4.00	
		Skewness		.199	.464
		Kurtosis		1.227	.902

Table 24: Tests of Normality and Homogeneity for difference depression scores

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
DiffHADSDepression	group reminiscence	.111	33	.200*	.953	33	.158
	individual reminiscence	.140	25	.200*	.969	25	.632

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
DiffHADSDepression	Based on Mean	1.514	1	56	.224
	Based on Median	1.269	1	56	.265
	Based on Median and with adjusted df	1.269	1	55.699	.265
	Based on trimmed mean	1.409	1	56	.240

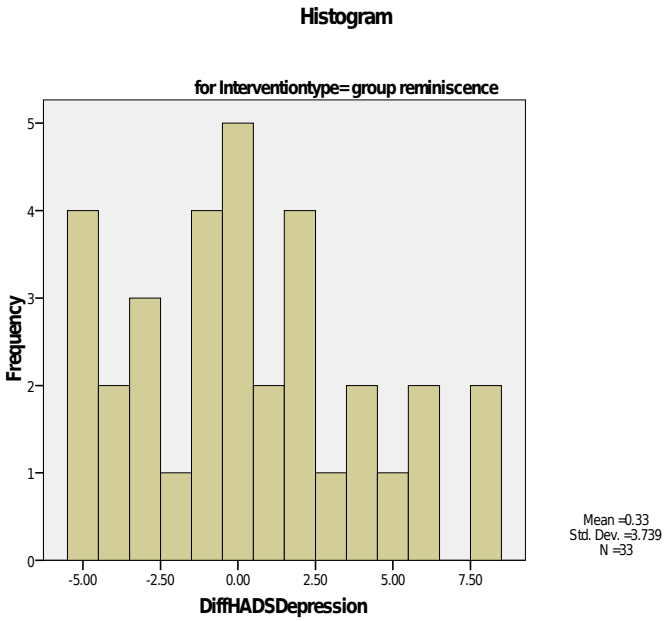


Figure 23: Distribution of difference depression scores for group reminiscence

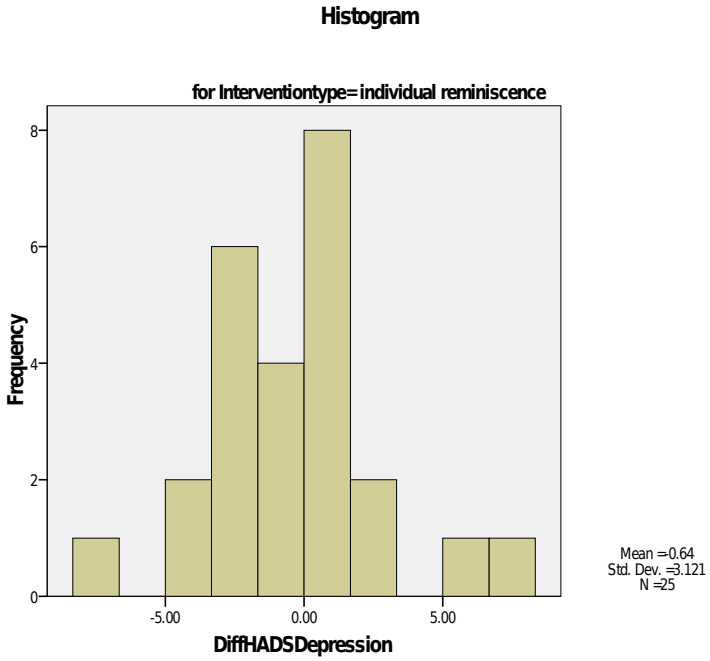


Figure 24: Distribution of difference depression scores for individual reminiscence

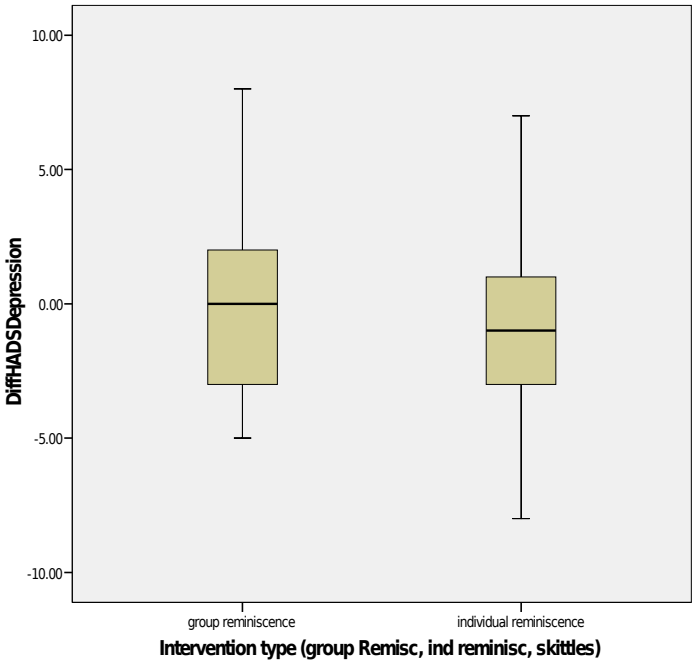


Figure 25: Box plot of difference depression scores by reminiscence condition

Difference scores for Quality of Life (QoL)

Table 25: Descriptives for difference QoL scores

Case Processing Summary

	Intervention type (group Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
DiffQoLTotal	group reminiscence	33	97.1%	1	2.9%	34	100.0%
	individual reminiscence	23	92.0%	2	8.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
DiffQoLTotal	group reminiscence	Mean		-.5152	.67296
		95% Confidence Interval for Mean	Lower Bound	-1.8859	
			Upper Bound	.8556	
		5% Trimmed Mean		-.5168	
		Median		.0000	
		Variance		14.945	
		Std. Deviation		3.86589	
		Minimum		-8.00	
		Maximum		7.00	
		Range		15.00	
		Interquartile Range		5.50	
		Skewness		-.266	.409
		Kurtosis		-.614	.798
	individual reminiscence	Mean		-.9130	.81224
		95% Confidence Interval for Mean	Lower Bound	-2.5975	
			Upper Bound	.7714	
		5% Trimmed Mean		-1.0966	
		Median		-2.0000	
		Variance		15.174	
		Std. Deviation		3.89537	
		Minimum		-7.00	
		Maximum		9.00	
		Range		16.00	
		Interquartile Range		7.00	
		Skewness		.681	.481
		Kurtosis		.292	.935

Table 26: Tests of Normality and Homogeneity for difference QoL scores

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
DiffQoLTotal	group reminiscence	.159	33	.033	.961	33	.273
	individual reminiscence	.161	23	.126	.950	23	.293

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
DiffQoLTotal	Based on Mean	.028	1	54	.868
	Based on Median	.008	1	54	.929
	Based on Median and with adjusted df	.008	1	53.292	.929
	Based on trimmed mean	.047	1	54	.830

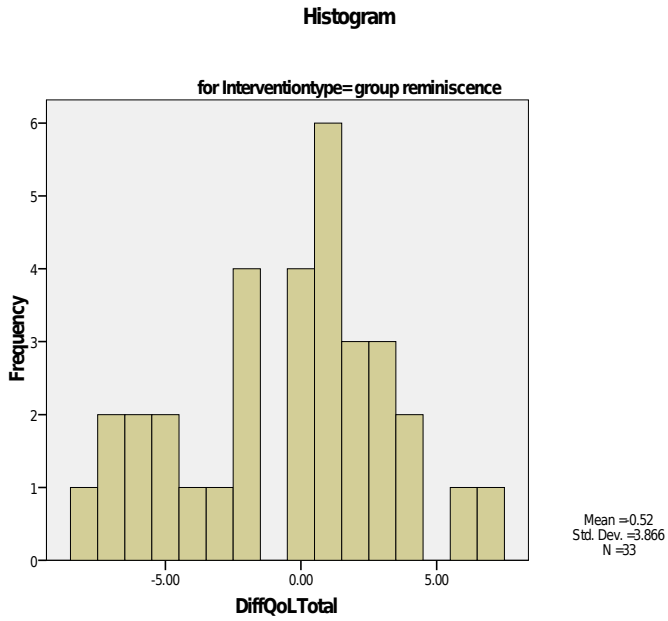


Figure 26: Distribution of difference QoL scores for group reminiscence

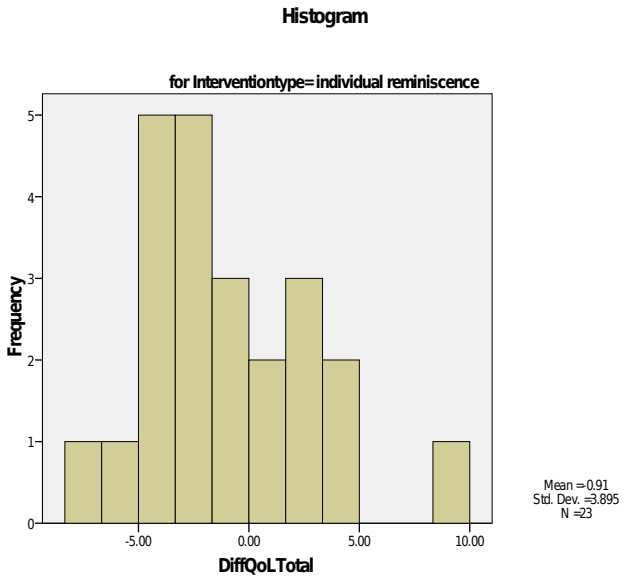


Figure 27: Distribution of difference QoL scores for group reminiscence

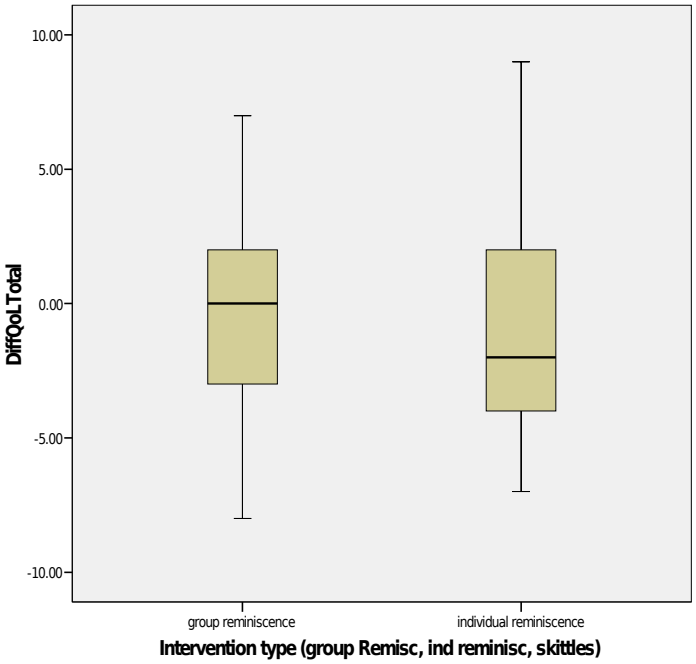


Figure 28: Box plot of difference QoL scores by reminiscence type.

RBANS recall and recognition performance (pre intervention only)

Table 27: Descriptives for RBANS pre intervention only for recall and recognition conditions.

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
RBANS memory passage recall (0-12)	group reminiscence	34	100.0%	0	.0%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%
RBANS memory passgae recognition (0-8)	group reminiscence	34	100.0%	0	.0%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
RBANS memory passage recall (0-12)	group reminiscence	Mean		.7941	.31814
		95% Confidence Interval for Mean	Lower Bound	.1469	
			Upper Bound	1.4414	
		5% Trimmed Mean		.5065	
		Median		.0000	
		Variance		3.441	
		Std. Deviation		1.85504	
		Minimum		.00	
		Maximum		8.00	
		Range		8.00	
		Interquartile Range		.00	
		Skewness		2.590	.403
		Kurtosis		6.705	.788
	individual reminiscence	Mean		1.6000	.45461
		95% Confidence Interval for Mean	Lower Bound	.6617	
			Upper Bound	2.5383	
		5% Trimmed Mean		1.4000	
		Median		.0000	
		Variance		5.167	
		Std. Deviation		2.27303	
		Minimum		.00	
		Maximum		7.00	
		Range		7.00	
		Interquartile Range		3.50	
		Skewness		1.212	.464
		Kurtosis		.185	.902
RBANS memory passgae recognition (0-8)	group reminiscence	Mean		4.4706	.46869
		95% Confidence Interval for Mean	Lower Bound	3.5170	
			Upper Bound	5.4241	
		5% Trimmed Mean		4.5229	
		Median		5.0000	
		Variance		7.469	
		Std. Deviation		2.73291	
		Minimum		.00	
		Maximum		8.00	
		Range		8.00	
		Interquartile Range		5.25	
		Skewness		-.264	.403
		Kurtosis		-1.260	.788
	individual reminiscence	Mean		4.3200	.49907
		95% Confidence Interval for Mean	Lower Bound	3.2900	
			Upper Bound	5.3500	
		5% Trimmed Mean		4.3556	
		Median		5.0000	
		Variance		6.227	
		Std. Deviation		2.49533	
		Minimum		.00	
		Maximum		8.00	
		Range		8.00	
		Interquartile Range		3.00	
		Skewness		-.572	.464
		Kurtosis		-.567	.902

Table 28: Tests of Normality and Homogeneity for RBANS recall and recognition

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
RBANS memory passage recall (0-12)	group reminiscence	.460	34	.000	.505	34	.000
	individual reminiscence	.319	25	.000	.736	25	.000
RBANS memory passgae recognition (0-8)	group reminiscence	.133	34	.133	.908	34	.008
	individual reminiscence	.247	25	.000	.892	25	.012

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
RBANS memory passage recall (0-12)	Based on Mean	3.419	1	57	.070
	Based on Median	2.245	1	57	.140
	Based on Median and with adjusted df	2.245	1	54.714	.140
	Based on trimmed mean	3.845	1	57	.055
RBANS memory passgae recognition (0-8)	Based on Mean	.815	1	57	.371
	Based on Median	1.277	1	57	.263
	Based on Median and with adjusted df	1.277	1	55.233	.263
	Based on trimmed mean	.837	1	57	.364

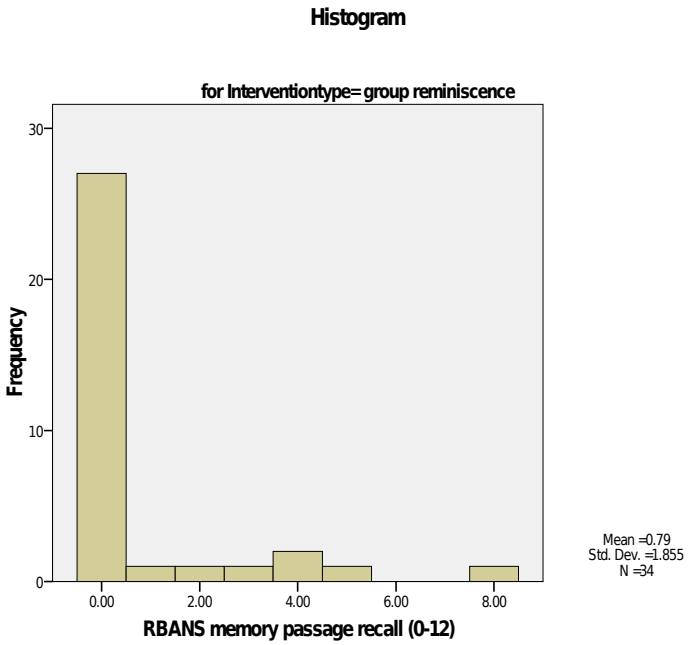


Figure 29: Distribution of RBANS recall condition for group reminiscence

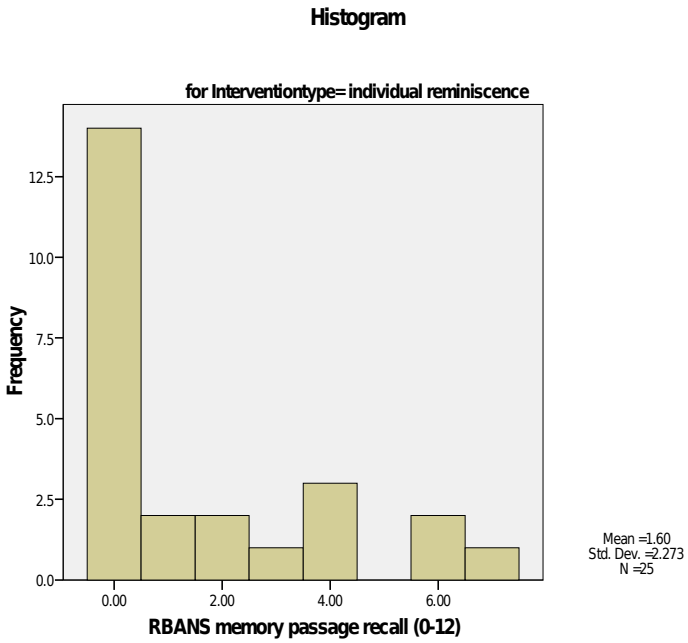


Figure 30: Distribution of RBANS recall condition for group reminiscence

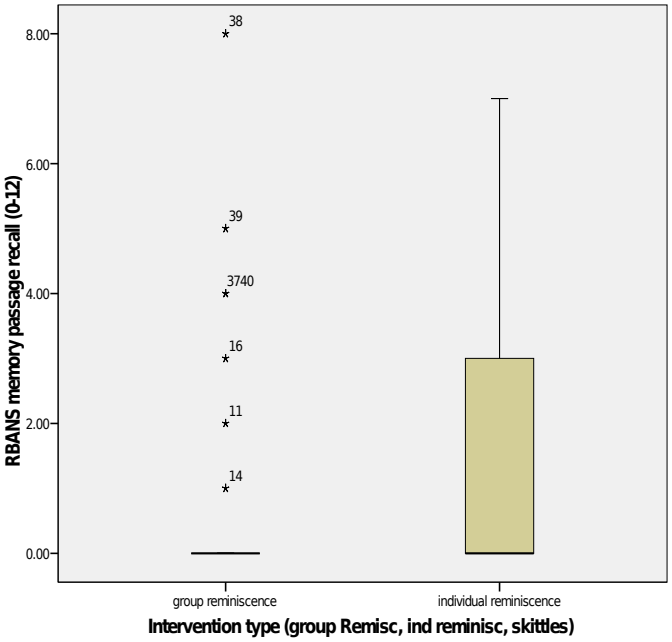


Figure 31: Box plot for RBANS recall condition by reminiscence type.

RBANS recall and recognition performance (post only)

Table 29: Descriptives for RBANS post intervention.

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
RBANS memory passage recall (0-12)	group reminiscence	34	100.0%	0	.0%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%
RBANS memory passgae recognition (0-8)	group reminiscence	34	100.0%	0	.0%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
RBANS memory passage recall (0-12)	group reminiscence	Mean		1.8788	.46212
		95% Confidence Interval for Mean	Lower Bound	.9375	
			Upper Bound	2.8201	
		5% Trimmed Mean		1.6094	
		Median		1.0000	
		Variance		7.047	
		Std. Deviation		2.65468	
		Minimum		.00	
		Maximum		9.00	
		Range		9.00	
		Interquartile Range		2.50	
		Skewness		1.590	.409
		Kurtosis		1.537	.798
	individual reminiscence	Mean		2.6818	.59720
		95% Confidence Interval for Mean	Lower Bound	1.4399	
			Upper Bound	3.9238	
		5% Trimmed Mean		2.5354	
		Median		2.0000	
		Variance		7.846	
		Std. Deviation		2.80113	
		Minimum		.00	
		Maximum		8.00	
		Range		8.00	
		Interquartile Range		5.25	
		Skewness		.760	.491
		Kurtosis		-.795	.953
RBANS memory passgae recognition (0-8)	group reminiscence	Mean		4.4848	.50775
		95% Confidence Interval for Mean	Lower Bound	3.4506	
			Upper Bound	5.5191	
		5% Trimmed Mean		4.5387	
		Median		5.0000	
		Variance		8.508	
		Std. Deviation		2.91677	
		Minimum		.00	
		Maximum		8.00	
		Range		8.00	
		Interquartile Range		5.50	
		Skewness		-.329	.409
		Kurtosis		-1.341	.798
	individual reminiscence	Mean		4.2273	.58083
		95% Confidence Interval for Mean	Lower Bound	3.0194	
			Upper Bound	5.4352	
		5% Trimmed Mean		4.2576	
		Median		5.0000	
		Variance		7.422	
		Std. Deviation		2.72435	
		Minimum		.00	
		Maximum		8.00	
		Range		8.00	
		Interquartile Range		5.25	
		Skewness		-.527	.491
		Kurtosis		-1.196	.953

Table 30: Tests of Normality and Homogeneity for RBANS post intervention scores

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
RBANS memory passage recall (0-12)	group reminiscence	.240	33	.000	.731	33	.000
	individual reminiscence	.187	22	.044	.851	22	.004
RBANS memory passgae recognition (0-8)	group reminiscence	.153	33	.049	.885	33	.002
	individual reminiscence	.197	22	.026	.872	22	.009

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
RBANS memory passage recall (0-12)	Based on Mean	.710	1	53	.403
	Based on Median	.639	1	53	.428
	Based on Median and with adjusted df	.639	1	51.459	.428
	Based on trimmed mean	.759	1	53	.387
RBANS memory passgae recognition (0-8)	Based on Mean	.385	1	53	.537
	Based on Median	.254	1	53	.616
	Based on Median and with adjusted df	.254	1	52.860	.616
	Based on trimmed mean	.362	1	53	.550

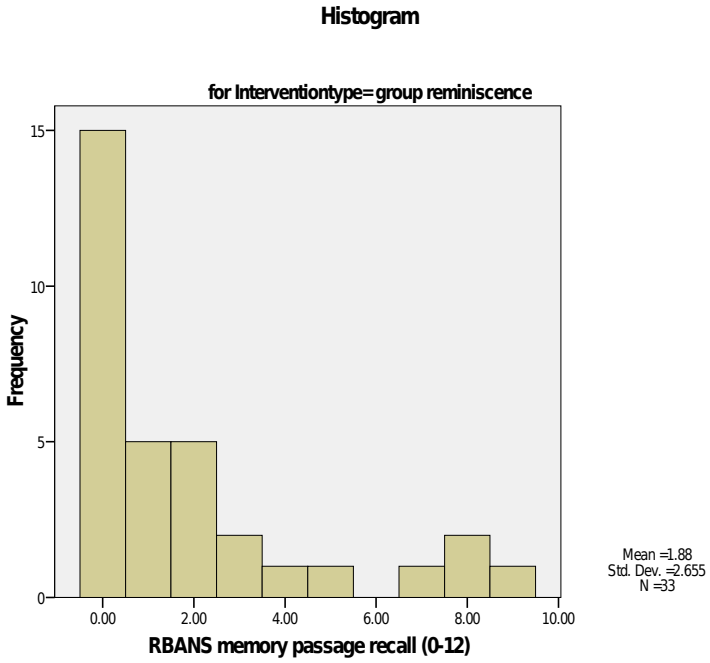


Figure 32: Distribution for RBANS recall post intervention for group reminiscence

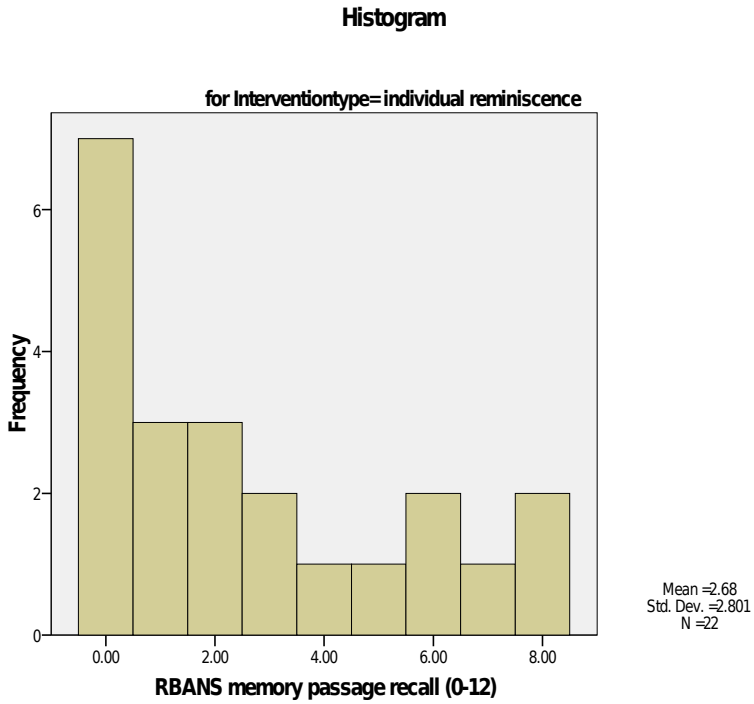


Figure 33: Distribution for RBANS recall post intervention for individual reminiscence

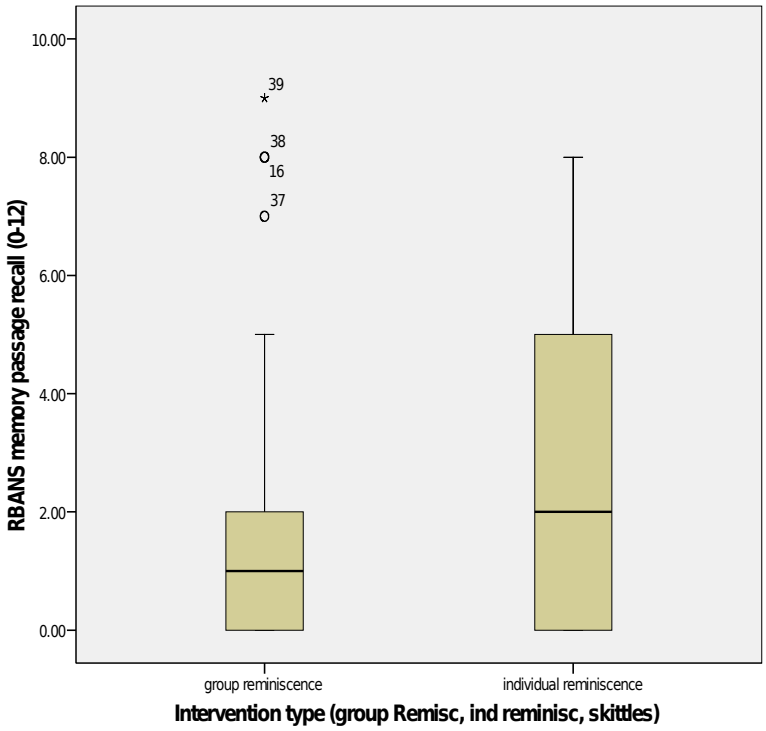


Figure 34: Box plot of RBANS recall condition post intervention by reminiscence condition

4: Reliability analysis and screening of identity questionnaire (EXITS)

Reliability analysis for the EXITS questionnaire both pre and post showed that there were five scales with sufficiently high alpha (Cronbach's alpha of .80; Field, 2005) to be included in the analysis (see Table 31). These were multiple group membership, kept group memberships, new group membership, continuity, and sense of self scale.

Table 31: Reliability analysis for EXITS questionnaire pre and post intervention.

Scale	Pre-EXITS	Post-EXITS
1. Multiple group membership	Alpha = .859 (3 items: S2; Q1, 2 & 3)	Alpha = . 852 (3 items: S2; Q1, 2 & 3)
2. Maintained group membership (old groups)	Alpha = .873 (3 items: S3; Q1, 2 & 3)	Alpha = .785 (3 items: S3; Q1, 2 & 3)
3. New group memberships	Alpha = .894 (3 items: S3; Q4, 5 & 6)	Alpha = .852 (3 items: S3; Q4, 5 & 6)
6. Continuity of self	Alpha = .898 (2 items: Cont; Q1, 2)	Alpha = .919 (2 items: Cont; Q1, 2)
10. Global SOS	Alpha = .765 (6 items: SOS; all exc 1)	Alpha = .781 (6 items: SOS; all exc 1)

The analysis strategy for the EXITS began by calculating difference scores the five scales. These were then explored to investigate if they met assumptions for parametric testing.

Difference scores for multiple group membership (Subscale 1 from EXITS)

Table 32: Descriptives for difference EXITS subscale 1

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Diff multiple group membership	group reminiscence	32	94.1%	2	5.9%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%

Descriptives

Intervention type (group				Statistic	Std. Error
Diff multiple group membership	group reminiscence	Mean		-.6249	.31643
		95% Confidence Interval for Mean	Lower Bound	-1.2703	
			Upper Bound	.0205	
		5% Trimmed Mean		-.6689	
		Median		-.3317	
		Variance		3.204	
		Std. Deviation		1.79001	
		Minimum		-4.00	
		Maximum		3.67	
		Range		7.67	
		Interquartile Range		2.25	
		Skewness		.244	.414
		Kurtosis		.268	.809
	individual reminiscence	Mean		-.5461	.28861
		95% Confidence Interval for Mean	Lower Bound	-1.1418	
			Upper Bound	.0495	
		5% Trimmed Mean		-.6106	
		Median		-.3333	
		Variance		2.082	
		Std. Deviation		1.44304	
		Minimum		-3.00	
		Maximum		3.33	
		Range		6.33	
		Interquartile Range		1.67	
		Skewness		.581	.464
		Kurtosis		1.134	.902

Table 33: Tests of Normality and Homogeneity for EXITS subscale 1

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Diff multiple group membership	group reminiscence	.144	32	.089	.954	32	.187
	individual reminiscence	.193	25	.018	.941	25	.157

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Diff multiple group membership	Based on Mean	.855	1	55	.359
	Based on Median	.811	1	55	.372
	Based on Median and with adjusted df	.811	1	52.759	.372
	Based on trimmed mean	.831	1	55	.366

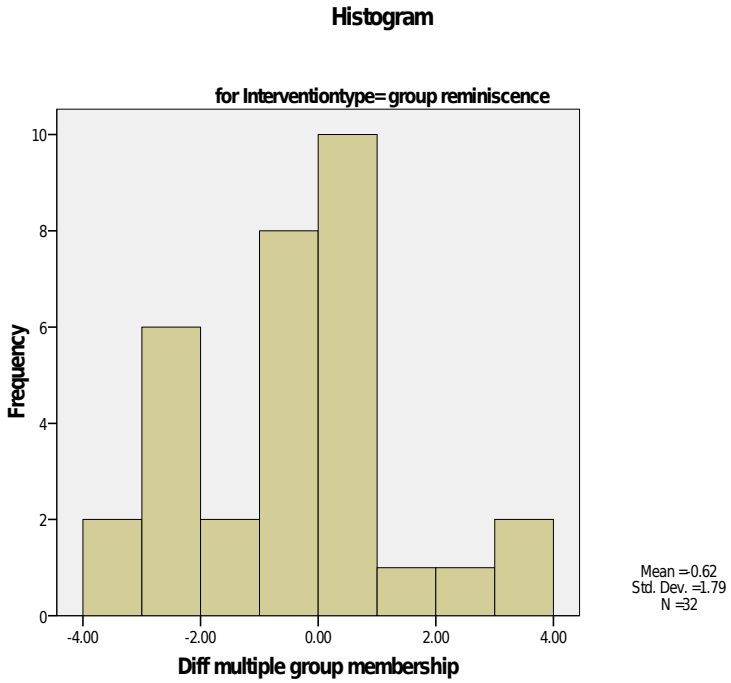


Figure 35: Distribution of difference scores for EXITS subscale 1 for group reminiscence

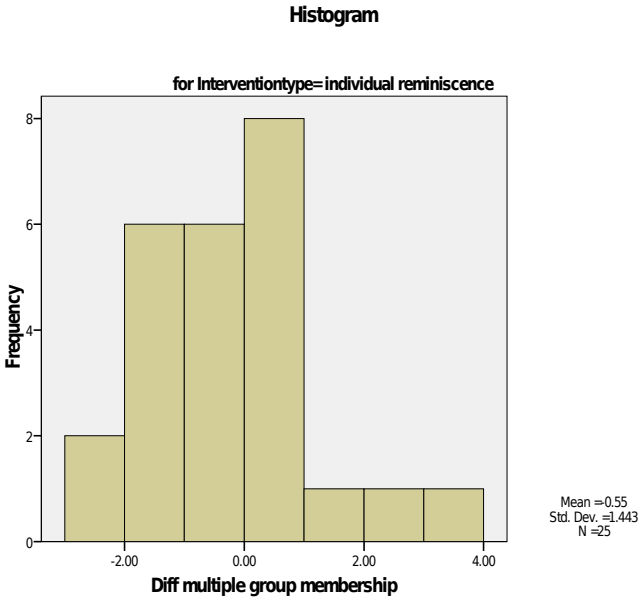


Figure 36: Distribution of difference scores for EXITS subscale 1 for individual reminiscence

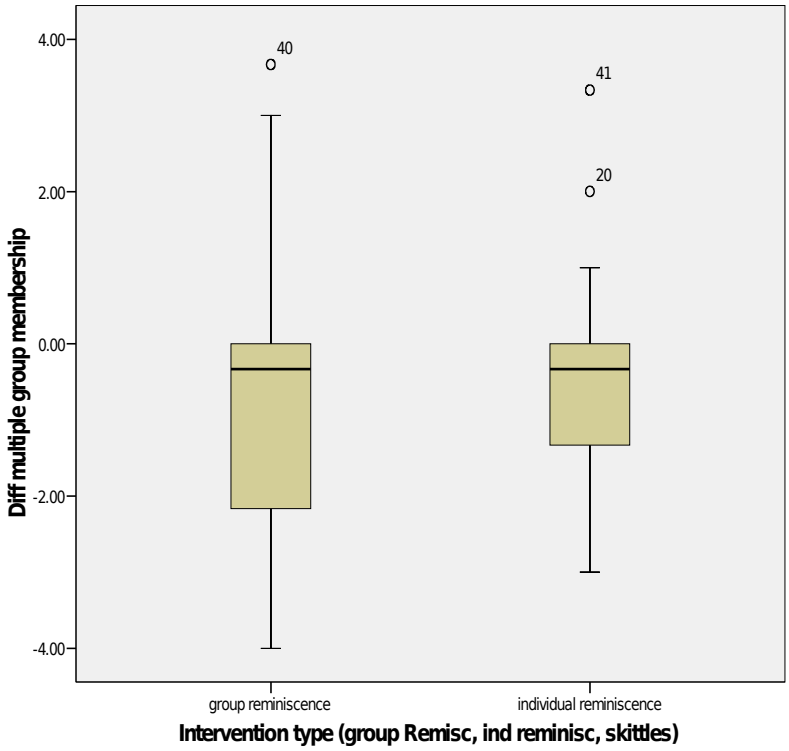


Figure 37: Box plot of difference scores for EXITS subscale 1 by reminiscence condition

Difference scores for kept group membership (Subscale 2 in EXITS)

Table 34: Descriptives for difference EXITS subscale 2

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Diffkeptgroup membership	group reminiscence	31	91.2%	3	8.8%	34	100.0%
	individual reminiscence	24	96.0%	1	4.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
Diffkeptgroup membership	group reminiscence	Mean		-.5701	.24007
		95% Confidence Interval for Mean	Lower Bound	-1.0604	
			Upper Bound	-.0798	
		5% Trimmed Mean		-.6007	
		Median		.0000	
		Variance		1.787	
		Std. Deviation		1.33663	
		Minimum		-3.00	
		Maximum		3.00	
		Range		6.00	
		Interquartile Range		1.67	
		Skewness		.145	.421
		Kurtosis		.684	.821
	individual reminiscence	Mean		-.6669	.27499
		95% Confidence Interval for Mean	Lower Bound	-1.2358	
			Upper Bound	-.0981	
		5% Trimmed Mean		-.5806	
		Median		-.1683	
		Variance		1.815	
		Std. Deviation		1.34718	
		Minimum		-4.00	
		Maximum		1.00	
		Range		5.00	
		Interquartile Range		1.00	
		Skewness		-1.131	.472
		Kurtosis		.679	.918

Table 35: Tests of Normality and Homogeneity for EXITS subscale 2

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Diffkeptgroup membership	group reminiscence	.181	31	.011	.944	31	.109
	individual reminiscence	.222	24	.003	.864	24	.004

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Diffkeptgroup membership	Based on Mean	.003	1	53	.956
	Based on Median	.073	1	53	.788
	Based on Median and with adjusted df	.073	1	52.893	.788
	Based on trimmed mean	.024	1	53	.879

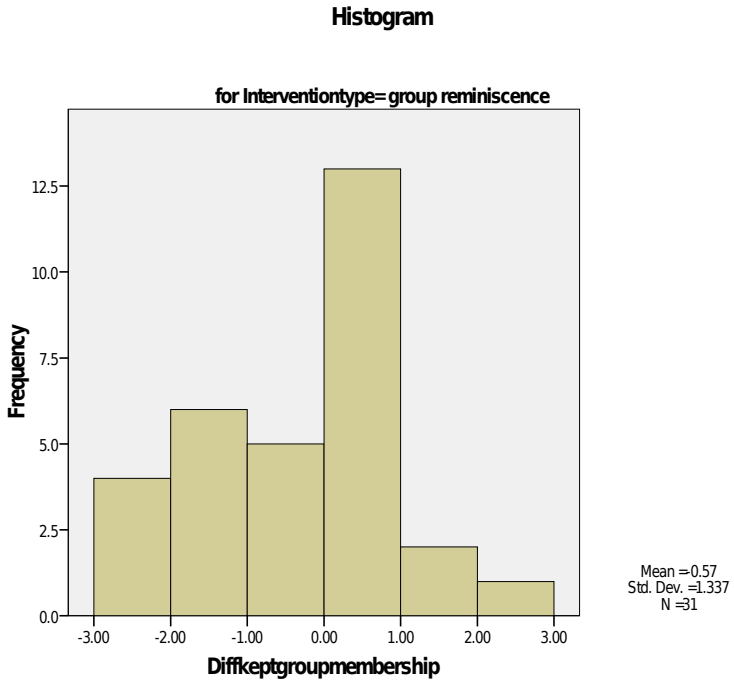


Figure 38: Distribution of difference scores EXITS subscale 2 for group reminiscence

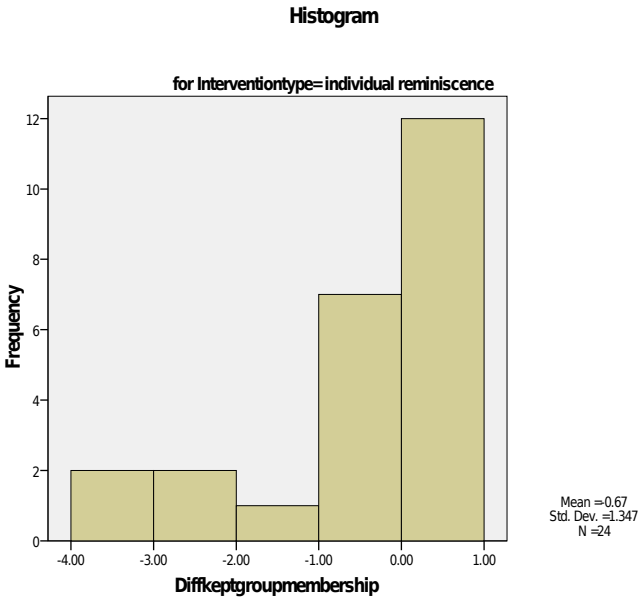


Figure 39: Distribution of difference scores EXITS subscale 2 for individual reminiscence

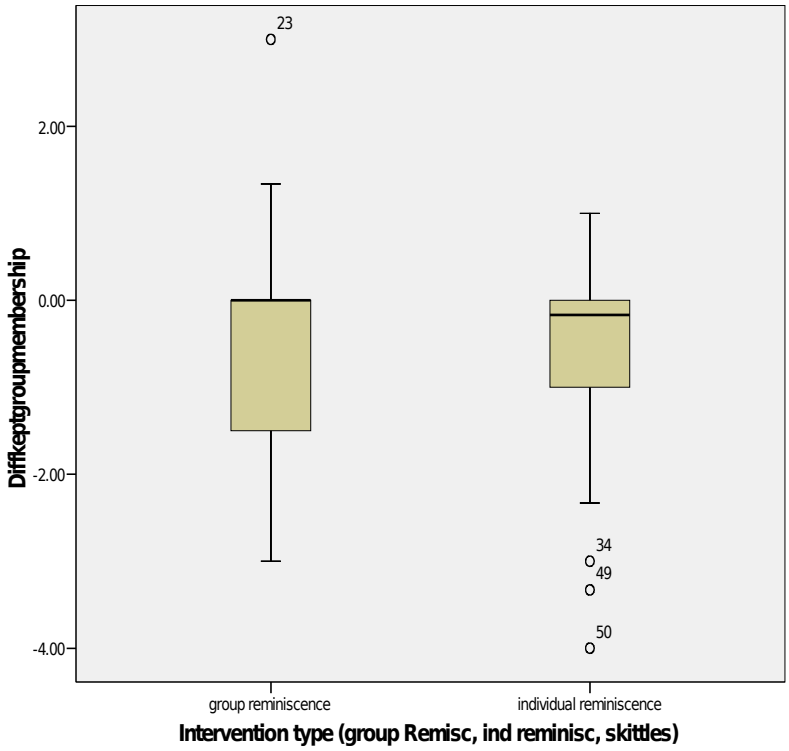


Figure 40: Box plot of difference scores on EXIS subscale 2 by reminiscence condition

Difference scores for new group membership (Subscale 3 of EXITS)

Table 36: Descriptives for difference scores for Subscale 3 of EXITS)

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Diff new group membership	group reminiscence	30	88.2%	4	11.8%	34	100.0%
	individual reminiscence	24	96.0%	1	4.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
Diff new group membership	group reminiscence	Mean		-.1890	.31791
		95% Confidence Interval for Mean	Lower Bound	-.8392	
			Upper Bound	.4612	
		5% Trimmed Mean		-.1975	
		Median		.0000	
		Variance		3.032	
		Std. Deviation		1.74125	
		Minimum		-3.67	
		Maximum		3.33	
		Range		7.00	
		Interquartile Range		1.50	
		Skewness		.153	.427
		Kurtosis		-.144	.833
	individual reminiscence	Mean		-.6111	.24879
		95% Confidence Interval for Mean	Lower Bound	-1.1258	
			Upper Bound	-.0965	
		5% Trimmed Mean		-.5679	
		Median		-.1650	
		Variance		1.485	
		Std. Deviation		1.21880	
		Minimum		-3.00	
		Maximum		1.00	
		Range		4.00	
		Interquartile Range		1.75	
		Skewness		-.857	.472
		Kurtosis		-.413	.918

Table 37: Tests of Normality and Homogeneity for Subscale 3 of EXITS

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Diff new group membership	group reminiscence	.190	30	.007	.952	30	.187
	individual reminiscence	.257	24	.000	.865	24	.004

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Diff new group membership	Based on Mean	1.241	1	52	.270
	Based on Median	1.510	1	52	.225
	Based on Median and with adjusted df	1.510	1	49.201	.225
	Based on trimmed mean	1.356	1	52	.250

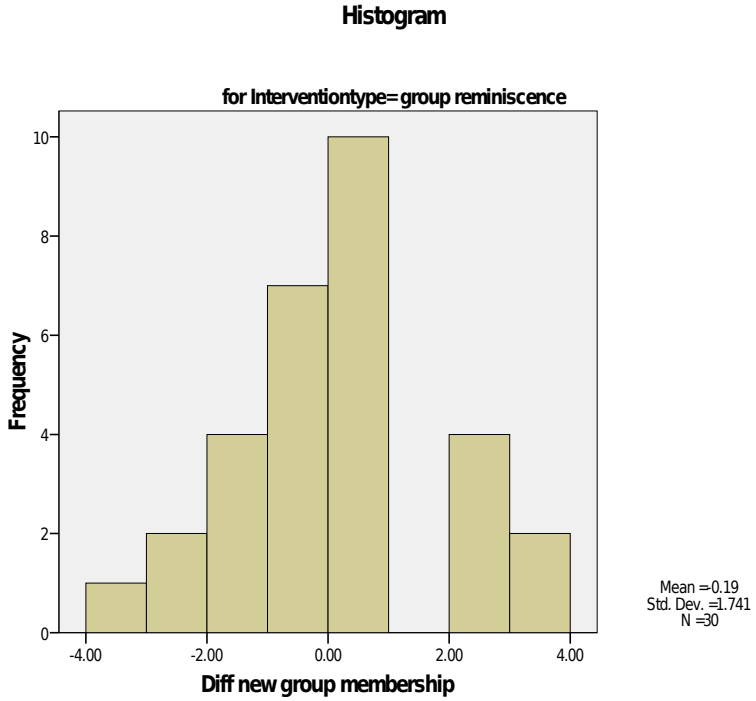


Figure 40: Distribution of difference scores on Subscale 3 of EXITS for group reminiscence

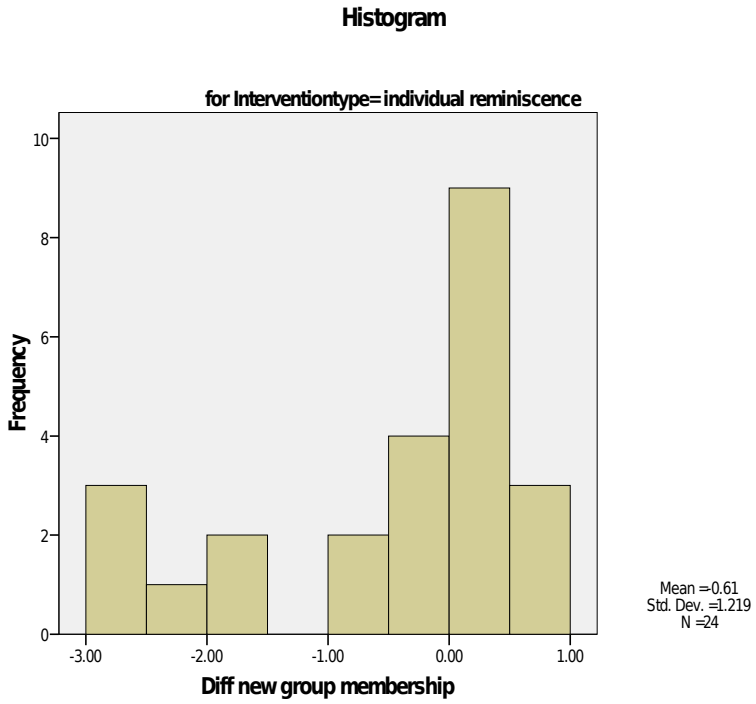


Figure 41: Distribution of difference scores on Subscale 3 of EXITS for individual reminiscence

Figure 42: Box plot of difference scores for subscale 3 by reminiscence type.

Difference scores for continuity scale in EXITS (Subscale 4)

Table 38: Descriptives for difference scores of Subscale 4

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
DiffContinuity new scale	group reminiscence	33	97.1%	1	2.9%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%

Descriptives

Intervention type (group			Statistic	Std. Error
DiffContinuity new scale	group reminiscence	Mean	.1818	.45322
		95% Confidence Interval for Mean Lower Bound	-.7414	
		95% Confidence Interval for Mean Upper Bound	1.1050	
		5% Trimmed Mean	.2348	
		Median	.0000	
		Variance	6.778	
		Std. Deviation	2.60354	
		Minimum	-6.00	
		Maximum	6.00	
		Range	12.00	
		Interquartile Range	2.50	
		Skewness	-.444	.409
		Kurtosis	1.092	.798
	individual reminiscence	Mean	-.2200	.33427
		95% Confidence Interval for Mean Lower Bound	-.9099	
		95% Confidence Interval for Mean Upper Bound	.4699	
		5% Trimmed Mean	-.1889	
		Median	.0000	
		Variance	2.793	
		Std. Deviation	1.67133	
		Minimum	-4.00	
		Maximum	3.00	
		Range	7.00	
		Interquartile Range	1.75	
		Skewness	-.527	.464
		Kurtosis	.551	.902

Table 39: Tests of Normality and Homogeneity for difference Subscale 4

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
DiffContinuity new scale	group reminiscence	.138	33	.113	.950	33	.130
	individual reminiscence	.272	25	.000	.923	25	.059

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
DiffContinuity new scale	Based on Mean	2.554	1	56	.116
	Based on Median	3.115	1	56	.083
	Based on Median and with adjusted df	3.115	1	50.502	.084
	Based on trimmed mean	2.660	1	56	.109

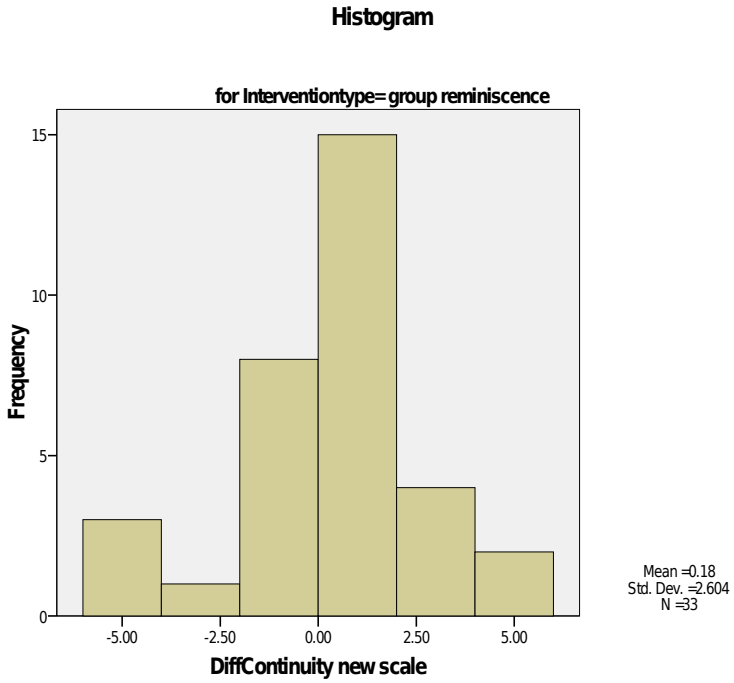


Figure 43:Distribution of difference subscale 4 scores for group reminiscence

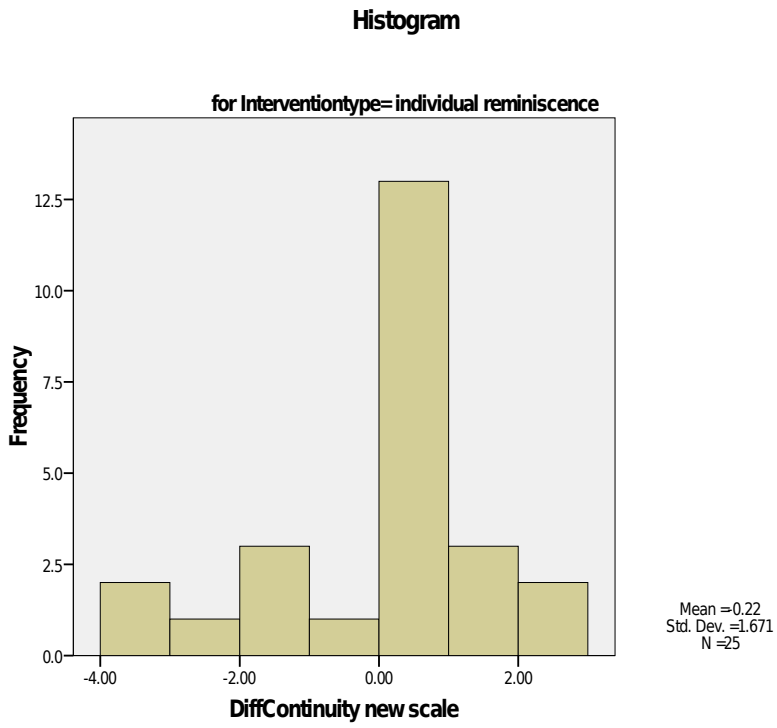


Figure 44: Distribution of difference subscale 4 scores for individual reminiscence

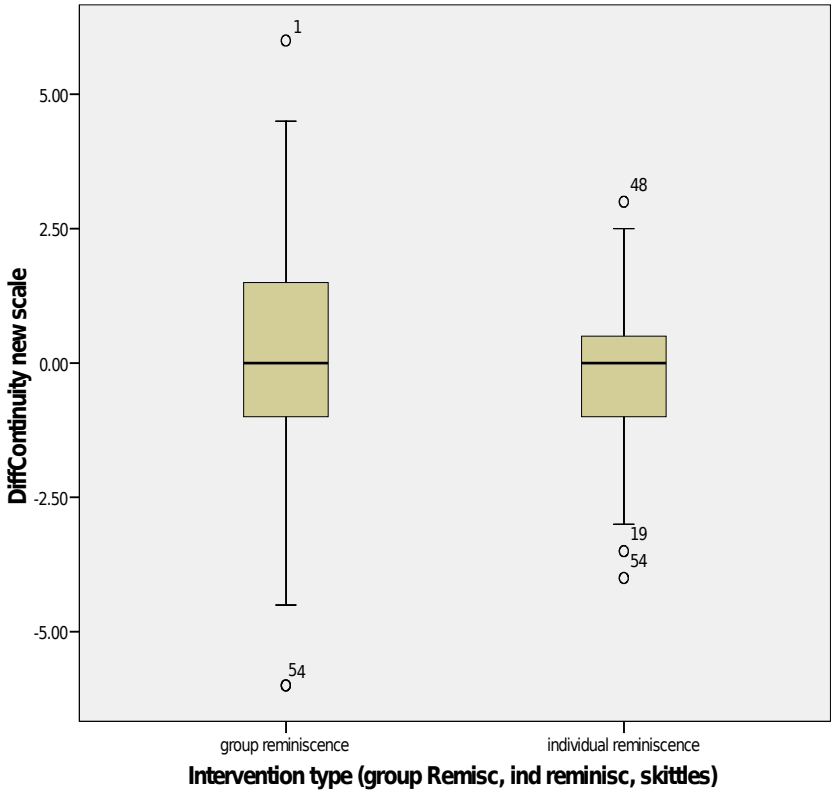


Figure 45: Box plot of difference scores for Subscale 4 by reminiscence condition

Difference scores for sense of self (subscale 5 of EXITS)

Table 40: Descriptives for difference scores on subscale 5

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Difference in sos new scale	group reminiscence	32	94.1%	2	5.9%	34	100.0%
	individual reminiscence	25	100.0%	0	.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
Difference in sos new scale	group reminiscence	Mean		.5469	.70131
		95% Confidence Interval for Mean	Lower Bound	-.8835	
			Upper Bound	1.9772	
		5% Trimmed Mean		.5255	
		Median		.4167	
		Variance		15.739	
		Std. Deviation		3.96721	
		Minimum		-7.50	
		Maximum		10.67	
		Range		18.17	
		Interquartile Range		5.75	
		Skewness		.054	.414
		Kurtosis		.372	.809
	individual reminiscence	Mean		-.1067	.85119
		95% Confidence Interval for Mean	Lower Bound	-1.8634	
			Upper Bound	1.6501	
		5% Trimmed Mean		-.0037	
		Median		-.1667	
		Variance		18.113	
		Std. Deviation		4.25595	
		Minimum		-10.50	
		Maximum		8.00	
		Range		18.50	
		Interquartile Range		5.17	
		Skewness		-.315	.464
		Kurtosis		.482	.902

Table 41: Tests of Normality and Homogeneity for Subscale 5

Tests of Normality

	Intervention type (gro Remisc, ind reminisc,	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Difference in sos new scale	group reminiscence	.131	32	.176	.978	32	.747
	individual reminiscence	.082	25	.200*	.986	25	.971

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Difference in sos new scale	Based on Mean	.069	1	55	.793
	Based on Median	.067	1	55	.796
	Based on Median and with adjusted df	.067	1	54.646	.796
	Based on trimmed mean	.073	1	55	.788

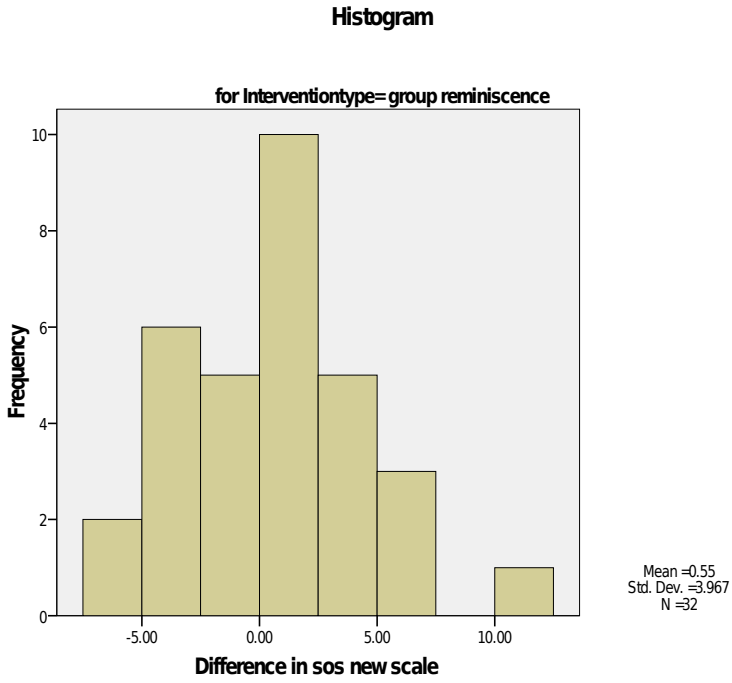


Figure 46: Distribution of difference scores for subscale 5 for group reminiscence

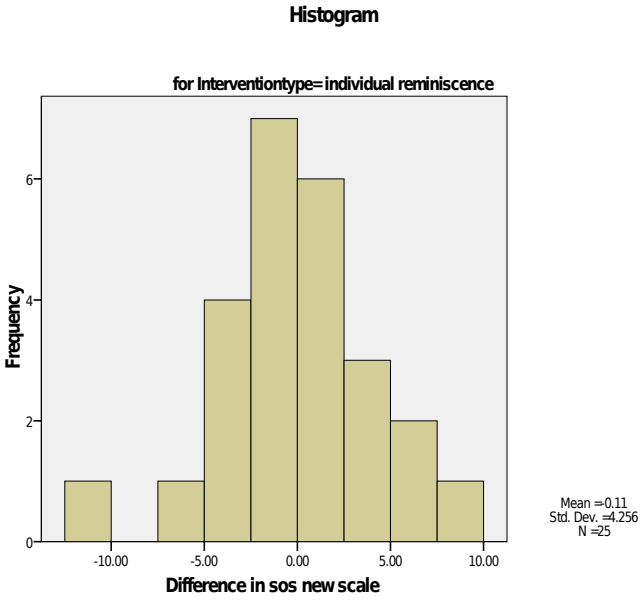


Figure 47: Distribution of difference scores for subscale 5 for group reminiscence

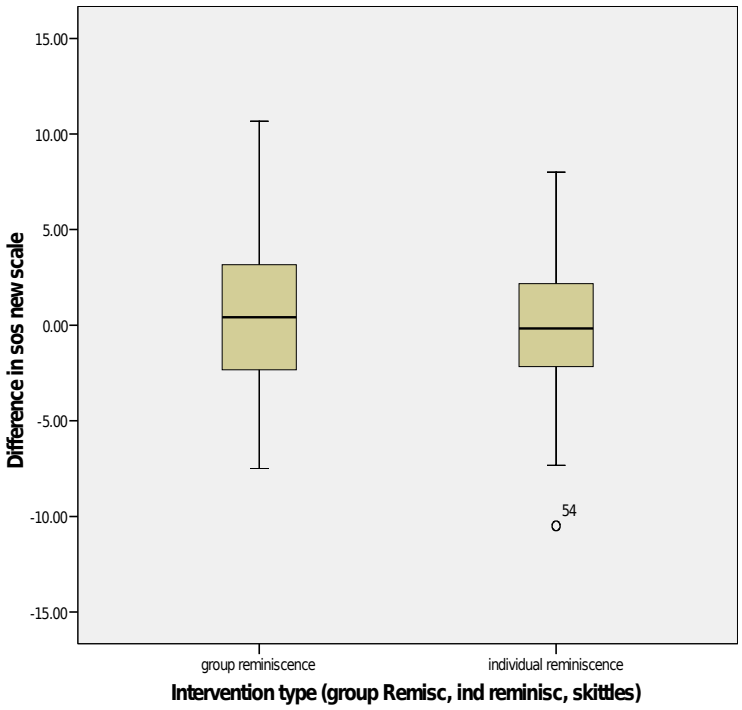


Figure 48: Box plot of difference scores for subscale 5 by reminiscence condition

5: Analysis of demographic characteristics and dependent measures

Age of participants at pre intervention stage

Table 42: non parametric t-test for age pre intervention by reminiscence condition

Ranks

	Intervention type (gro	N	Mean Rank	Sum of Ranks
Age	group reminiscence	34	33.59	1142.00
	individual reminiscence	25	25.12	628.00
	Total	59		

Test Statistics[a]

	Age
Mann-Whitney U	303.000
Wilcoxon W	628.000
Z	-1.876
Asymp. Sig. (2-tailed)	.061
Exact Sig. (2-tailed)	.061
Exact Sig. (1-tailed)	.030
Point Probability	.001

a. Grouping Variable: Intervention typ (group Remisc, ind reminisc, skittles

MMSE scores of participants at pre intervention stage

Table 43: Non parametric t-test for MMSE scores pre intervention by reminiscence condition

Ranks

	Intervention type (gro	N	Mean Rank	Sum of Ranks
MMSE pre intervention	group reminiscence	33	28.12	928.00
	individual reminiscence	25	31.32	783.00
	Total	58		

Test Statistics[a]

	MMSE pre intervention
Mann-Whitney U	367.000
Wilcoxon W	928.000
Z	-.716
Asymp. Sig. (2-tailed)	.474
Exact Sig. (2-tailed)	.480
Exact Sig. (1-tailed)	.240
Point Probability	.002

a. Grouping Variable: Intervention typ (group Remisc, ind reminisc, skittles

Table 44: Parametric t-test of MMSE scores pre intervention by care level

Group Statistics

	CareLevel	N	Mean	Std. Deviation	Std. Error Mean
MMSE pre intervention	Standard Care	28	19.43	6.472	1.223
	Dementia Care	30	14.10	6.127	1.119

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
MMSE pre intervention	Equal variances assumed	.096	.757	3.221	56	.002	5.329	1.654	2.015	8.643
	Equal variances not assumed			3.215	55.141	.002	5.329	1.657	2.007	8.650

Analysis of dependent variables

Table 45: Non parametric test on depression scores pre intervention

Ranks

	Intervention type (gro	N	Mean Rank	Sum of Ranks
HADS depression total score	group reminiscence	34	29.43	1000.50
	individual reminiscence	25	30.78	769.50
	Total	59		

Test Statistics[a]

	HADS depression total score
Mann-Whitney U	405.500
Wilcoxon W	1000.500
Z	-.301
Asymp. Sig. (2-tailed)	.764
Exact Sig. (2-tailed)	.768
Exact Sig. (1-tailed)	.384
Point Probability	.003

a. Grouping Variable: Intervention typ (group Remisc, ind reminisc, skittles

Table 46: Parametric t-test on difference memory scores by reminiscence condition

Group Statistics

	Intervention type (group Remisc, ind reminisc, skittles)	N	Mean	Std. Deviation	Std. Error Mean
DiffACERmem	group reminiscence	34	2.7059	3.57202	.61260
	individual reminiscence	25	.5600	3.84144	.76829

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DiffACERmem	Equal variances assumed	.056	.814	2.209	57	.031	2.14588	.97161	.20027	4.09149
	Equal variances not assumed			2.184	49.629	.034	2.14588	.98262	.17187	4.11990

Table 47: Parametric t-test on difference ACE-R scores by reminiscence condition

Group Statistics

	Intervention type (group Remisc, ind reminisc, skittles)	N	Mean	Std. Deviation	Std. Error Mean
DiffACERtotal	group reminiscence	31	4.6774	8.98661	1.61404
	individual reminiscence	24	-1.7083	7.20193	1.47009

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DiffACERtotal	Equal variances assumed	1.512	.224	2.844	53	.006	6.38575	2.24572	1.88141	10.89009
	Equal variances not assumed			2.925	52.918	.005	6.38575	2.18318	2.00668	10.76482

Table 48: Parametric t-test on difference ACE-R scores by care level

Group Statistics

CareLevel	N	Mean	Std. Deviation	Std. Error Mean
DiffACERtotal Standard Care	15	3.8667	7.59574	1.96121
Dementia Care	16	5.4375	10.31484	2.57871

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DiffACERtotal	Equal variances assumed	1.187	.285	-.480	29	.635	-1.57083	3.27200	-8.26283	5.12116
	Equal variances not assumed			-.485	27.510	.632	-1.57083	3.23977	-8.21253	5.07086

Table 49: Parametric t-test on difference cognition scores by care level

Group Statistics

	CareLevel	N	Mean	Std. Deviation	Std. Error Mean
DiffACERmem	Standard Care	18	3.1111	4.12865	.97313
	Dementia Care	16	2.2500	2.88675	.72169

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DiffACERmem	Equal variances assumed	1.213	.279	.696	32	.491	.86111	1.23702	-1.65861	3.38083
	Equal variances not assumed			.711	30.415	.483	.86111	1.21154	-1.61176	3.33398

Table 50: Non parametric t-test for difference anxiety scores

Ranks

	Intervention type (gro	N	Mean Rank	Sum of Ranks
DiffHADSAnxiety	group reminiscence	33	29.77	982.50
	individual reminiscence	25	29.14	728.50
	Total	58		

Test Statistics[a]

	Diff HADSAnxiety
Mann-Whitney U	403.500
Wilcoxon W	728.500
Z	-.142
Asymp. Sig. (2-tailed)	.887
Exact Sig. (2-tailed)	.891
Exact Sig. (1-tailed)	.445
Point Probability	.003

a. Grouping Variable: Intervention typ (group Remisc, ind reminisc, skittles

Table 51: Non parametric t-test for difference depression scores

Group Statistics

	Intervention type (gro Remisc, ind reminisc,	N	Mean	Std. Deviation	Std. Error Mean
DiffHADSDepression	group reminiscence	33	.3333	3.73887	.65085
	individual reminiscence	25	-.6400	3.12090	.62418

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DiffHADSDepression	Equal variances assumed	1.514	.224	1.053	56	.297	.97333	.92469	-.87904	2.82571
	Equal variances not assumed			1.079	55.422	.285	.97333	.90178	-.83357	2.78024

Quality of Life

Table 52: Non parametric t-test for difference quality of life scores

Ranks

	Intervention type (gro	N	Mean Rank	Sum of Ranks
DiffQoLTotal	group reminiscence	33	29.47	972.50
	individual reminiscence	23	27.11	623.50
	Total	56		

Test Statistics[a]

	DiffQoLTotal
Mann-Whitney U	347.500
Wilcoxon W	623.500
Z	-.535
Asymp. Sig. (2-tailed)	.592
Exact Sig. (2-tailed)	.598
Exact Sig. (1-tailed)	.299
Point Probability	.003

a. Grouping Variable: Intervention typ (group Remisc, ind reminisc, skittles

Multiple group membership Scale on EXITS

Table 53: Non parametric t-test for subscale 1 scores

Ranks

	Intervention type (gro	N	Mean Rank	Sum of Ranks
Diff multiple group membership	group reminiscence	32	28.94	926.00
	individual reminiscence	25	29.08	727.00
	Total	57		

Test Statistics[a]

	Diff multiple group membership
Mann-Whitney U	398.000
Wilcoxon W	926.000
Z	-.032
Asymp. Sig. (2-tailed)	.974
Exact Sig. (2-tailed)	.978
Exact Sig. (1-tailed)	.489
Point Probability	.003

a. Grouping Variable: Intervention typ
(group Remisc, ind reminisc, skittles

Kept group membership Scale on EXITS

Table 54: Non parametric t-test for subscale 2 scores

Ranks

	Intervention type (gro	N	Mean Rank	Sum of Ranks
Diffkeptgroup membership	group reminiscence	31	28.03	869.00
	individual reminiscence	24	27.96	671.00
	Total	55		

Test Statistics[a]

	Diffkeptgroup membership
Mann-Whitney U	371.000
Wilcoxon W	671.000
Z	-.017
Asymp. Sig. (2-tailed)	.986
Exact Sig. (2-tailed)	.990
Exact Sig. (1-tailed)	.495
Point Probability	.003

a. Grouping Variable: Intervention typ
(group Remisc, ind reminisc, skittles

New group membership Scale on EXITS

Table 55: Non parametric t-test for subscale 3 scores

Ranks

	Intervention type (group Remisc, ind reminisc, skittles)	N	Mean Rank	Sum of Ranks
Diff new group membership	group reminiscence	30	28.52	855.50
	individual reminiscence	24	26.23	629.50
	Total	54		

Test Statistics[a]

	Diff new group membership
Mann-Whitney U	329.500
Wilcoxon W	629.500
Z	-.537
Asymp. Sig. (2-tailed)	.591
Exact Sig. (2-tailed)	.597
Exact Sig. (1-tailed)	.298
Point Probability	.003

a. Grouping Variable: Intervention typ (group Remisc, ind reminisc, skittles

Continuity Scale on EXITS

Table 56: Non parametric t-test for subscale 4 scores

Ranks

	Intervention type (gro	N	Mean Rank	Sum of Ranks
DiffContinuity new scale	group reminiscence	33	31.12	1027.00
	individual reminiscence	25	27.36	684.00
	Total	58		

Test Statistics[a]

	DiffContinuity new scale
Mann-Whitney U	359.000
Wilcoxon W	684.000
Z	-.849
Asymp. Sig. (2-tailed)	.396
Exact Sig. (2-tailed)	.401
Exact Sig. (1-tailed)	.201
Point Probability	.002

a. Grouping Variable: Intervention typ (group Remisc, ind reminisc, skittles

Sense of self Scale on EXITS

Table 57: Non parametric t-test for subscale 5 scores

Ranks

	Intervention type (gro	N	Mean Rank	Sum of Ranks
Difference in sos new scale	group reminiscence	32	30.22	967.00
	individual reminiscence	25	27.44	686.00
	Total	57		

Test Statistics[a]

	Difference in sos new scale
Mann-Whitney U	361.000
Wilcoxon W	686.000
Z	-.627
Asymp. Sig. (2-tailed)	.530
Exact Sig. (2-tailed)	.536
Exact Sig. (1-tailed)	.268
Point Probability	.003

a. Grouping Variable: Intervention typ (group Remisc, ind reminisc, skittles

6: Intervention Feedback.

Participants were asked three questions about the intervention they had received:

- How worthwhile were the sessions?
- How much did you enjoy the sessions?
- How much did you get out of the sessions?

And asked to respond on a five point scale, from 1 – not at all, 2 – not very much, 3 – neither liked or disliked, 4 – a little, 5 – a lot.

Table 58: Descriptives for Intervention Feedback by reminiscence condition

Case Processing Summary

	Intervention type (gro Remisc, ind reminisc, skittles)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Intervention Feedback Q1, how worthwhile were sessions?	group reminiscence	20	58.8%	14	41.2%	34	100.0%
	individual reminiscence	17	68.0%	8	32.0%	25	100.0%
Intervention feedback Q2, how much did oyu enjoy sessions?	group reminiscence	20	58.8%	14	41.2%	34	100.0%
	individual reminiscence	17	68.0%	8	32.0%	25	100.0%
Intervention feedback Q3, how much did oyu	group reminiscence	20	58.8%	14	41.2%	34	100.0%
	individual reminiscence	17	68.0%	8	32.0%	25	100.0%

Descriptives

	Intervention type (group			Statistic	Std. Error
Intervention Feedback Q1, how worthwhile were sessions?	group reminiscence	Mean		3.8000	.26754
		95% Confidence Interval for Mean	Lower Bound	3.2400	
			Upper Bound	4.3600	
		5% Trimmed Mean		3.8889	
		Median		4.0000	
		Variance		1.432	
		Std. Deviation		1.19649	
		Minimum		1.00	
		Maximum		5.00	
		Range		4.00	
		Interquartile Range		2.00	
		Skewness		-.803	.512
		Kurtosis		-.063	.992
	individual reminiscence	Mean		3.6471	.38292
		95% Confidence Interval for Mean	Lower Bound	2.8353	
			Upper Bound	4.4588	
		5% Trimmed Mean		3.7190	
		Median		4.0000	
		Variance		2.493	
		Std. Deviation		1.57881	
		Minimum		1.00	
		Maximum		5.00	
		Range		4.00	
		Interquartile Range		2.50	
		Skewness		-.738	.550
		Kurtosis		-.989	1.063
Intervention feedback Q2, how much did oyu enjoy sessions?	group reminiscence	Mean		4.3000	.20647
		95% Confidence Interval for Mean	Lower Bound	3.8678	
			Upper Bound	4.7322	
		5% Trimmed Mean		4.3889	
		Median		5.0000	
		Variance		.853	
		Std. Deviation		.92338	
		Minimum		2.00	
		Maximum		5.00	
		Range		3.00	
		Interquartile Range		1.00	
		Skewness		-1.123	.512
		Kurtosis		.359	.992
	individual reminiscence	Mean		3.8235	.42214
		95% Confidence Interval for Mean	Lower Bound	2.9286	
			Upper Bound	4.7184	
		5% Trimmed Mean		3.9706	
		Median		5.0000	
		Variance		3.029	
		Std. Deviation		1.74052	
		Minimum		.00	
		Maximum		5.00	
		Range		5.00	
		Interquartile Range		2.50	
		Skewness		-1.226	.550
		Kurtosis		.030	1.063
Intervention feedback Q3, how much did oyu get out of sessions?	group reminiscence	Mean		3.6500	.31014
		95% Confidence Interval for Mean	Lower Bound	3.0009	
			Upper Bound	4.2991	
		5% Trimmed Mean		3.7222	
		Median		4.0000	
		Variance		1.924	
		Std. Deviation		1.38697	
		Minimum		1.00	
		Maximum		5.00	
		Range		4.00	
		Interquartile Range		2.00	
		Skewness		-.609	.512
		Kurtosis		-.787	.992
	individual reminiscence	Mean		3.7059	.37145
		95% Confidence Interval for Mean	Lower Bound	2.9184	
			Upper Bound	4.4933	
		5% Trimmed Mean		3.7843	
		Median		4.0000	
		Variance		2.346	
		Std. Deviation		1.53153	
		Minimum		1.00	
		Maximum		5.00	
		Range		4.00	
		Interquartile Range		2.00	
		Skewness		-.857	.550

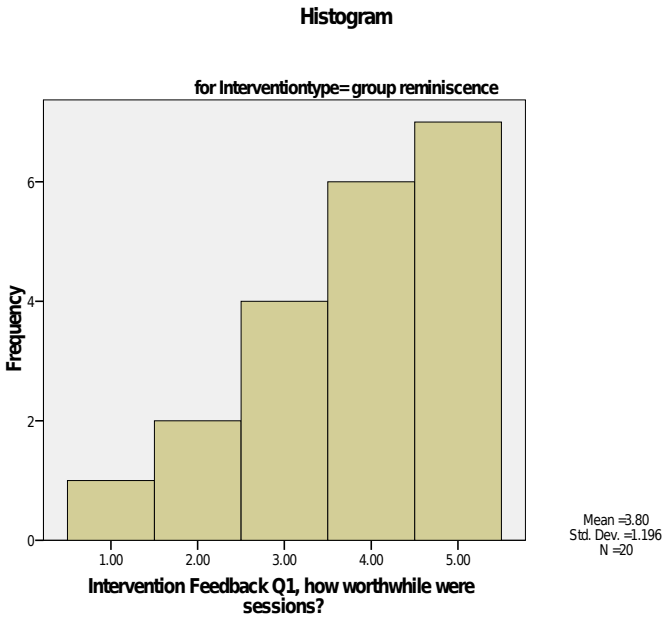


Figure 49: Distribution of intervention feedback Q1 responses for group reminiscence

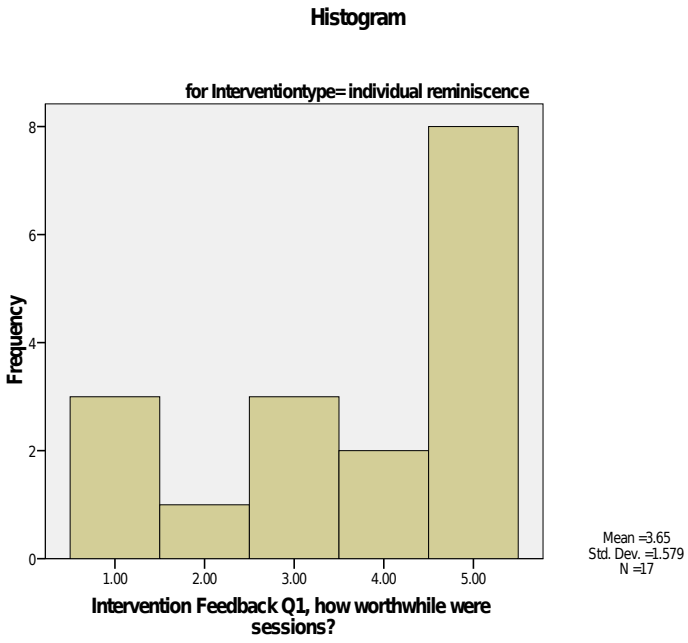


Figure 50: Distribution of intervention feedback Q1 responses for individual reminiscence

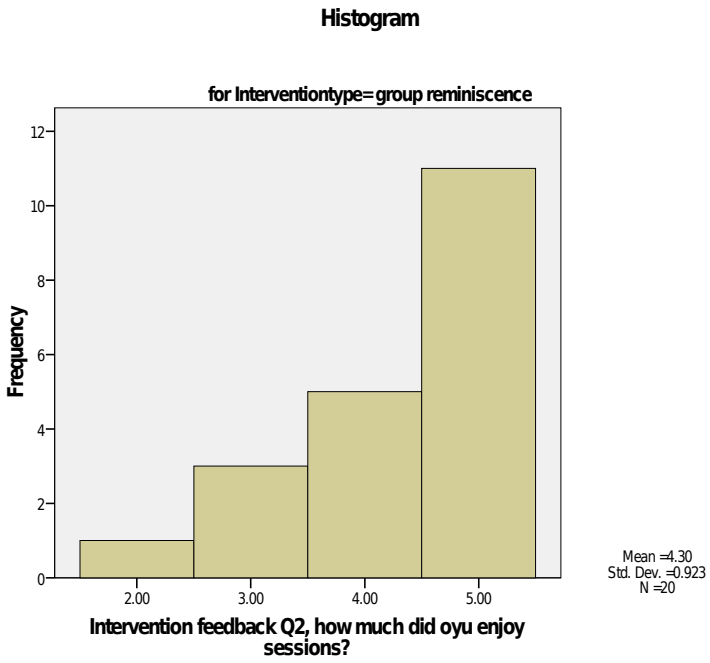


Figure 51: Distribution of intervention feedback Q2 responses for group reminiscence

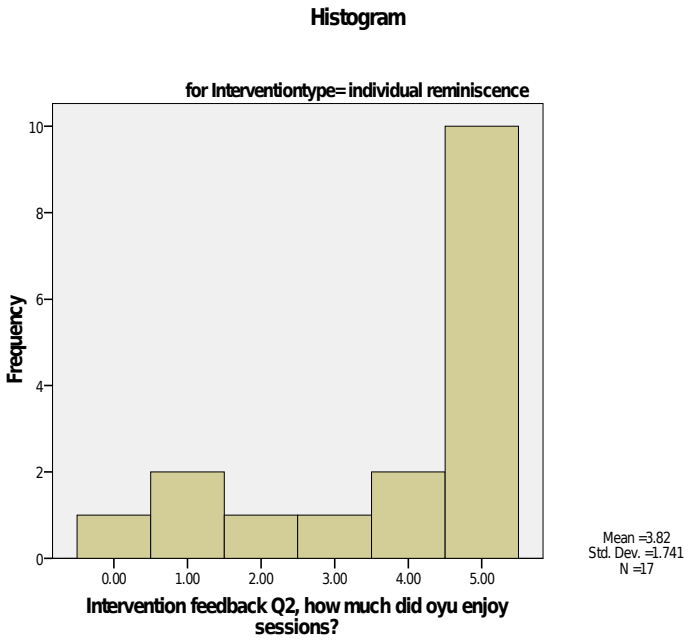


Figure 52: Distribution of intervention feedback Q2 responses for individual reminiscence

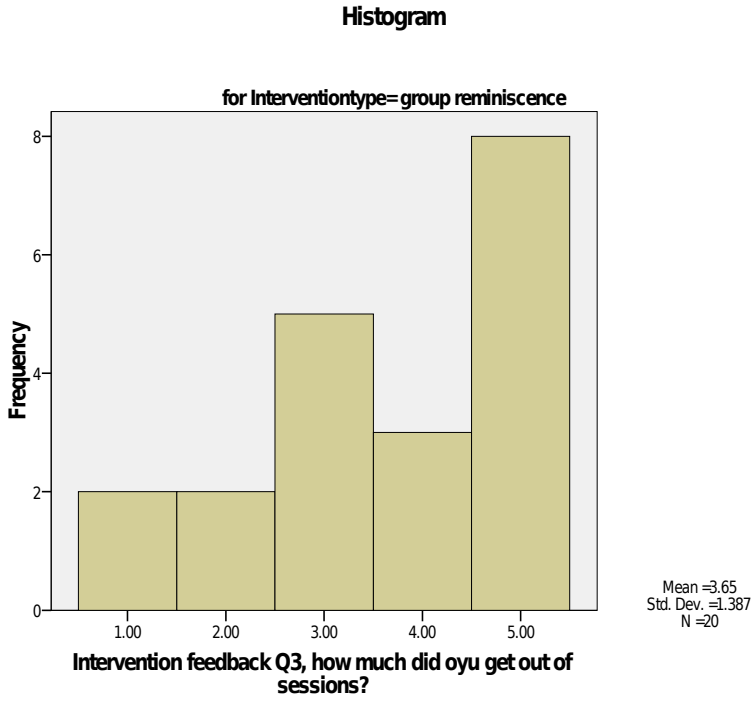


Figure 53: Distribution of intervention feedback Q3 responses for group reminiscence

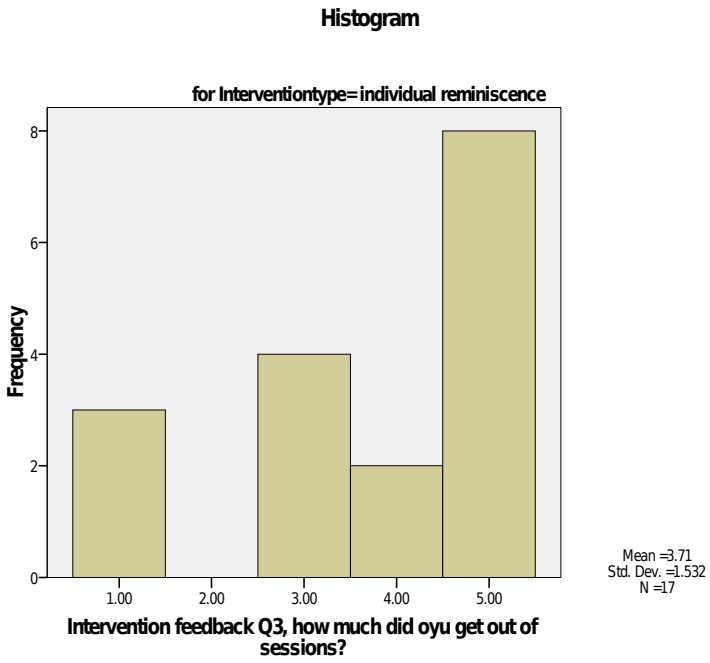


Figure 54: Distribution of intervention feedback Q3 responses for individual reminiscence

Table 55: Non parametric t-tests for Intervention Feedback Q1-3

Ranks

	Intervention type (gro	N	Mean Rank	Sum of Ranks
Intervention Feedback Q1, how worthwhile were sessions?	group reminiscence	20	19.48	389.50
	individual reminiscence	18	19.53	351.50
	Total	38		
Intervention feedback Q2, how much did oyu enjoy sessions?	group reminiscence	20	19.73	394.50
	individual reminiscence	18	19.25	346.50
	Total	38		
Intervention feedback Q3, how much did oyu get out of sessions?	group reminiscence	20	18.60	372.00
	individual reminiscence	17	19.47	331.00
	Total	37		

Test Statistics[b]

	Intervention Feedback Q1, how worthwhile were sessions?	Intervention feedback Q2, how much did oyu enjoy sessions?	Intervention feedback Q3, how much did oyu get out of sessions?
Mann-Whitney U	179.500	175.500	162.000
Wilcoxon W	389.500	346.500	372.000
Z	-.015	-.147	-.257
Asymp. Sig. (2-tailed)	.988	.883	.797
Exact Sig. [2*(1-tailed Sig.)]	.988[a]	.897[a]	.821[a]

a. Not corrected for ties.

b. Grouping Variable: Intervention type (group Remisc, ind reminisc, skittles)

Participants were asked if they had any comments about the intervention they had received. Comments are shown below, for individual and group reminiscence.

Table 59: Comments about group and individual reminiscence

Group Reminiscence	Individual Reminiscence
“they were very interesting and entertaining, especially about the war years”	“not really sure what the point of it was but it was nice having someone to talk to”
“I have all my senses. My memory is good, so it wasn’t really relevant”	“Something different. Makes you think more about what happened”
“I would have enjoyed it more if it was later in the day”	“Yes I liked it sometimes, but I don’t know what it all means”
“You go back. I enjoyed looking back over my life experiences”	“I think it’s good to talk about previous things that went on”
“It was a get together and things were talked about. I enjoyed it – I like discussions”	“Very interesting. General knowledge questions. I remember some of them: the iron, the christening gown, a bottle”
“Nice to be visited”	“(I) enjoyed looking at the knitting”
“It made me think I ought to concentrate more on what other people say”	“It was interesting. I wasn’t sure what it was going to be like going back into the past. It brought me out of myself. Talking about playing tennis. Six weeks gone by very quickly. I could look back and find happy times and sad times. (researcher name) teaches the way to start off but he became a friend. The activity coordinator came and did a session on the war time. I enjoyed that. Even the men got involved!”
“Thought they (the sessions) were very good”	
“I thought it was good”	
“They recuperated our memory a bit”	
“Very good”	
“didn’t really see what was being achieved”	
“A bit dubious. Can’t say I enjoyed them”	“Didn’t help, didn’t think it was good. You repeated yourself. (I) didn’t find it interesting”
“I think they do help people. Jogs your memory. (researchers	

name) was excellent” “(It) brought your memory back to you – good memories. You (the researcher) were good. People talking and laughing and meeting different people. (I) would have liked it have carried on” “It was done well considering. It wasn’t brilliant. The people there – some weren’t so helpful. Couldn’t contribute very much. They did their best but for your memory you got to remember what you did. It was hard to understand what other people were saying sometimes, not very clear. The sessions could have been longer”	“Nice to go back in the memory book” “Waste of time doing the sessions” “Interesting but I wondered what both sides (me and the researcher) got out of it. I enjoyed going back over old times” “It’s lovely to look back on things. You don’t see the objects about now”

7: Staff perception of participant’s well-being

Staff members were asked to complete the perception of well-being measure at five points in the research; before the intervention, week 1 of the intervention, midpoint of the intervention, week 6 of the intervention, and two weeks after the intervention had finished.

At the first time point, well-being measures had only been completed for 29/59 participants. In week 1 of the intervention well-being measures were completed for 27/59 participants, at the midpoint of the intervention well-being measures were completed for 24/59 participants, at week six of the intervention for 28/59

participants, and two weeks after the intervention had finished for 28/59 participants. Furthermore, it was not for the same participants across the time points. Therefore, it was not possible to analyse the data collected.

Appendix 4: References for Appendices

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Appendix 5: Ethics Document

P 169 - 170 Ethics approval document from the School of Psychology, University of Exeter

2006/105

PSYCHOLOGY DEPARTMENT ETHICAL APPROVAL FORM

Tick one box: **STAFF Project** ✓ **POSTGRADUATE Project** **TRACK A**
UNDERGRADUATE Project **TRACK B**

Title Of Project: Social Identity, Memory and Well-Being in Older Adults

Name of researcher(s): Adam Bevins, Sophie Hayward (DClinPsy)

Name of supervisor (for student research): Cath Haslam Date: 13/2/07

		YES	NO	N/A
1	Will you describe the main experimental procedures to participants in advance, so that they are informed in advance about what to expect?	✓		
2	Will you tell participants that their participation is voluntary?	✓		
3	Will you obtain written consent for participation?	✓		
4	If the research is observational, will you ask participants for their consent to being observed?			✓
5	Will you tell participants that they may withdraw from the research at any time and for any reason?	✓		
6	With questionnaires, will you give participants the option of omitting questions they do not what to answer?	✓		
7	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	✓		
8	Will you debrief participants at the end of their participation (ie. give them a brief explanation of the study)?	✓		

If you have ticked **No** to any of Q1-8, but have **ticked box A** overleaf, please give any explanation on a separate sheet. (Note: N/A = not applicable)

		YES	NO	N/A
9	Will your project involve deliberately misleading participants in any way?		✓	
10	Is there a realistic risk of any participants experiencing either physical or psychological distress or discomfort? If **Yes,** give details on a separate sheet and state what you will tell them to do if they should experience any problems (e.g. who they can contact for help).		✓	

If you have ticked **Yes** to 9 or 10 you should normally **tick box B** overleaf; if not, please give a full explanation on a separate sheet.

			YES	NO	N/A
11	Does your work involve work with animals? If yes, please **tick box B** overleaf.			✓	
12	Do participants fall into any of the following special groups? If they do, please refer to BPS guidelines, and **tick box B** overleaf. **Please note that you may also need to gain satisfactory CRB clearance or equivalent for overseas participants.**	School children (under 18 years of age)		✓	
		People with learning or communication difficulties		✓	
		Patients	✓		
		People in custody		✓	
		People engaged in illegal activities (e.g. drug taking)		✓	

There is an obligation on the lead researcher to bring to the attention of the Departmental Ethics Committee projects with ethical implications not clearly covered by the above checklist.

PLEASE TICK **EITHER** BOX A or BOX B BELOW AND **PROVIDE THE DETAILS REQUIRED** IN SUPPORT OF YOUR APPLICATION, THEN SIGN THE FORM.

Please tick:

A. I consider that this project has **no** significant ethical implications to be brought before the Departmental Ethics Committee.	

In less than 150 words, provide details of the experiment including the number and type of participants, methods and tests to be used (i.e. the procedure).

This form (and any attachments) should be submitted to the Departmental Ethics committee where it will be considered by the Chair before it can be approved.

B. I consider that this project **may** have ethical implications that should be brought before the Departmental Ethics Committee, and/or it will be carried out with children or other vulnerable populations.	✓

Please provide all the further information listed below in a separate attachment.

1. Title of project.
2. Purpose of project and its academic rationale.
3. Brief description of methods and measurements.
4. Participants: a) Human research: Recruitment methods, number, age, gender, exclusion/inclusion criteria.
   b) Animal research: location of study site, method of obtaining / marking / identifying subjects, handling procedures for field experiments.
5. Consent and participant information arrangements, debriefing. (Not relevant for animal research) ***Please attach intended information and consent forms.***
6. A clear but concise statement of the ethical considerations raised by the project and how you intend to deal with them.
7. Estimated start date and duration of project.

This form should be submitted to the Departmental Ethics Committee for consideration. ***If any of the above information is missing, your application will be returned to you.***

I am familiar with the BPS Guidelines for ethical practices in psychological research (and have discussed them with other researchers involved in the project.)

Signed..... Print Name ADAM BEVINS Date 13/2/07
(UG/PG Researcher(s), if applicable) Email ab284@exeter.ac.uk

Signed..... Print Name SOPHIE HAYWARD Date 13/2/07
(UG/PG Researcher(s), if applicable) Email sh243@exeter.ac.uk

Signed..... Print Name CATH HASLAM Date 13/2/07
(Lead Researcher or Supervisor) Email c.haslam@exeter.ac.uk

STATEMENT OF ETHICAL APPROVAL

This project has been considered using agreed Departmental procedures and is now approved.

Signed..... Print Name Lowry Date 28/2/07
(Chair, Departmental Ethics Committee)

Appendix 6: Information Sheets and Consent Forms

P 172 – 173 Resident consent form

P 174 Relative consent form for residents unable to provide informed consent

P 175 – 177 Resident information sheet

UNIVERSITY of EXETER

SCHOOL OF PSYCHOLOGY

Washington Singer Laboratories
Perry Road

Exeter EX4 4QG
United Kingdom

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School Office +44 1392 264626/25 or 34
Fax +44 1392 264623
Direct Line: +44 1392 26....

Dear (Residents Name),

I am looking for people who would be willing to participate in a study. This letter explains the purpose of the study, and provides information about how we would like to carry out the study.

The purpose of the study.

Previous research has shown that feeling part of a group can improve people's mood and sense of well-being. The purpose of this study is to look at whether being in a group strengthens people's identity. The possible health benefits of this will be explored.

I hope that the results can help to develop services to improve the well-being of people living in residential homes.

How I would like to carry out the study.

1. I would come to see you at your residential home to talk to you about your life so far and about how you have been feeling recently. I would read out some questions and ask you about what you had heard. This would take about two hours and we could do this on two separate occasions.

2. The next step would involve you doing an activity once a week for six weeks. It would be one of these two activities:

- Talking about what you remember from the past, in a small group.
- Talking about what you remember from the past, to me.

3. I would come back to see you at your residential homes and ask you the same questions again as in step 1. This is to see if there have been any changes in your answers.

Other information

- You don't have to take part.
- Please sign the form below if you would like to take part. You can drop out of the study at any point.
- If you would like to ask any questions, please ring **(01392) 264643**.
- All information that you provide will be kept in a safe place.

Yours sincerely

PICTURE OF RESEARCHER

Sophie Hayward
Trainee Clinical Psychologist

Supervisors Name:
Dr. Cath Haslam

……

Please print your name here_____

I have read the enclosed information letter, and would like to take part in the research.

Signature_____. Date_____

Participant Code:

SCHOOL OF PSYCHOLOGY

Consent Form to Participate in a Research Study
(to be completed by next of kin)

Project Title: The effect of groups on health and well-being.

Name of Researcher:
Sophie Hayward, DClinPsyc Student, School of Psychology, University of Exeter.

Name of Resident:

Thank you for providing consent for your relative to take part in this study. Please read the statements below and place your initials in the boxes to confirm that you agree to them taking part. Please return this form in the envelope provided.

Please initial boxes

1. I confirm that I have read and understood the Project Inform Sheet for the above study and have had the opportunity to ask questions about the study. ☐

2. I understand that my relative's participation is voluntary and that he/she is free to withdraw at any time without giving any reas If he/she withdraws from the study, his/her rights and care will not be affected. ☐

3. I understand that the information I provide will be stored se on computer and in locked filing cabinets. Only the researcher research supervisor will have access to the information. ☐

4. I agree for the above person to take part in the study. ☐

5. I would like to receive a written summary of the results.
YES/NO

_____	_____	_____
Name of relative	Date	Signature

(please print clearly)

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Study Title: The effect of groups on health and well-being.

You are being invited to take part in a research study. Before you decide whether to participate or not, it is important that you understand why the project is being done and what it will involve.

Please take time to read the following information carefully. If anything is not clear, or if you would like more information, please ask us. You can contact us at the following address:

Name(s): Sophie Hayward, Trainee Clinical Psychologist
Supervisor: Dr. Catherine Haslam, Clinical Psychologist.

Address: University of Exeter, School of Psychology, Exeter, EX4 4QG
Telephone: (01392) 264643

Thank you for taking the time to read this information sheet.

What is the purpose of this study?

Previous research has shown that feeling part of a group can improve people's mood and sense of well-being. The purpose of this study is to look at whether being in a group strengthens people's identity. The possible health benefits of this will be explored.

It is hoped that the results can be used to help us understand what services can be developed to improve the well-being of people living in residential homes.

What does the research involve?

If you agree to take part, you will be asked to participate in **one** of the following conditions:

- To join a group with four other people from your residential home and to talk about your memories of events of the past. This will happen for 40 minutes a week for 6 weeks.

- To meet individually with one of the researchers to talk about your memories of events of the past. This will happen for 40 minutes a week for 6 weeks.

A researcher will meet with you before and afterwards to talk with you. This will take about two hours over two different times.

Do I have to take part?

No. You do not have to take part. Your involvement is entirely voluntary.

If you do decide to take part, please sign the attached consent form and return it in the envelope provided.

You are free to withdraw at any time without giving a reason. Please keep this information sheet for your records.

If you decide not to take part, or you withdraw at any time, your decision will not affect your rights or the care that you receive.

How will I benefit from participating?

Taking part in the study could provide a chance to interact with others, discuss past roles and successes, and share memories. The sessions are planned to be engaging and enjoyable.

By taking part you are also making your contribution to scientific understanding. It is hoped that the findings of the study will inform the development of better services for residents in the future.

What are the disadvantages in taking part?

The major disadvantage in taking part is the time involved in taking part (six 40 minute sessions and completing questionnaires and practical tasks before and after taking part).

There may be some disruption caused to your normal programme of activities if there is an overlap with one of the six sessions. We will try to avoid this wherever possible.

Participation in the study will not cost you anything, and you will not have to travel in order to take part.

Who will have access to information I give you?

All information collected about you during the study will be kept strictly confidential. Information will be stored securely on computer and any written information will be kept in a locked filing cabinet. All information will be identified by a code and not by name so your details will remain anonymous.
Only the group of researchers involved the study will have access to it.

Has the study been approved by a research ethics committee?

This study is being carried out as part of the degree of Doctorate in Clinical and Community Psychology at the University of Exeter. It has been checked and approved by the ethics committee at the School of Psychology, University of Exeter.

Are there plans to tell people about the results of the study?

It is our aim to write a report describing the study and sharing the findings. This report may be published in a scientific journal. Your name and other personal information will never be associated with any publication that concerns this study.

Any questions?

It is important that you feel comfortable with the study before you decide to take part. Please feel free to contact us if you have any questions on Tel. (01392) 264643

Appendix 7: Measures

P 179 – 181 Hospital Anxiety and Depression Scale (HADS)

P 183 – 188 Addenbrookes Cognitive Examination Revised (ACE-R)

P189 – 195 Exeter Identity Transition Scales (EXITS)

P 196 – P198 Quality of Life –Alzheimer's Disease (QoL-AD)

P199 Immediate Memory Recall and Recognition Subtest from Repeatable Battery for Assessment of Neuropsychological Status

P200 Staff rating sheets for resident well-being

P201 Intervention feedback sheets

Hospital Anxiety and Depression Scale

Clinicians are aware that emotions play an important part in most illnesses. If your clinician knows more about these feelings she or he will able to help you more.

The questionnaire is designed to help you clinician know how you feel. Read each item and **underline** the reply which comes closest to how you have been feeling in the past week.

Don't take too long over you replies; your immediate reaction to each item will probably be more accurate than a long thought-out response.

I feel tense or 'wound-up':

Most of the time

A lot of the time

From time to time, occasionally

Not at all

I still enjoy the things I used to enjoy:

Definitely as much

Not quite so much

Only a little

Hardly at all

I get a sort of frightening feeling as if something awful is about to happen:

Very definitely and quite badly

Yes, but not too badly

A little, but it doesn't worry me

Not at all

I can laugh and see the funny side of things:

As much as I always could

Not quite so much now

Definitely not so much now

Not at all

Worrying thoughts go through my mind:

A great deal of the time

A lot of the time

From time to time but not too often

Only occasionally

I feel cheerful:

Not at all

Not often

Sometimes

Most of the time

I can sit at ease and feel relaxed

Definitely

Usually

Not often

Not at all

I feel as if I am slowed down:

Nearly all the time

Very often

Sometimes

Not at all

I get a sort of frightened feeling like ‘butterflies’ in the stomach:

Not at all

Occasionally

Quite often

Very often

I have lost interest in my appearance:

Definitely

I don’t take as much care as I should

I may not take quite as much care

I take just as much care as ever

I feel restless as if I have to be on the move:

Very much indeed

Quite a lot

Not very much

Not at all

I look forward with enjoyment to things:

As much as I ever did

Rather less than I used to

Definitely less that I used to

Hardly at all

I get sudden feelings of panic:

Very often indeed

Quite often

Not very often

Not at all

I can enjoy a good book or radio or TV programme:

Often

Sometimes

Not often

Very seldom

Now check that you have answered all the questions

Thank you

ADDENBROOKE'S COGNITIVE EXAMINATION - ACE-R

Final Revised Version A (2005)

Name :
Date of birth :
Hospital no. :

Addressograph

Date of testing: ..... /..... /.....
Tester's name: .....
Age at leaving full-time education: .....
Occupation: .....
Handedness: .....

ORIENTATION

➢ Ask: What is the	Day	Date	Month	Year	Season	[Score 0-5]
➢ Ask: Which	Building	Floor	Town	County	Country	[Score 0-5]

REGISTRATION

➢ Tell: 'I'm going to give you three words and i'd like you to repeat after me: lemon, key and ball'. After subject repeats, say 'Try to remember them because i'm going to ask you later'. Score only the first trial (repeat 3 times if necessary).

Register number of trials .....

[Score 0-3]

ATTENTION & CONCENTRATION

➢ Ask the subject: ' could you take 7 away from a 100? After the subject responds, ask him or her to take away another 7 to a total of 5 subtractions. If subject make a mistake, carry on and check the subsequent answer (i.e. 93, 84, 77, 70, 63 -score 4)

Stop after five subtractions (93, 86, 79, 72, 65). ....

➢ Ask: 'could you please spell **WORLD** for me? Then ask him/her to spell it backwards:

....

[Score 0-5]
(for the best performed task)

MEMORY - Recall

➢ Ask: 'Which 3 words did I ask you to repeat and remember?'

....

[Score 0-3]

MEMORY - Anterograde Memory

➢ Tell: ' I'm going to give you a name and address and I'd like you to repeat after me. We'll be doing that 3 times, so you have a chance to learn it. I'll be asking you later'

Score only the third trial

[Score 0-7]

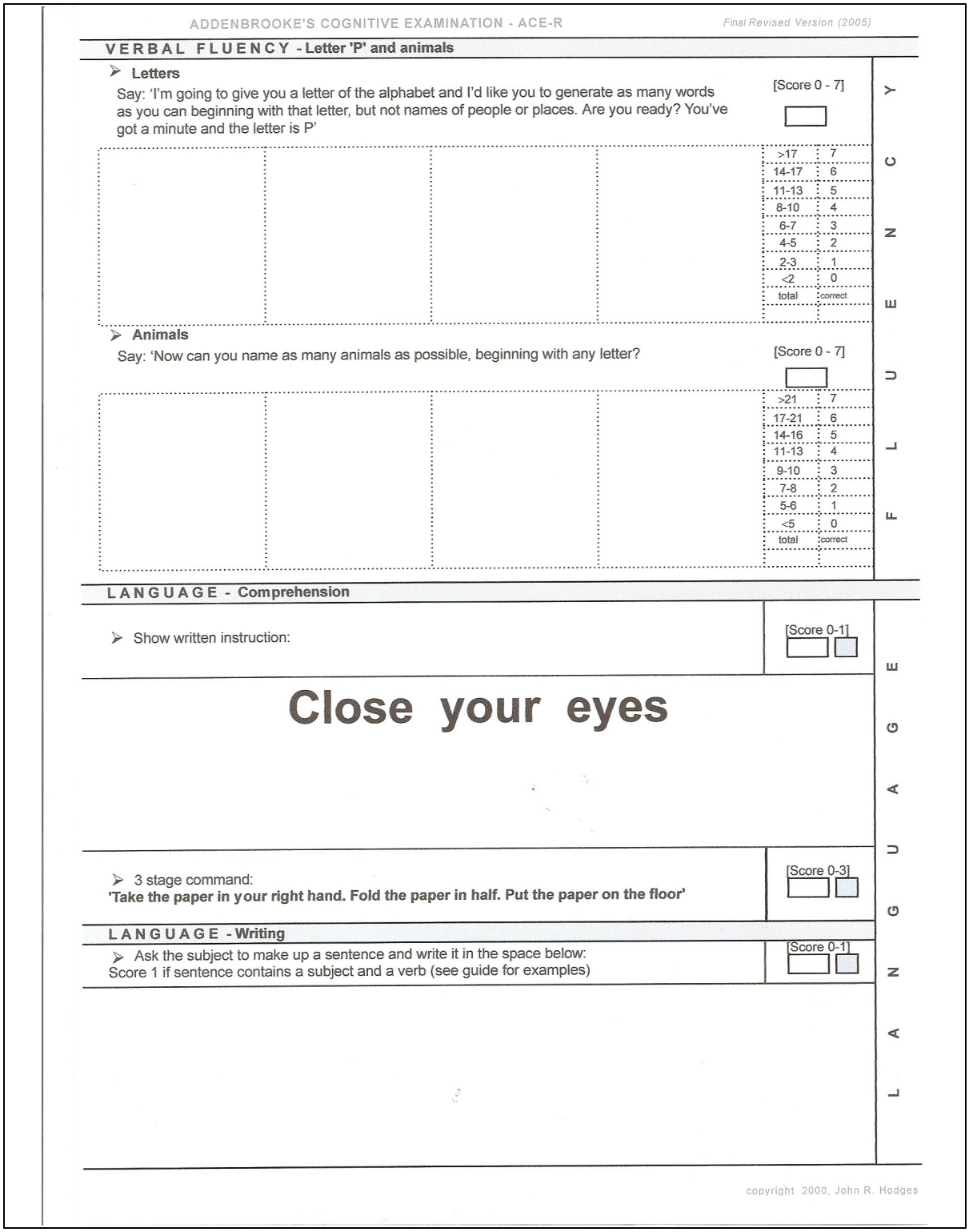
	1st Trial	2nd Trial	3rd Trial
Harry Barnes	....	....	....
73 Orchard Close	....	....	....
Kingsbridge	.....	.....	.....
Devon	.....	.....	.....

MEMORY - Retrograde Memory

➢ Name of current Prime Minister .....
➢ Name of the woman who was Prime Minister .....
➢ Name of the USA president .....
➢ Name of the USA president who was assassinated in the 1960's .....

[Score 0 -4]

ATTENTION&ORIENTATION MEMORY



ADDENBROOKE'S COGNITIVE EXAMINATION - ACE-R

Final Revised Version (2005)

VERBAL FLUENCY - Letter 'P' and animals

➢ **Letters**

Say: 'I'm going to give you a letter of the alphabet and I'd like you to generate as many words as you can beginning with that letter, but not names of people or places. Are you ready? You've got a minute and the letter is P'

[Score 0 - 7]

>17	7
14-17	6
11-13	5
8-10	4
6-7	3
4-5	2
2-3	1
<2	0
total	correct

➢ **Animals**

Say: 'Now can you name as many animals as possible, beginning with any letter?

[Score 0 - 7]

>21	7
17-21	6
14-16	5
11-13	4
9-10	3
7-8	2
5-6	1
<5	0
total	correct

FLUENCY

LANGUAGE - Comprehension

➢ Show written instruction:

[Score 0-1]

Close your eyes

➢ 3 stage command:
'Take the paper in your right hand. Fold the paper in half. Put the paper on the floor'

[Score 0-3]

LANGUAGE - Writing

➢ Ask the subject to make up a sentence and write it in the space below:
Score 1 if sentence contains a subject and a verb (see guide for examples)

[Score 0-1]

LANGUAGE

ADDENBROOKE'S COGNITIVE EXAMINATION - ACE-R *Final Revised Version (2005)*

LANGUAGE - Repetition

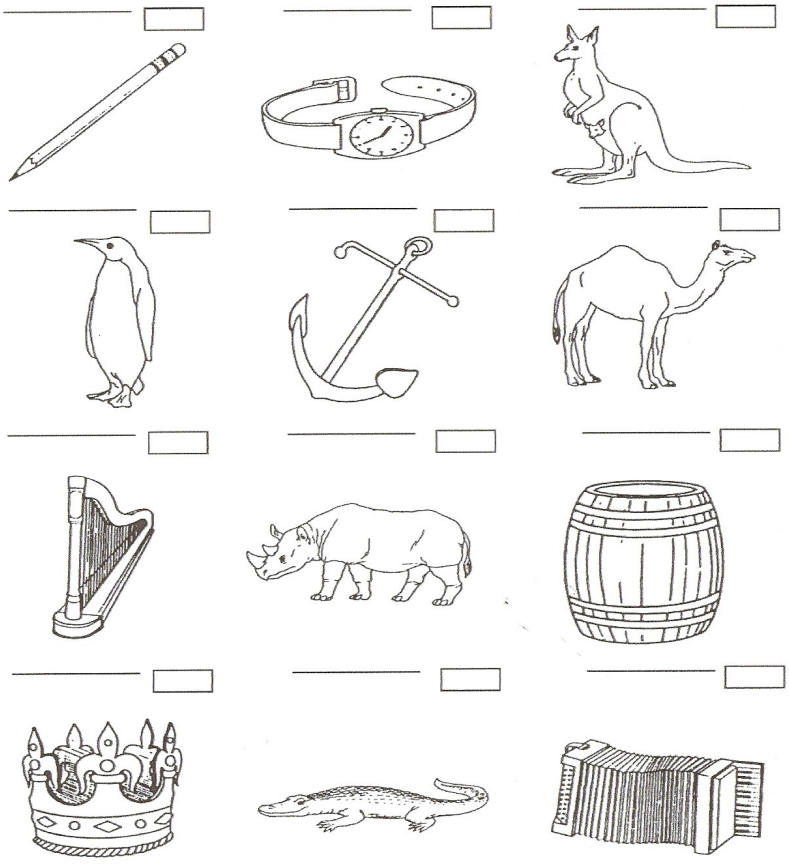
➢ Ask the subject to repeat:**' hippopotamus'; 'eccentricity; 'unintelligible'; 'statistician'** [Score 0-2]
Score 2 if all correct; 1 if 3 correct; 0 if 2 or less.

➢ Ask the subject to repeat: **'Above, beyond and below'** [Score 0-1]

➢ Ask the subject to repeat: **'No ifs, ands or buts'** [Score 0-1]

LANGUAGE - Naming

➢ Ask the subject to name the following pictures: [Score 0-2] pencil + watch



[Score 0-10]

LANGUAGE - Comprehension

➢ Using the pictures above, ask the subject to: [Score 0-4]

- Point to the one which is associated with the monarchy _____
- Point to the one which is a marsupial _____
- Point to the one which is found in the Antarctic _____
- Point to the one which has a nautical connection _____

ADDENBROOKE'S COGNITIVE EXAMINATION - ACE-R *Final Revised Version (2005)*

LANGUAGE - Reading

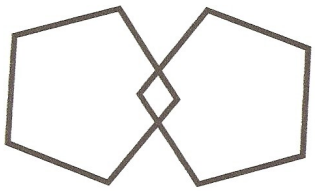
➢ Ask the subject to read the following words: [Score 1 only if all correct] [Score 0-1] ☐

sew
pint
soot
dough
height

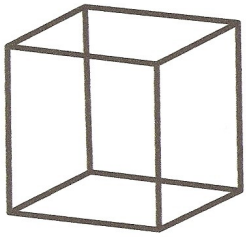
LANGUAGE

VISUOSPATIAL ABILITIES

➢ Overlapping pentagons: Ask the subject to copy this diagram: [Score 0-1] ☐☐

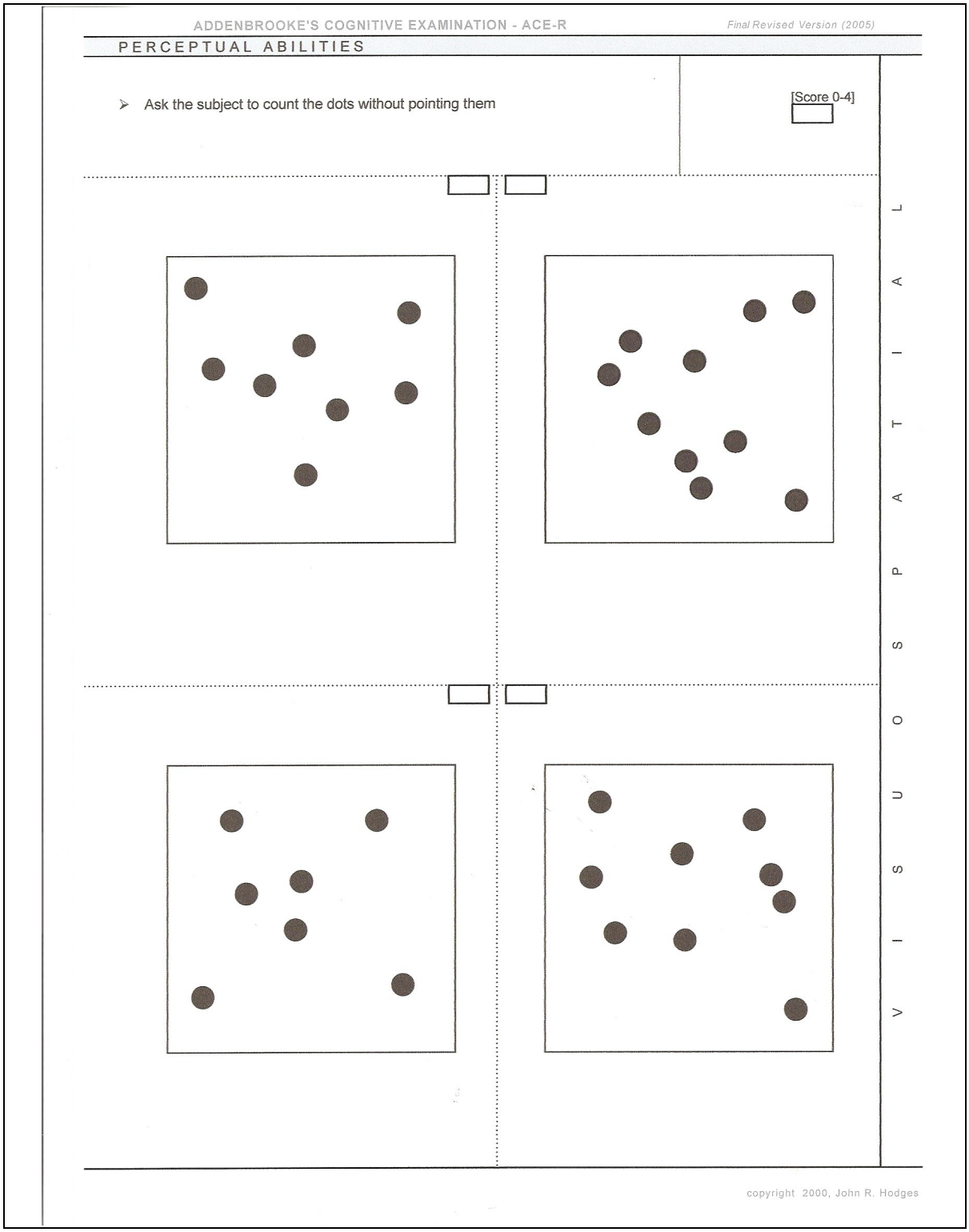


➢ Wire cube : Ask the subject to copy this drawing (for scoring, see instructions guide) [Score 0-2] ☐



➢ Clock: Ask the subject to draw a clock face with numbers and the hands at ten past five. (for scoring see instruction guide: circle = 1, numbers = 2, hands = 2 if all correct) [Score 0-5] ☐

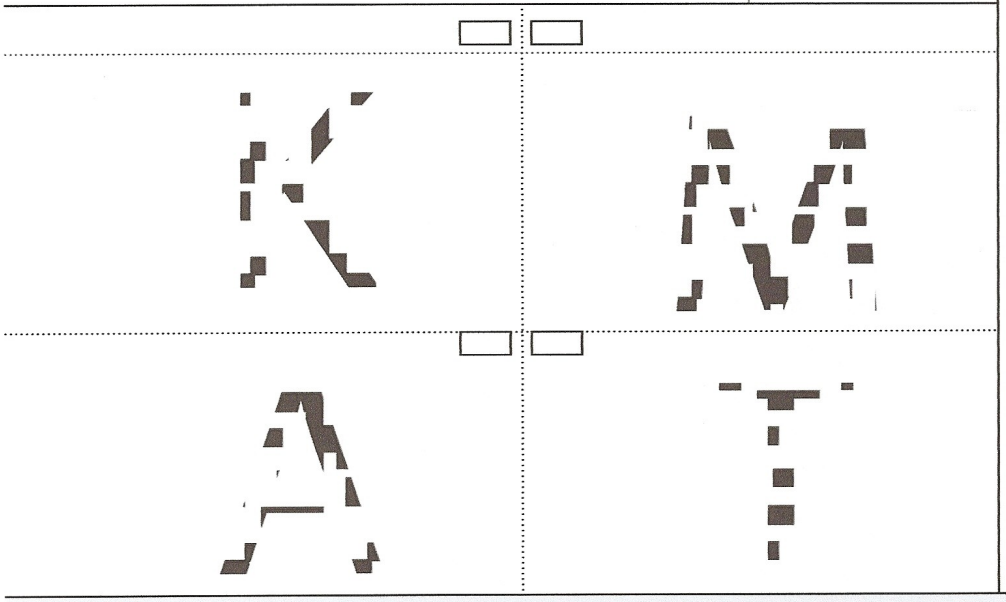
VISUOSPATIAL


ADDENBROOKE'S COGNITIVE EXAMINATION - ACE-R
Final Revised Version (2005)
PERCEPTUAL ABILITIES
Ask the subject to count the dots without pointing them
[Score 0-4]
VISUOSPATIAL
copyright 2000, John R. Hodges

ADDENBROOKE'S COGNITIVE EXAMINATION - ACE-R *Final Revised Version A (2005)*

PERCEPTUAL ABILITIES

➢ Ask the subject to identify the letters [Score 0-4]



RECALL

➢ Ask "Now tell me what you remember of that name and address we were repeating at the beginning'"

		[Score 0-7]
Harry Barnes	....	
73 Orchard Close	....	
Kingsbridge	.....	
Devon	.....	

RECOGNITION

➢ This test should be done if subject failed to recall one or more items. If all items were recalled, skip the test and score 5. If only part is recalled start by ticking items recalled in the shadowed column on the right hand side. Then test not recalled items by telling "ok, I'll give you some hints: was the name X, Y or Z?" and so on. Each recognised item scores one point which is added to the point gained by recalling. [Score 0-5]

Jerry Barnes		Harry Barnes		Harry Bradford		recalled	
37		73		76		recalled	
Orchard Place		Oak Close		Orchard Close		recalled	
Oakhampton		Kingsbridge		Dartington		recalled	
Devon		Dorset		Somerset		recalled	

General Scores

MMSE	/30
ACE-R	/100

Subscores

Attention and Orientation	/18
Memory	/26
Fluency	/14
Language	/26
Visuospatial	/16

VISUOSPATIAL MEMORY SCORE

Normative values based on 63 controls aged 52-75 and 142 dementia patients aged 46-86

Cut-off <88 gives 94% senstivity and 89% specificity for dementia
Cut-off <82 gives 84% sensitivity and 100% specificity for dementia

I would like to know about the types of groups that you used to belong to and now belong to. They could be leisure or social groups (e.g., book group or gardening club); community groups (e.g., church group); sporting groups (e.g., rugby club); work groups (e.g., sales team); activity groups; or any others you can think of.

SECTION 1

Before you came to residential care, what groups were important to you?

1. Group memberships	2. How important is this group to you → Circle one number for each group	3. Is this a group you still belong to? → Circle yes or no
1.	not important -- - o + ++ very important	Yes No
2.	not important -- - o + ++ very important	Yes No
3.	not important -- - o + ++ very important	Yes No
4.	not important -- - o + ++ very important	Yes No
5.	not important -- - o + ++ very important	Yes No
6.	not important -- - o + ++ very important	Yes No

SECTION 2

Please answer the following questions about the groups you belong to.

1. I am a member of lots of different groups.

do not agree at all -- - o + ++ agree completely

2. I am active in lots of different groups.

do not agree at all -- - o + ++ agree completely

3. I have friends who are in lots of different groups.

do not agree at all -- - o + ++ agree completely

SECTION 3

Please answer the following questions about the groups you belong to after moving to residential care.

1. Since moving to residential care, I still belong to the same groups.

do not agree at all -- - o + ++ agree completely

2. Since moving to residential care, I am still active in the same groups.

do not agree at all -- - o + ++ agree completely

3. Since moving to residential care, I still have friends in the same groups.

do not agree at all -- - o + ++ agree completely

4. Since moving to residential care, I have joined one or more new groups.

do not agree at all -- - o + ++ agree completely

5. Since moving to residential care, I am active in one or more new groups.

do not agree at all -- - o + ++ agree completely

6. Since moving to residential care, I have become friends with people in one or more new groups.

do not agree at all -- - o + ++ agree completely

SECTION 4

Please think now about how the stroke affected your life and respond to the following questions.

1. **In the last few years, my life has changed a lot.**

   do not agree at all -- - o + ++ agree completely

2. **In the last few years, my life has changed for the worse.**

   do not agree at all -- - o + ++ agree completely

3. **In the last few years, the quality of my life has improved.**

   do not agree at all -- - o + ++ agree completely

4. **I miss my life before residential care.**

   do not agree at all -- - o + ++ agree completely

5. **I am feeling quite nostalgic about my life before residential care.**

   do not agree at all -- - o + ++ agree completely

6. **I don't think much about my life before residential care.**

   do not agree at all -- - o + ++ agree completely

Continuity Scale_____

1. **I am the same person as I always was.**

   do not agree at all -- - o + ++ agree completely

2. **Over time, lots of things have changed, but I am still the same person.**

   do not agree at all -- - o + ++ agree completely

3. **I can not make sense of the changes I have been through.**

   do not agree at all -- - o + ++ agree completely

4. **My past helps me to understand my present life.**

   do not agree at all -- - o + ++ agree completely

5. **I am a different person now than I was in the past.**

do not agree at all -- - o + ++ agree completely

6. **There is no connection between my past and present.**

do not agree at all -- - o + ++ agree completely

Degree of change

Comparing your present life with your past life (before residential care)

1. **I have had a lot of changes in my life.**

do not agree at all -- - o + ++ agree completely

2. **My life has been very predictable from one year to the next.**

do not agree at all -- - o + ++ agree completely

Quality of Life Change

1. **Life experiences have changed me for the better.**

do not agree at all -- - o + ++ agree completely

2. **Life changes have been bad for me.**

do not agree at all -- - o + ++ agree completely

3. **Changes in my life have helped me to grow.**

do not agree at all -- - o + ++ agree completely

Global Sense of Self

1. **I am very different from other people here.**

do not agree at all -- - o + ++ agree completely

2. **I know what I like and what I don't like.**

do not agree at all -- - o + ++ agree completely

3. **I know what kind of person I am.**

do not agree at all -- - o + ++ agree completely

4. **I know what my morals are.**

do not agree at all -- - o + ++ agree completely

5. **I have strong beliefs.**

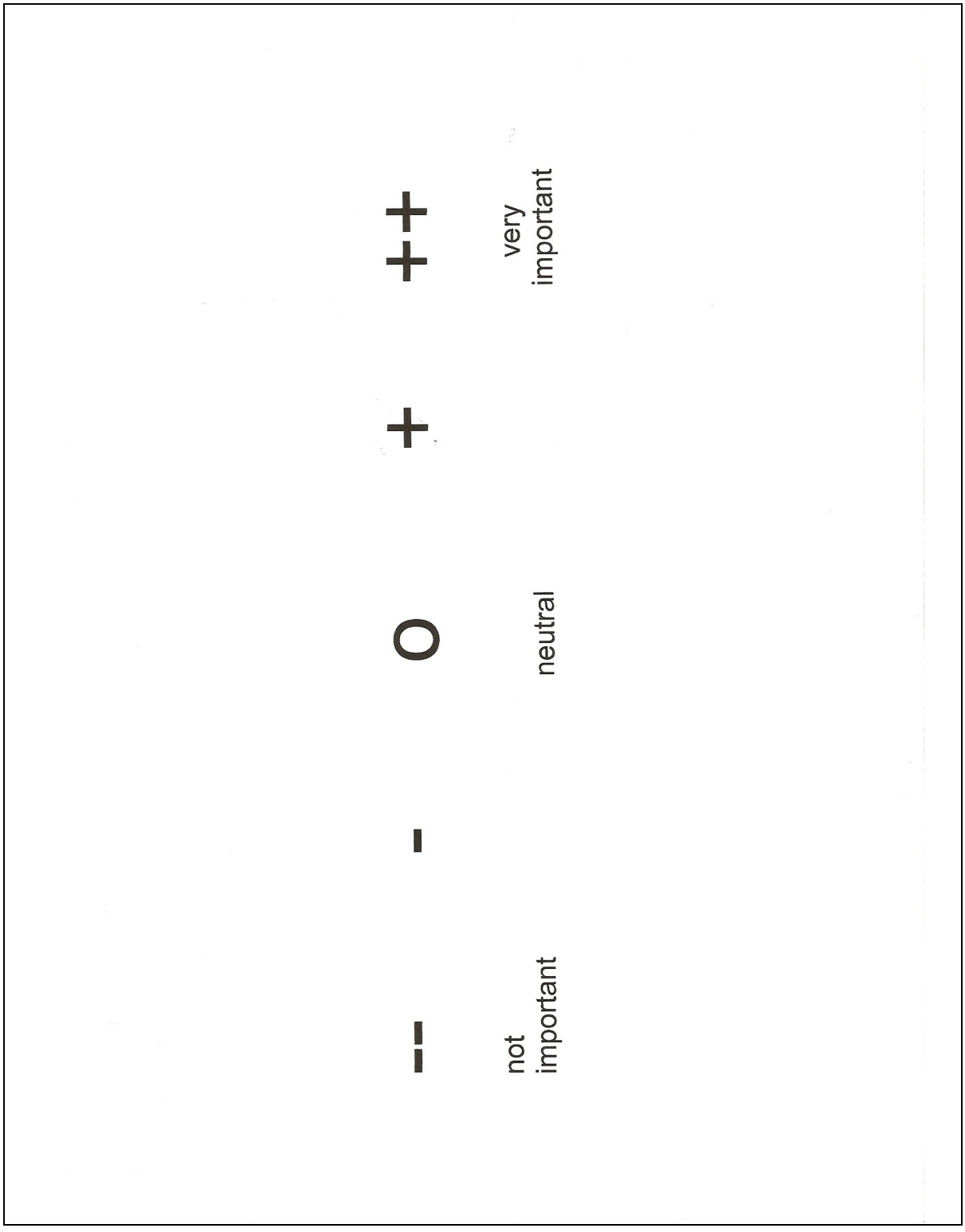
do not agree at all -- - o + ++ agree completely

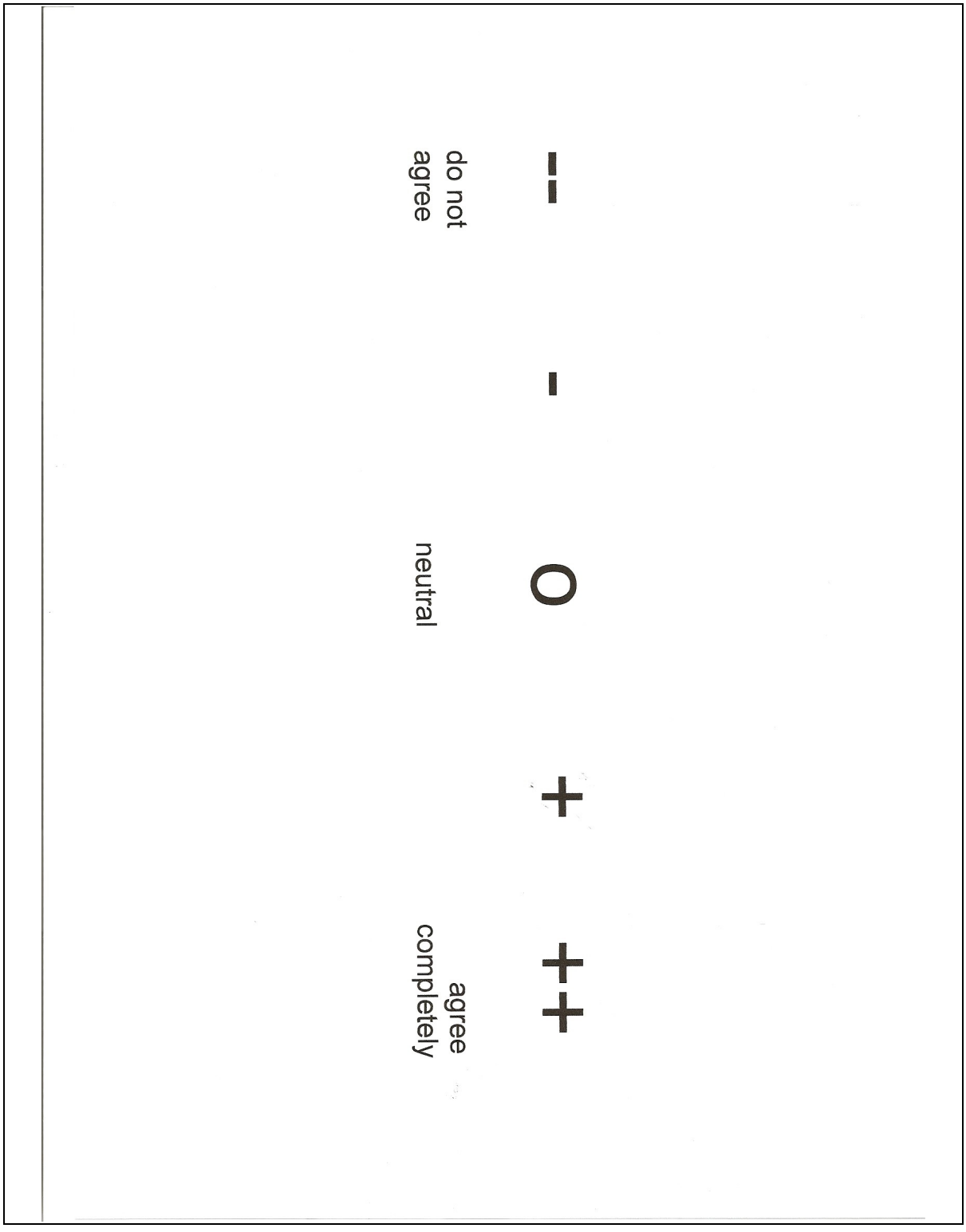
6. **I know what I want from life.**

do not agree at all -- - o + ++ agree completely

7. **I am aware of the roles and responsibilities I have in my life.**

do not agree at all -- - o + ++ agree completely


++
very important
+
O
neutral
-
--
not important


--
do not agree
-
0
neutral
+
++
agree completely

Quality of Life: AD
(Interview Version for the person with dementia)

Interviewer administer according to standard instructions. Circle responses.				
1. Physical health.	**Poor**	**Fair**	**Good**	**Excellent**
2. Energy.	**Poor**	**Fair**	**Good**	**Excellent**
3. Mood.	**Poor**	**Fair**	**Good**	**Excellent**
4. Living situation.	**Poor**	**Fair**	**Good**	**Excellent**
5. Memory.	**Poor**	**Fair**	**Good**	**Excellent**
6. Family.	**Poor**	**Fair**	**Good**	**Excellent**
7. Marriage.	**Poor**	**Fair**	**Good**	**Excellent**
8. Friends.	**Poor**	**Fair**	**Good**	**Excellent**
9. Self as a whole.	**Poor**	**Fair**	**Good**	**Excellent**
10. Ability to do chores around the house.	**Poor**	**Fair**	**Good**	**Excellent**
11. Ability to do things for fun.	**Poor**	**Fair**	**Good**	**Excellent**
12. Money.	**Poor**	**Fair**	**Good**	**Excellent**
13. Life as a whole.	**Poor**	**Fair**	**Good**	**Excellent**

Comments:_____

Administration of Quality of Life-AD
Instructions for Interviewers

The QOL-AD is administered in interview format to individuals with dementia, following the instructions below. Hand the form to the participant, so that he or she may look at it as you give the following instructions (instructions should closely follow the wording given in bold type):

I want to ask you some questions about your quality of life and have you rate different aspects of your life using one of four words: poor, fair, good, or excellent.

Point to each word (poor, fair, good, and excellent) on the form as you say it.

When you think about your life, there are different aspects, like your physical health, energy, family, money, and others. I'm going to ask you to rate each of these areas. We want to find out how you feel about your current situation in each area.

If you're not sure about what a question means, you can ask me about it. If you have difficulty rating any item, just give it your best guess.

It is usually apparent whether an individual understands the questions, and most individuals who are able to communicate and respond to simple questions can understand the measure. If the participant answers all questions the same, or says something that indicates a lack of understanding, the interviewer is encouraged to clarify the question. However, under no circumstances should the interviewer suggest a specific response. Each of the four possible responses should be presented, and the participant should pick one of the four.

If a participant is unable to choose a response to a particular item or items, this should be noted in the comments. If the participant is unable to comprehend and/or respond to two or more items, the testing may be discontinued, and this should be noted in the comments.

As you read the items listed below, ask the participant to circle her/his response. If the participant has difficulty circling the word, you may ask her/him to point to the word or say the word, and you may circle it for him or her. You should let the participant hold his or her own copy of the measure, and follow along as you read each item.

1. First of all, how do you feel about your physical health? Would you say it's poor, fair, good, or excellent? Circle whichever word you think best describes your physical health right now.

2. How do you feel about your energy level? Do you think it is poor, fair, good, or excellent? **If the participant says that some days are better than others, ask him or her to rate how she/he has been feeling most of the time lately.**

3. How has your mood been lately? Have your spirits been good, or have you been feeling down? Would you rate your mood as poor, fair, good, or excellent?
4. How about your living situation? How do you feel about the place you live now? Would you say it's poor, fair, good, or excellent?

5. How about your memory? Would you say it is poor, fair, good, or excellent?

6. How about your family and your relationship with family members? Would you describe it as poor, fair, good, or excellent? **If the respondent says they have no family, ask about brothers, sisters, children, nieces, nephews.**

7. How do you feel about your marriage? How is your relationship with (spouse's name). Do you feel it's poor, fair, good, or excellent? **Some participants will be single, widowed, or divorced. When this is the case, ask how they feel about the person with whom they have the closest relationship, whether it's a family member or friend. If there is a family caregiver, ask about their relationship with this person. It there is no one appropriate, or the participant is unsure, score the item as missing. If the participant's rating is of their relationship with someone other than their spouse, note this and record the relationship in the comments section.**

8. How would you describe your current relationship with your friends? Would you say it's poor, fair, good, or excellent? **If the respondent answers that they have no friends, or all their friends have died, probe further.** Do you have anyone you enjoy being with besides your family? Would you call that person a friend? **If the respondent still says they have no friends, ask** how do you feel about having no friends—poor, fair, good, or excellent?

9. How do you feel about yourself—when you think of your whole self, and all the different things about you, would you say it's poor, fair, good, or excellent?

10. How do you feel about your ability to do things like chores around the house or other things you need to do? Would you say it's poor, fair, good, or excellent?

11. How about your ability to do things for fun, that you enjoy? Would you say it's poor, fair, good, or excellent?

12. How do you feel about your current situation with money, your financial situation? Do you feel it's poor, fair, good, or excellent? **If the respondent hesitates, explain that you don't want to know what their situation is (as in amount of money), just how they feel about it.**

13. How would you describe your life as a whole. When you think about your life as a whole, everything together, how do you feel about your life? Would you say it's poor, fair, good, or excellent?

SCORING INSTRUCTIONS FOR THE QOL:

Points are assigned to each item as follows: poor=1, fair=2, good=3, excellent=4.

The total score is the sum of all 13 items.

RBANS

Story: Read out to participant.

Recall Condition: Tick items correctly recalled.

1. On Monday
2. Fifth
3. of March
4. in Brighton, Sussex
5. a storm hit.
6. although two million pounds
7. in damage was done
8. to the waterfront
9. only seven people
10. were injured (hurt)
11. and nobody (no one)
12. was killed

Total Score = (Range 0-12).

Recognition Condition: Read out each statement and circle response participant chooses. Correct responses are in bold and underlined.

1. Was it **Monday** or Sunday?
2. was it **March** or May?
3. Was it in Bath or **Brighton**?
4. Was it a **storm** or a tornado?
5. Was it **two million pounds** or four million pounds in damages?
6. Was the **waterfront** or the town hall damaged?
7. Were **seven** people or ten people injured?
8. How many were killed – three or **none**?

Total Score = (Range 0-8)

Your name ……. Home:
Your job title……
Please rate the following named residents on each descriptive statement in the chart below. Your ratings should indicate how much the descriptive statement applies to each resident, where:

√√= very true √ = true 0 = neutral X= untrue XX= very untrue

For example, if you think Anne Jones is happy and content then you would place √ in the relevant box and if you think her level of alertness and memory for day-to-day events and activities is very poor then you would place√√ in the relevant boxes.

Resident's Name	*is alert and oriented in time and place*	*has good memory for day-to-day events*	*has good memory for the past*	*has a good understanding of their abilities*	*is engaged with staff & residents*	*is happy and content*	*is physically well*
Anne Jones	X	XX	√	X	√	√√	√

Example:

Thank you very much for your help. Your input into this project is greatly appreciated.

Intervention feedback

Circle the intervention type: group reminiscence or individual reminiscence,

1. How worthwhile were the sessions?

Not at all worthwhile -- - o + ++ very worthwhile

2. How much did you enjoy the sessions?

I did not enjoy them at all -- - o + ++ I enjoyed them completely

3. How much did you get out of the sessions?

Nothing at all -- - o + ++ a lot

Are there any comments you would like to make about the intervention?

_____
_____

_____
_____
_____

_____

Appendix 8: Instructions for Authors of Chosen Journal

JOURNAL OF THE INTERNATIONAL NEUROPSYCHOLOGICAL SOCIETY
Instructions for Contributors

Aims and Scope:
The *Journal of the International Neuropsychological Society* welcomes original, creative, high quality research papers covering all areas of neuropsychology. The focus of articles may be primarily experimental, more applied or clinical. Contributions will broadly reflect the interest of all areas of neuropsychology, including but not limited to: development of cognitive processes, brain-behaviour relationships, adult and paediatric neuropsychology, neurobehavioural *Journal of the International Neuropsychological Society* syndromes, such as aphasia or apraxia, and the interfaces of neuropsychology with related areas such as behavioural neurology, neuropsychiatry, and cognitive neuroscience. Papers that utilize behavioural, neuroimaging, and electrophysiology measures are appropriate. Book reviews will also be published.

To assure maximum flexibility and to promote diverse mechanisms of scholarly communication, the following formats are available in addition to *Regular Research Articles: Brief Communications* are shorter research articles; *Rapid Communications* are intended for "fast breaking" new work, that does not yet justify a full length articles, and which are put on a fast review track; *Neurobehavioural Grand Rounds* are unique case studies, which are published in tandem with an introduction in the field to put the case into a more global perspective; *Critical Reviews* are thoughtful considerations of topics of importance to neuropsychology, including associated areas, such as functional brain imaging, neuroepidemiology, and ethical issues; *Dialogues* provide a forum for publishing two distinct positions on controversial issues in a point-counterpoint form; *Symposia* consist of several research articles that are thematically linked; *Letters to the Editor* respond to recent articles in the *Journal of the International Neuropsychological Society;* and *Book Reviews.*

Critical Reviews, Dialogues, and *Symposia* may be invited by the appropriate Department Editor or proposed by individual authors. Such proposals should be discussed with the Editor-in-chief or the Department Editor before submission. *Book Reviews* are invited by the Book Review Editor.

Originality and Copyright
To be considered for publication in the *Journal of the International Neuropsychological Society,* a manuscript cannot have been published previously, nor can it be under review for publication

elsewhere. Papers with multiple authors are reviewed with the assumption that all authors have approved the submitted manuscript and concur with its submission to the *Journal of the International Neuropsychological Society.* A **Copyright Transfer Document** with certain specified rights reserved by the author, must be signed and returned to the Editor by the corresponding author of accepted manuscripts, prior to publication. This is necessary for the wide distribution of research findings, and the protection of both author and the society under copyright law.

Disclosure Form
An **Author Disclosure Form** must be signed by the corresponding author at the time the manuscript is submitted. This form includes an attestation that the manuscript if original and not under review in another journal, research was conducted in compliance with institutional guidelines, and any potential conflict of interest has been reported. Such a disclosure will not preclude publication, but it is critical because of the potential of negative or positive bias. Potential conflicts of interest include funding sources fir the reported study or financial interest in a test or product or with a company that publishes a test that is being investigated in the manuscript. In addition to signing this attestation, compliance with institutional research standards for animal or human research (including a statement that the research was completed in accordance with the Helsinki Declaration http://www.wma.net/e/policy/17-c_e.html should be included in the methods section of the manuscript, and funding sources and other potential conflicts of interest should be included in the acknowledgements. See the Author Disclosure Form on website for specific details.

Manuscript Submission and Review
The *Journal of the International Neuropsychological Society* uses online submission and peer review. Paper submissions are not accepted. Authors who are unable to submit their manuscripts online are asked to contact the editorial office at jins@unm.edu. The website address for submission is: http://mc.manuscriptcentral. com/cup/jins, and complete instructions are provided on the website. Prior to online submission, please consult
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db = mesh for 6 keywords or mesh terms that are different from words in the title. Accurate mesh terms will increase the probability that your manuscript will be identified in online searches. Please follow the instructions carefully to avoid delays. The menu will prompt the author to provide all necessary information, including the manuscript category, the corresponding author, including phone number, fax number and e-mail address, and suggested reviewers.

The website will automatically acknowledge receipt of the manuscript and provide a manuscript reference number. The Editor-in-Chief will

assign the manuscript for review to an Associate or Department Editor and at least two other reviewers. Every effort will be made to provide the author with a review within 6 to 10 weeks of manuscript assignment. *Rapid Communications* will be reviewed within 6 weeks. If the Editor requests that revisions be made to a manuscript before publication, a maximum of 3 months will be allowed for preparation of the revision, except in unusual circumstances.

Manuscript Length
In order to increase the number of manuscripts that can be published in the *JINS*, please adhere to the following length requirements. Please provide a word count on the title page for abstract and for manuscript (not including abstract, tables, figures, or references). Manuscripts will be returned for shortening if they exceed length requirements.

Regular Research Articles: Maximum of 5,000 words (not including abstract, tables, figures, or references) and 200 word abstract.

Brief Communications: Maximum of 2,500 words (not including abstract, tables, figures, or references) and a 150 word abstract, with a maximum of two tables or two figures, or one table and one figure, and 20 references.

Rapid Communications: Maximum of 1,000 words (not including abstract, tables, figures, or references) and a 150 word abstract, with a maximum of two tables or two figures, or one table and one figure, and 10 references.

Critical Reviews: Maximum of 7,000 words (not including abstract, tables, figures, or references) and a 200 word abstract. ***Critical Reviews* must be pre-approved by the Department Editor. Please email your abstract to jins@unm.edu in order to receive prior approval.**

Dialogues: Maximum of 2,000 words for each segment (not including abstract, tables, figures, or references) and a 100 word abstract, with a maximum of two tables or two figures, or one table and one figure, and 20 references. ***Dialogues* must be pre-approved by the Department Editor. Please email your abstract to jins@unm.edu in order to receive prior approval.**

Symposia: Maximum of 5,000 words (not including abstract, tables, figures, or references) and a 200 word abstract. ***Symposia* must be pre-approved by the Department Editor. Please email your abstract to jins@unm.edu in order to receive prior approval.**

Neurobehavioural Grand Rounds: Maximum of 5,000 words with an informative literature review (not including abstract, tables, figures, or references) and a 200 word abstract.

Letters to the Editor: Maximum of 500 words (not including table, figure, or references) with up to five references, one table, or one figure.

Book Reviews: Approximately 1,000 words.

Manuscript Preparation and Style
The entire manuscript should be typed double-spaced throughout using any word processing program. Unless otherwise specified, the guideline for preparation of manuscripts is the Publication Manual of the American Psychological Association (5th edition) except for references with three or more authors (see References section). This may be ordered from: APA Order Dept., 750 1st St. NE, Washington, DC 20002-4242, USA.

Pages should be numbered sequentially beginning with the Title Page. The Title Page should contain the full title of the manuscript, the full names and affiliations of all authors, a contact address with telephone and fax numbers and e-mail address, and the word count for abstract and for manuscript (excluding title page, abstract, references, tables and figures). At the top right provide a short title of up to 45 characters preceded by the lead author's last name. Example: Smith-Memory in Parkinson's Disease. This running headline should be repeated at the top right of every following page.

The Abstract and Mesh Terms: (Keywords) on *page 2* should include a brief statement of the problem, the method, the key findings, and the conclusions. Six mesh or key words should be provided (see http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db = mesh for list), and they should not duplicate words in the title.

The full text of the manuscript should begin on *page*. For scientific articles, including *Regular Research Articles, Brief Communications, Rapid Communications,* and *Symposia,* the format should include an Abstract, Introduction, Method, Results, and Discussion. This should be followed by References, Appendixes, Acknowledgements, Tables, Figures, and Figure Legends.

The use of abbreviations, except those that are widely used is strongly discouraged. They should be used only if they contribute to better comprehension of the manuscript. Acronyms should be spelled out at first mention. Metric systems (SI) units should be used.

Special Note Regarding Figures

Please upload your figure(s) in either a .doc or .pdf format. When uploading figures (colour or black and white), they need only to be a high enough resolution for the reviewer and editor to identify the information you are trying to convey. However, if your manuscript is accepted for publication, your figures must meet the following criteria:

High quality digital images (600 dpi or higher) should be provided in PDF, EPS, or TIFF formats. If a digital image is not available, please scan in the image. Figures should be numbered consecutively as they appear in the text. Any indication of features of special interest should also be included. Figures should be twice their intended final size and authors should do their best to construct figures with notation and data points of sufficient size to permit legible photo reduction to one column of a two-column format.

Colour figures can be accepted. All colour graphics must be formatted in CMYK and not in RGB, because 4-colour separations cannot be done in RGB. However, the extra cost of printing these figures must be paid by the author, and the cost typically ranges from $700 to $1500 per figure.

Tables and figures should be numbered in Arabic numerals. The approximate position of each table and figure should be provided in the manuscript: (INSERT TABLE 1 HERE). Tables and figures should be on separate pages. Tables should have short titles and all figure legends should be on separate pages.

References

References should be in American Psychological Association, 5th edition, style (see the examples presented below).
Text references should be cited as follows:"…Given the critical role of the prefrontal cortex (PFC) in working memory (Cohen et al.,., 1997; Goldman-Rakic, 1987; Perlstein et al.,., 2003a, 2003b)… with multiple references in alphabetical order. Another example is: "For example, Cohen et al.,. (1994, 1997), Braver et al.,. (1997), and Jonides and Smith (1997) demonstrated… References cited in the text with three or more authors should state et al.,. (e.g. Smith et al.,.) even at first mention **(this deviates from the APA 5th Edition style).** However, in the Reference section, all authors should be listed. Reference entries should be alphabetically listed in the reference section with all authors being cited. Examples of the APA reference style are as follows:

Scientific Article:

Haaland, K.Y., Price, L., & LaRue, A. (2003). What does the WMS-III tell us about memory changes with normal aging? *Journal of the International Neuropsychological Society, 9,* 89-96.

Book:
Lezak, M.D., Howieson, D.B., & Loring, D.W. (2004). *Neuropsychological Assessment.* New York: Oxford University Press.

Book Chapter:
Knopman, D. & Selnes, O. (2003). Neuropsychology of Dementia. In K. M. Heilman & E.E. Valenstein (Ed.), *Clinical Neuropsychology*, New York: Oxford University Press.

Report at a Scientific Meeting:
Rothi, L.J.G. (2003, February). Use-dependent learning and neural plasticity: A revision of the pessimism surrounding neurorehabilitation. International Neuropsychological Society, Honolulu, Hawaii.

Manual, Diagnostic Scheme, etc.:
American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders (4th ed.).* Washington, DC: American Psychiatric Association Press.

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Part Three: Proposed Dissemination Strategy

The results of this research will be disseminated in 4 ways, which are outlined below in Table 7.

Table 7: Proposed Dissemination Strategies

Strategy	Activity
• For those who took part in the research	• Feedback to residents of the care homes will be discussed with managers of Somerset Care Limited on 13th May 2008. • Dissemination to residents given by the manager of the relevant care homes at Cornwall Care Limited.
• Information for the Organisation	• A feedback session is planned on 13th May 2008 with the managers of Somerset Care Limited. This will occur in the context of a Dementia Care Workshop organised by Somerset Care Limited. A discussion will be facilitated about the results with an emphasis on the benefits of group reminiscence over individual reminiscence, and how reminiscence can be incorporated into the activity rota within each care home. Part of this session will also be devoted to discussing with managers how best to provide information on the study findings to residents who took part in the research.

	• Feedback given to managers of Cornwall Care Limited on 30th November 2007 and 18th March 2008.
Academic Presentation	• A presentation of the study will be given at Exeter University on 19th May 2008, which will be attended by fellow trainee clinical psychologists and academic staff. A copy of the dissertation will be made available to the School of Psychology, which will be accessible to future trainees and other academics. A further presentation of the study will be given at the Federation of the European Societies of Neuropsychology (ESN), Edinburgh at a Rehabilitation Symposia on 2nd – 5th September 2008.
Publication	• The study will be written up for publication, at this stage either to the British Medical Journal (BMJ) or the Journal of International Neuropsychological Society (JINS), for wider dissemination to both an academic and clinical audience.