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EXPLORING MUSEUM-BASED PROGRAMMES FOR PEOPLE LIVING WITH A MILD-TO-MODERATE DEMENTIA.

Section A: Understanding the Psychological and Social Impacts of Museum-Based Programmes for People with a Mild-to-Moderate Dementia: A Systematic Review

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Section B: Subjective Wellbeing in People with Dementia: Exploring the Process of Facilitated Small Group Object Handling Sessions in a Museum Setting

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Summary

Museum-based programmes are recognised as having the potential to engage people with dementia (PWD) in the community and to positively impact wellbeing. However, there is a recognised lack of methodological rigour limiting the quality of the evidence-base. A systematic review is presented to better understand the psychological and social impacts of museum-based programmes specific to heritage settings for people with mild-to-moderate dementia. Themes relating to psychological outcomes comprised mood and enjoyment, subjective wellbeing, quality of life, and personhood; other key themes were cognition, engagement, and social outcomes. Quantitative measures tended to yield mixed results. There was much overlap in qualitative outcomes across studies.

To expand the evidence-base of meaningful activities for PWD in line with dementia care guidance, a mixed-methods study investigated the subjective wellbeing of PWD following small group object handling (OH) sessions in a museum. Building on previous research, the processes within sessions that may have promoted wellbeing were also explored. Wellbeing scores tentatively suggested an overall increase following OH sessions. Qualitative themes identified were *scaffolding, exploring objects, agency, and group collaboration*. Tentative interpretations are made around the dynamic interaction of themes and subthemes. The limitations of the study are considered, and clinical and research implications discussed.

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SECTION A

Understanding the psychological and social impacts of museum-based programmes for people with a mild-to-moderate dementia: A systematic review

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Abstract

Background: In line with strategies and policies to improve dementia care, museum-based interventions show promise in engaging people with dementia (PWD) in the community and promoting their wellbeing. Despite a growing literature base, there is a recognised lack of methodological rigour impacting the credibility of findings. A systematic review was conducted to better understand the psychological and social impacts of museum-based programmes conducted in heritage settings, specific to people with mild-to-moderate dementia.

Methodology: A systematic search was conducted using the electronic databases PsychINFO, Medline, Web of Science and Applied Social Sciences Index and Abstracts and guided by strict inclusion criteria. 11 studies were included in the review and key findings were synthesised thematically within the context of the quality of the studies.

Discussion: Multiple themes were identified relating to psychological outcomes including mood and enjoyment, subjective wellbeing, quality of life, and personhood; other themes were cognition, engagement, and social outcomes. Overall, quantitative measures tended to yield mixed results. Small sample sizes were a common limitation that may have impacted these findings. There was much overlap in qualitative outcomes across studies which can guide areas of focus for future interventions and higher quality mixed-methods research.

Keywords: dementia, museum-based programmes, wellbeing, social impact, psychological impact

Introduction

Dementia

Dementia describes a syndrome which is typically progressive, resulting in the deterioration of memory and wider cognitive functioning, behaviour and a person's ability to carry out daily activities (World Health Organisation (WHO), 2019). There are many types of dementia that differentially affect the brain's chemistry and structure. Alzheimer's disease is the most common form, typically starting with memory loss, while frontotemporal dementia is often marked by behavioural or personality changes (Alzheimer's Society, 2017).

The number of older people worldwide living with a dementia is increasing (from 47 million cases in 2015 to a predicted 75 million by 2030) along with a global increase in life expectancy, posing dementia as a major cause of disability with high economic costs (WHO, 2017). Worldwide estimated dementia care costs were around 818 billion US dollars in 2015 with a predicted rise to 2 trillion by 2030, with the potential to overwhelm services (WHO, 2017).

A number of strategies and policies have been developed to address this significant public health issue. The National Dementia Strategy (Department of Health, 2009) aimed to improve dementia services by improving awareness, diagnosing and providing interventions earlier, and increasing the quality of care. The Prime Minister's challenge on dementia (DOH, updated from 2012 in 2020) centred around creating dementia friendly communities and increasing research into dementia to improve dementia care and support in England. The Global Action Plan on the Public Health Response to Dementia 2017-2025 (WHO, 2017) outlines areas for action for moving towards better physical, mental and social wellbeing and reducing the impact of the disease on people with dementia (PWD), their families, carers and communities. This outlines a vision of "a world in which dementia is prevented and people with dementia and their carers live well and receive the care and support they need to fulfil their potential with dignity, respect, autonomy and equality" (p. 4). One of seven cross-cutting principles of the action plan is "evidence-based practice for dementia risk reduction and care" (p. 5), which also notes the importance of developing person-centred and cost-effective interventions.

The psychological impact of dementia

The challenges of living with a dementia, for which there is no cure, place PWD at a greater risk of comorbid psychological difficulties such as anxiety and depression (National Institute for Health and Care Excellence (NICE), 2018; National Collaborating Centre for Mental Health (NCCMH), 2018). NICE (2018) guidance recommends "interventions to promote cognition, independence and wellbeing", including "a range of activities to promote wellbeing that are tailored to the person's preferences" (1.4), and a range of therapies including cognitive stimulation and reminiscence. Importantly, the physical, psychological and social impacts of dementia do not only affect the person living with a dementia, but their families and carers too (WHO, 2019).

Despite ongoing challenges with regard to its definition and measurement (Camic, Hulbert & Kimmel, 2019), the concept of wellbeing has become a key focus in dementia care (Kaufmann & Engel, 2014). Kitwood's model of psychological needs identified five key psychological and wellbeing needs of PWD: comfort, attachment, inclusion, occupation and identity (1997). Kitwood advocates person-centred care, which can enhance personhood. Kaufmann and Engel (2014), extended Kitwood's model, using empirical data to add "agency", comprising components of "self-determination", "freedom of action" and "independence", which results in feelings of self-efficacy and self-worth. They also noted PWD are important informants of their own wellbeing. Therefore, providing interventions that promote these factors can improve dementia care and increase the wellbeing of PWD.

The social impact of dementia

As well as impacting a person's identity, dementia also impacts a person's roles and relationships within the family and in wider society (NCCMH, 2018). Kitwood (1997) defined the concept of "personhood" as "a standing or status that is bestowed upon one human being, by others, in the context of relationship and social being" (p. 8), acknowledging the relational impact on PWD.

The World Alzheimer Report (Batsch & Mittelman, 2012) highlights stigma and social exclusion as significant barriers for both PWD and their carers, who describe feelings of being marginalised by society and sometimes by family and friends. It reports a wish to be treated normally, focusing on ability, rather than impairment. Burgener, Buckwalter, Perkhounkova and Liu (2013) found perceived stigma (including dimensions of social rejection, internalised shame, and social isolation) in PWD to be associated with a range of quality of life outcomes such as mood, behavioural symptoms, social support and particularly with participation in activities. Understimulation, or a lack of engagement in meaningful activities, in combination with diminished social contact has been linked to loneliness and depression in PWD, while social stimuli can increase positive affect (Cohen-Mansfield, Marx, Thein & Dakheel-Ali, 2011). NICE (2018) guidance around person-centred care asserts interactions and relationships with others are important for promoting wellbeing in PWD.

Communication is an area of impairment experienced by PWD which can significantly impact the quality of relationships with others and requires finding different ways to communicate and understand each other (McCarthy, 2011).

Social prescribing and arts interventions

NHS England (2019) champions the value of social prescribing for people with long-term conditions, as well as for those who require support with their mental health, are isolated, or have complex needs impacting their wellbeing. This is supported by the literature: a systematic review of such schemes, including the arts, education, books and exercise, found they increased wellbeing, mood, self-esteem and confidence (Chatterjee, Camic, Lockyer & Thomson, 2018). The social prescribing scheme Museums on Prescription has also received positive participant feedback, indicating it provides a sense of belonging and increases social activity and quality of life (Veall et al., 2017).

More specifically, the Prime Minister's Challenge on Dementia (DOH, 2012) included a commitment to engage and support the wider community to improve the quality of care and allow PWD to feel a part of, and participate in, the life of the community. The All-Party Parliamentary Group on Arts, Health and Wellbeing (2017) also champions the wider role of the arts in improving the quality of life in PWD and their carers, including visual art programmes such as those in museums and galleries. In line with this approach, museum-based interventions have proved one fruitful way to promote the engagement and wellbeing of PWD. Camic and Chatterjee (2013) highlight the social role of museums and art galleries as community sites for programmes that can improve health and wellbeing, advocating them as partners for public health interventions such as those for PWD. Smiraglia (2016) reviewed 142 museum programmes for older adults, including those for PWD, and reported "increased socialisation" and "improved mood" to be the most frequent outcomes.

Existing reviews

A number of previous reviews have drawn together existing research, including grey literature on longstanding museum and art programmes, such as the Museum of Modern Art's Alzheimer's project "Meet me at MoMA" (Mittleman & Epstein, 2009). Sharma and Lee (2019) reviewed studies in heritage settings and out-reach programmes (in settings such as hospital wards) for PWD, those with cognitive impairments and older people without dementia. The review hoped to support heritage environments to be more inclusive to PWD, and whilst it provided a good summary of studies and key messages in the literature through conducting a thematic analysis, it was not critical in its appraisal of the evidence. A realist synthesis by Windle et al. (2018) reviewed literature on visual art programmes for PWD to explore how and why they may be beneficial, building a conceptual framework to guide future practice and research. The literature reviewed here included grey literature and reports, and covered programmes based in museums and galleries as well as in dementia care facilities such as day centres and residential homes. This also featured participants diagnosed with mild to severe dementia. Kinsey, Lang, Orr, Anderson and Parker's review (2019) focused on the impact of the inclusion of carers in museum programmes for PWD, their carers, and their relationship, highlighting both positive and negative outcomes. Recognising the lack of consensus around the definitions of arts interventions for PWD, Cousins, Tischler, Garabedian and Dening (2019) conducted a realist review to identify the key underpinning principles of such interventions to develop an empirical basis for exploring how they may work.

The extant reviews have therefore outlined the value and potential benefits of museum-based interventions for PWD. However, Schall, Tesky, Adams and Pantel (2018) note that while museum interventions offer PWD mental stimulation and social engagement, the evidence for their therapeutic potential is lacking, with studies only recently starting to explore this. A lack of methodological rigour in this emerging field of research is also a common area of concern (Gray, Evans, Griffiths & Schneider, 2018).

The present review

This review will differ to previous reviews in being the first to explore the psychological and social impacts of museum-based interventions specific to people living with a mild-to-moderate dementia and exclusively taking place within a museum setting. This review aims to answer the research question: What are the psychological and social impacts of museum-based programmes for people with a mild-to-moderate dementia?

Given the differential impacts of dementia on, and needs of, PWD across the disease process, the specific focus of this review will contribute towards a more in-depth understanding of the psychological and social impacts in this population within a museum setting.

Acknowledging the methodological weaknesses in this area of research, this review will synthesise findings within the context of the quality of the literature. It will highlight areas for future practice and research in order to develop the quality of the evidence-base and future interventions.

Methodology

Definitions

In this review, “museum” will refer to any heritage setting including art galleries; “facilitators” or “educators” will refer to any persons who facilitated sessions, irrespective of their job role; and art “programmes” and “interventions” will be used interchangeably, regardless of whether they were an existing programme or designed for the purpose of the study. In addition, “carers” will be used as an umbrella term to refer to any persons whom provide care, formal and informal, familial and other.

Literature search

A systematic review of the literature was undertaken, as described by Grant and Booth (2009), in order to answer the research question set out by this review. A search was conducted in March 2020 using the electronic databases: PsychINFO, Medline, Web of Science and Applied Social Sciences Index and Abstracts. The following search terms were used to identify relevant literature: Dement* OR Alzheimer* AND art* OR object* OR participatory OR creative* OR wellbeing OR well-being OR well being AND heritage* OR galler* OR museum*. Other combinations of search terms were tried, including outcomes or combining the intervention type and location; however these yielded tens of thousands of results and it was decided outcomes would be implicit in the museum-based studies identified. Search terms were guided by the review topic, key terms used in relevant literature and other literature reviews in the area. Dementia or Alzheimer's terms were thought sufficient to capture all subtypes of dementia. Terms used in the literature to describe relevant interventions were utilised with appropriate truncations to capture variations in wording or grammar and those relevant to the setting posed by the research question. No limits were applied to the year of the study.

Figure 1 is based on a PRISMA diagram (Moher, Liberati, Tetzlaff, & Altman, 2009) and displays the process of identifying the papers reviewed here. Inclusion and exclusion criteria, as shown in Table 1, were developed to allow studies' eligibility for the review to be systematically determined. Studies on the border of the criteria were discussed with an independent advisor to ensure the criteria were applied as systematically as possible. For example, some studies were conducted in part in a heritage setting and in part in an outreach setting, such as a day centre. Studies were excluded if they did not take place exclusively in heritage settings, or used PowerPoint presentations as opposed to viewing authentic art. This enabled the studies to be as homogenous as possible in order to meaningfully synthesise their findings in relation to the research question. Findings from studies including samples with a range of dementia severity (mild to severe) were included provided the intervention and its findings were separately and clearly reported for people with mild-to-moderate dementia. In addition, studies in which samples consisted of PWD and other cognitive disorders were included in cases where these characteristics were clearly specified, and the large majority of the sample were PWD. Table 2 presents a summary of the 11 studies included in the review.

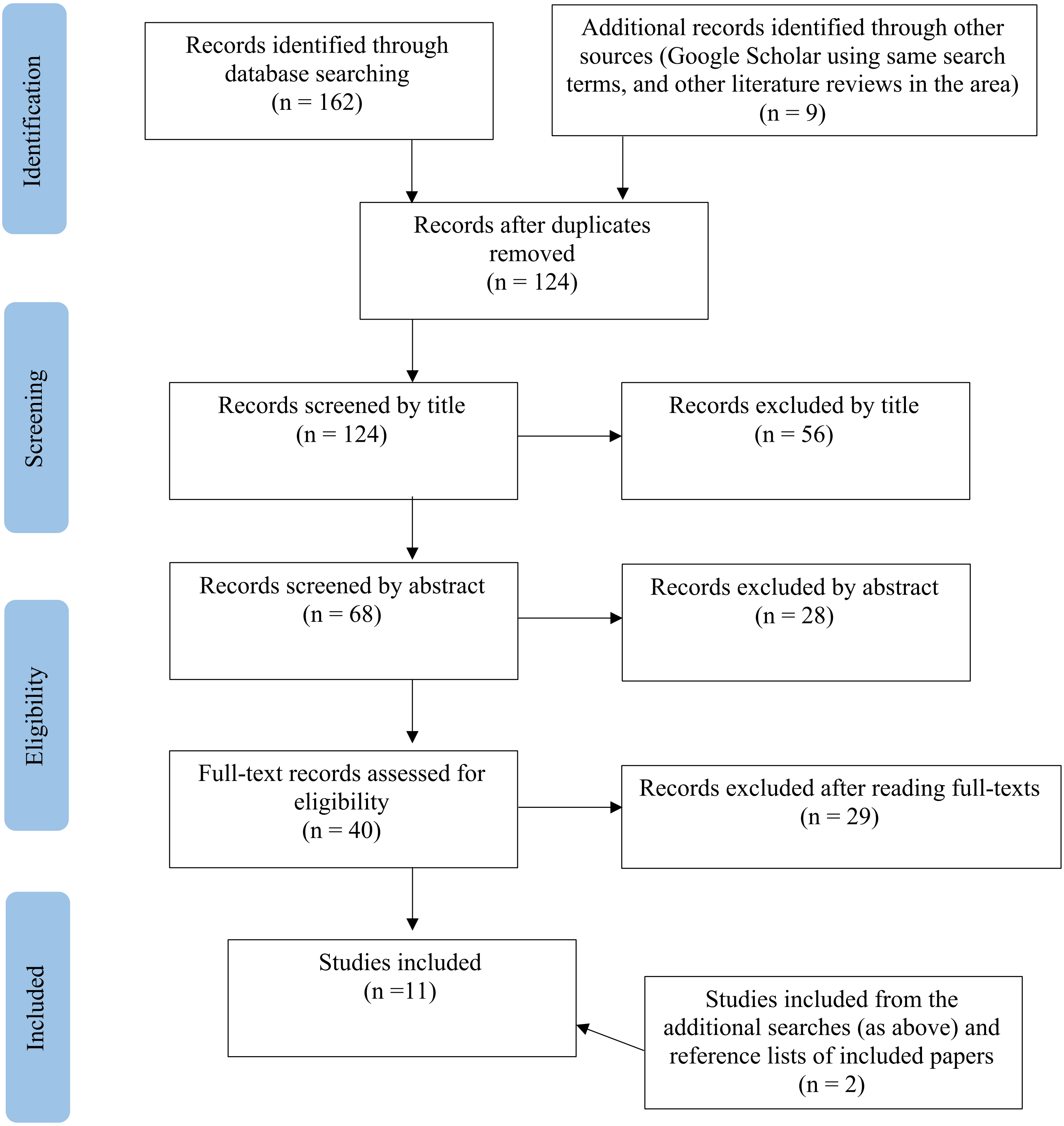

Figure 1. Flowchart of the process of identifying included studies

Table 1

Inclusion and Exclusion Criteria

Inclusion criteria	Exclusion criteria
English language	Language other than English
Empirical studies published in peer-reviewed academic journal articles	Grey literature or reports, i.e. not a peer-reviewed or empirical study
Dementia sample (or clearly specified as in the large majority)	Non-dementia sample, e.g. other cognitive impairment, older people without a dementia or where this is not specified
Mild-to-moderate dementia	Moderate-to-severe dementia or where the stage of dementia is not clearly indicated or specified
Museum-based interventions	Other interventions e.g. reminiscence, art therapy
The intervention takes place exclusively in a heritage setting, e.g. a museum or gallery	Not exclusively in a heritage setting e.g. In-reach or outreach programmes in settings such as day centres and residential care homes. Or part of the intervention takes place in a museum and part in a non-heritage setting
The study includes a focus on outcomes relating to the psychological and/or social impacts on PWD following an art intervention	Focus is not on outcomes relating to PWD e.g. facilitators, carers, medical staff, or is not specific to outcomes relating to the psychological and/or social impacts on PWD following an art intervention

Note. PWD=People with dementia.

Quality assessment

The QualSyst (Kmet, Lee & Cook, 2004) was used to systematically assess the quality of the included studies (Appendix 1). This set of criteria was chosen for its ability to simultaneously appraise both quantitative and qualitative studies. The authors, who developed this tool drawing on existing appraisal tools, sought to address a gap in the research field and highlight its usefulness when synthesising different study designs. The authors also report good inter-rater reliability of the tool.

Structure of the review

This review provides an overview of the included studies to illustrate the important ways in which they are similar and differ with regard to the research question. A critical appraisal highlights key areas of strength and limitations across the studies with regard to the criteria of the QualSyst tool used (Kmet, Lee & Cook, 2004; Appendix 1). This provides a context for the synthesis of findings. Given the overlap in the outcomes and themes of the studies' findings, these were synthesised thematically through a reflexive process of re-reading studies to identify and refine themes. As the focus of this review concerns impacts for PWD, only outcomes relevant to the research question laid out in this review were reported.

Table 2

Summary of Studies Included in the Review

Study/Quality rating	Sample	Aims	Intervention	Measures/ Evaluation	Design/ Methodology	Key Findings
Burnside et al. (2017) USA Quality rating score: Qualitative 80%	PWD (n=21) Early or mild stages of dementia on average. Clinical Dementia Rating scale (CDR) 4=0.5, 14 =1, 1=2. Age (60-84, M=76) 76% college degree. Prior arts experience: none 19%, moderate 24%, extensive 57%. Carers (n=21) Spouses (52%), daughters, paid carers, other family members. 1 African American dyad, 1 Asian dyad, 19 White dyads.	To explore the impact of "Here: now", a museum-based experiential arts programme for PWD and their carers and to develop a conceptual model regarding important components, processes and outcomes.	Two (on-going) programmes: 1. Monthly one-time discussion-based gallery tours (90 mins, 5-6 dyads, 3 artworks) includes group and dyad discussion. 2. Six-week programme including a gallery tour and studio art-making classes (120 mins, art work discussion and materials around themes of the art shown) Total of 7 gallery tours and 3x6 art-making classes. Dyads participated in 1 or more of these. Guided by a museum educator trained in working with PWD and visual thinking strategies. Frye Art Museum	Semi-structured telephone interviews with PWD (n=13) and their carers (n=21). These took place 2 weeks post participation. Interviewer was independent to the programme.	Qualitative Grounded theory	Major themes: facilitation, engagement, mindfulness, enjoyment, socialisation, joint respite, personhood, relationship normalising, relationship affirming, relationship growth, and personal growth. These were divided into relationship effects and personal effects. Important factors to the programme: museum space, facilitation process, and socialisation with others. Conceptual model comprised: Antecedents, structural factors, Process (Mindfulness incorporating the themes of enjoyment, socialisation, joint respite, and personhood), outcomes.

Camic et al. (2014) UK Quality rating score: Qualitative 90% Quantitative 77%	PWD (n=12) Mild-to-moderate dementia. Mini-Mental Status Exam (MMSE) scores ranged from 10 to 24 (M=20.1) Addenbrooke's Cognitive Examination-Revised (ACE-R) scores ranged from 18 to 73 (M=52.8, SD=18.4) Age (58–94, M=78.3, SD=8.8) 17 white British, 4 white European, 2 British Asian, 1 black British Carers (n=12) Neuropsychiatric Inventory (NPI) completed by cares	To explore the feasibility and impact on social inclusion, carer burden, and quality of life and daily living activities of a gallery-based intervention for PWD and their carers.	8-week group art-viewing (60 mins) and art-making (60 mins) sessions across two different art galleries for PWD and their carers. Dulwich picture Gallery and Nottingham Contemporary	Standardised measures: PWD: Dementia Quality of Life Questionnaire (DEMQOL-4) Carers: Zarit Burden Interview (ZBI) and the Bristol Activities of Daily Living scale (BADLS). Semi-structured interviews with participating dyads 2-3 weeks post participation (50-90 mins). Field notes taken by researchers who attended all sessions.	Mixed-methods, pre-post design. Thematic analysis on interviews and field notes	No significant pre-post differences between galleries. No significant pre-post differences in quality of life (which remained stable), activities of daily living or carer burden (although there was a slight trend in reduction). Key qualitative themes: social impact, cognitive capacities and art gallery setting.

Camic et al. (2016) UK Quality rating score: Qualitative 85% (This is the same intervention and data as in Camic et al., 2014).	PWD (n=12) Mild-to-moderate dementia Carers (n=12)	To develop a theoretical understanding of the impact of art gallery-based programmes for PWD and their carers.	8-week group art-viewing (60 mins) and art-making (60 mins) sessions across two different art galleries for PWD and their carers. Gallery facilitators (n=4) led guided discussions on 2-3 artworks and in 3 sessions dyads also discussed an artwork or object of interest. Art-making in studio with professional artist with experience working with older people. Theme influenced by paintings discussed. Different materials provided each week.	Semi-structured interviews with participating dyads 2-3 weeks post participation (50-90 mins) Field notes written by the researchers. Written communication between the facilitators and research team. Semi-structured interviews with program facilitators (30-60 mins).	Qualitative Grounded theory Triangulation of data sources	Emerging theory with four primary components: valued place, intellectual stimulation, social interaction, changed perceptions. Impact on individual (positive affect), relational (social interaction) and community (changed perceptions) levels.

D'Cunha et al. (2019) Australia Quality rating score: Quantitative 86% (The physiological data in this study was not included in the review)	PWD (n=25) Moderate dementia as indicated by scores on the Mini-Addenbrooke's Cognitive Examine (M-ACE) 17 female Age (M=84.7) Majority living in residential care and one living in the community Moderate level of independence as scored on BADL 17 Alzheimer's Disease, 3 Vascular dementia, 2 Parkinson's, 3 mixed. 60% Australian Median of 10 years of education Family members/friends/care staff were asked to act as a study partner	An exploratory study to investigate the impact of an arts programme on physiological and psychological measures.	6-week discussion-based art-viewing sessions (90 mins, 3-4 works of art). Form of art differed each week. 5 groups. Led by 2 art educators trained in working with PWD and attended by 1-2 researchers. Care staff and researchers were asked to limit their input and sat behind the group. National Gallery of Australia	PWD: Geriatric Depression Scale (GDS), Health-Related Quality of Life Questionnaire for PWD (DEMQOL), M-ACE. General Wellbeing Questionnaire (GWQ) sessions 1,3 and 6. Carers: DEMQOL-carer. Behavioural observation using a standardised template. Exit questionnaire for those who recalled the sessions 6 weeks later.	Quasi-experimental One week pre-one day post, the 6-week intervention with 6-week follow up Statistical tests	Improvements in pre-post self-reported QoL for PWD but no differences were found in QoL as rated by carers. Improvements in pre-post symptoms of depression and M-ACE scores (immediate recall and verbal fluency only). GWQ scores improved from sessions 1 to 3 and were maintained at session 6. Behavioural observations: increase in laughter and happiness between sessions 1 and 2 and then decreased. No other changes. 48% completed exit questionnaire. Overall rated experience as memorable, looked forward to it, and carers felt it was beneficial for PWD. Participants rated average experience as 8.12 out of 10.

Eekelaar et al. (2012) UK Quality rating score: Qualitative 80% Quantitative 82%	PWD (n=6) Early-to-mid stages of dementia. MMSE (18-24, M = 21.67) Age (68-91, M=78.67) Carers (n=6) 5 spouse, 1 son Both groups 3 male	Exploratory study investigating the impact of a gallery intervention on cognition in PWD, namely episodic memory and verbal fluency.	3-week gallery sessions: discussion-based art-viewing (30 mins, 2-3 artworks) and art-making (60 mins) in a studio. Led by an art educator and an art therapist Dulwich Picture Gallery	Semi-structured interviews with PWD and carers pre- and 4 weeks post participation. Audio recordings of art-making sessions.	Mixed-methods Pre-post design Content analysis for outcomes relating to cognition from interviews and art-making sessions (not art viewing) Thematic analysis on carer post-interviews	Patterns of increased episodic memory from pre-interviews across the sessions and maintained at follow up. A more ambiguous increase in verbal fluency (a slight decrease in disfluencies) from pre-interview across the sessions and not maintained at follow up. Both consisted of much fluctuation across sessions. Carer reports corroborated these improvements. Themes: social activity, PWD becoming their old selves, shared experience.

Flatt et al. (2015) USA Quality rating score: Qualitative 85% Quantitative 82%	PWD (n=8) Early-stage dementia (n=6) (Alzheimer's) and related cognitive disorders (n=2). Referred to as ADRD. Age (60+) 5 female 8 Caucasian, 2 African American Carers (n=10) Family	To explore the subjective experiences of people with ADRD and their carers of a museum activity.	A one-time art museum activity: A discussion-based guided tour (60 mins, 4 artworks) and an art-making studio activity (120 mins). 4 one-off sessions were held. Led by a museum educator The Andy Warhol Museum	Unvalidated Brief satisfaction survey. Focus groups using a script to guide the interview (n=4; 4-7 participants, 30 mins). Both took place immediately after the intervention. Field notes	Cross-sectional, qualitative Thematic analysis Descriptive and statistical analysis for the satisfaction survey	Key themes: cognitive stimulation, social connections, and self-esteem. In addition, themes of programmatic issues such as activity-specific concerns and program logistics were identified that could help improve future art programmes. Participants enjoyed the art-making most followed by the group interactions (rated higher by people with ADRD than carers) and the guided art discussion. Overall satisfaction related to having previous art/museum experience and to perceived social cohesion, including a sense of and positive feelings of morale.

Johnson et al. (2017) UK Quality rating score: Quantitative 82%	PWD (n=36) Early-to-mid stages of dementia 2 early onset Alzheimer's, 17 Alzheimer's, 5 FTD, 4 Vascular, 8 Mixed 25 male Age (58-85, M= 74) Living at home Carers (n=30) Could attend with or without carer	To compare the impact of two museum activities and a social refreshment break on the subjective wellbeing of PWD and their carers.	Group object handling (45 mins) and art-viewing (45 mins) with a social refreshment break in the middle (shorter in duration). 11 sessions in total. 4-8 people in a group. Included facilitator and volunteers. Same facilitator for all sessions. Museum in South East England	Subjective wellbeing pre- and post-activities (4 time points): Visual analog scales (VAS) happy/sad, well/unwell, interested/bored, confident/not confident, optimistic/not optimistic. Feedback questionnaire	Quasi-experimental Mixed 2x4 repeated-measures crossover design with two groups: PWD and carers	Significant improvements in wellbeing during both activities (irrespective of order) but not in the refreshment break for both PWD and carers. This increase was not significantly greater after object handling than art-viewing. Positive feedback on participant experiences: 91% used positive adjectives and 6% neutral. 55% said preferred object handling, 36% art-viewing, 9% both equally.

MacPherson et al. (2009) Australia Quality rating score: Qualitative 70% Quantitative 82% Only participants with mild-to-moderate dementia (community group) are included as group interventions and findings were conducted and reported separately for those with moderate-to-severe dementia (residential group).	PWD (n=7) Mild-to-moderate dementia. CDR=4 mild, 3 moderate. Living at home. Age (56-80, M=70.8) Accompanied by an Alzheimer's Australia volunteer Presence and role of carers is unclear Measure of behaviours associated with dementia that cause carer stress completed (only pre-intervention)	A pilot study to assess whether PWD could engage with an art-viewing activity in a gallery and explore the impact of this for participants.	Ongoing programme 6-week art-viewing group sessions (45-60 mins, 4 artworks). 1 all male and 1 all female group. Groups facilitated by the same 2 gallery educators. National Gallery of Australia (NGA)	Video-recorded sessions for behavioural analysis. Focus groups 6 weeks post-intervention with PWD, carers and educators.	Mixed-methods Mixed-subject design. Time sampling methods to analyse engagement. (Weeks 1 and 5 coded to see change over time). Grounded theory to analyse focus group transcripts	No significant differences in engagement between sessions 1 and 5 suggesting participants started off and remained engaged throughout. No significant main effects for type of participant (community vs residential) or session (1 or 5). Focus groups: PWD: enjoyment of the programme, engagement and intrinsic benefits independent of having dementia, normalisation and discovery of residual abilities, social aspects, future of the programme. Carers: Recall, enjoyment, social aspects and (no) lasting change. Logistical issues and improvements to the programme. Educators reports likely across both groups (community and residential): Initial expectations and subsequent experience, gaining skills. Enjoyment/confidence and memory stimulation in PWD.

McGuigan et al. (2015) New Zealand Quality rating score: Qualitative 80% Quantitative 68%	PWD (n=8) Severity of dementia not specified but noted all participants could provide their own written consent Age (73-90) 3 men 6 Alzheimer's, 1 mixed, 1 vascular Carers (n=8) 5 spouses 3 children	A practice-based pilot study. To explore the experiences of a museum-based programme for PWD and their carers. An additional aim of the museum was to consider the development and delivery to develop the programme for future use, the programmes development and implementation.	6-week museum programme (120 mins: 20-30 mins settling in, 35-40 mins activity, refreshments provided after). Sessions took place in the members' lounge or gallery and included the use of objects or images alone, a combination of both, and 3 different gallery tours. Led by museum volunteer guides with training to increase their understanding of dementia. A specialised tour style with "occasional opportunities for participants to speak" Focus was on an intervention PWD and cares could do together – equal focus. Auckland Museum	Participant observation by independent researcher. Focus groups at completion (n =2, 2 with carers, 1 with volunteers, 60-90 mins). Did not include PWD. Individual interviews with Alzheimer's Auckland and museum staff Feedback sessions with volunteers and museum staff.	Mixed-methods Time-sampling to evaluate attentiveness using unvalidated scale and continuous observation in rest of sessions Thematic analysis for focus groups and interviews	Average attentiveness remained high on average across the sessions. PWD were found to be most attentive in the session that used both objects and images and overall in sessions in the lounge compared with the gallery. No statistical analysis. Key themes: socialisation, programme delivery, shared experiences and practical issues. Noted using objects in isolation was difficult for PWD without contextualising images and due to facilitators moving to the next topic whilst the previous object was being passed on, putting extra demands on attention to split this between the object and facilitator.

Schall et al. (2018) Germany Quality rating score: Qualitative 70% Quantitative 79%	PWD (n=44) Mild-to-moderate dementia Living at home 23 female 32 Alzheimer’s disease, 7 vascular, 2 Parkinson’s disease dementia, 3 unclear. Age (51-93, M=75.1, SD=7.70 in the intervention group and 76.4 years, SD=8.68 in the wait-list control group) 54.5% had a university or similar higher education degree. 4.5% had no vocational qualifications. Carers (n=44) Spouses (56.8%) or adult children (31.8%)	To explore the impact of the ART Encounters: Museum Intervention Study (ARTEMIS) on PWD and their carers. A subsample of a related study	Intervention group (25 dyads): 6-week group guided art tour (60 mins, different themes, 4-8 people) and an art-making activity in studio (60 mins, where carried out tasks in pairs). Total of 13 groups. Staff had dementia training based on the TANDEM training model. Frankfurt Stadel Museum Control group (19 dyads): Independent museum visits four months prior to the intervention.	Standardised measures PWD: Cognitive status (MMSE and ADAS-Cog), Geriatric Depression Scale (GDS), Quality of Life in Alzheimer’s Disease (QoL-AD), NPI. PWD and carers wellbeing: Self-rating Smiley Scale pre-post each session/ museum visit. Carers subjective evaluations of PWD after each session.	Randomised wait-list controlled study Mixed-methods Pre–post measures a few days before/after the intervention Follow-up assessments with carers 3 months later	Significant pre-post improvements for self-reported QoL for PWD in the intervention group when compared with the control group, who had a positive non-significant trend. Significantly improved total NPI scores and the subscales affective (depression and anxiety) and apathy post-intervention and significant improvement in apathy in the control group. Significant positive increase in emotional wellbeing pre-post each intervention session for PWD with medium effect sizes. Subjective evaluations by carers “largely confirm the positive impact on emotional state and wellbeing”.

Young et al. (2015) UK Quality rating score: Quantitative 82%	PWD (n=13) Early-to-mid stage dementia. Inclusion criteria: MMSE score between 10 and 24 11 female All white British Age (group 1: 60–94, M=78.8, group 2, 73–91, M=81.6). Carers (n=13)	To investigate the impact of art-making and art-viewing on verbal fluency and memory. Built on Eekelaar et al. (2012) to increase sessions and explore both art activities.	8-week discussion-based art-viewing (60 mins, 1 artwork) and art-making in studio (60 mins). In weeks 2 and 8 asked to bring in "interesting objects" to also pass around and discuss. Total of two groups. Led by an artist educator who had dementia awareness training. Contemporary art gallery	Audio recordings of art-viewing and art-making sessions. (6.25% data missing due to failed audio recordings)	Quantitative content analysis on group data Data presented graphically as statistical analysis was not possible	Verbal fluency: Disfluencies decreased and semantic clustering increased in both art activities from the first to final sessions. Disfluencies were more improved in art-making sessions and semantic clustering in art-viewing. Reports of lifetime memories: Overall increase from first to last sessions in both sessions, and more so in art-viewing. However, these findings were not linear and considerable fluctuation occurred between sessions. Exit interviews: carers reflected positive impact of the groups (not mentioned before the discussion).

Results

Overview of included studies

Of the 11 studies reviewed, three employed quantitative methods, two were qualitative and six utilised a mixed-methods approach. Two studies undertook different analyses on the same intervention. Given the infancy of research in this area, the majority of studies were exploratory, feasibility or pilot studies either investigating existing programmes or conducting sessions for the purpose of the research. They utilised a range of pre-post and cross-sectional designs and quasi-experimental designs, including one waitlist randomised controlled trial. Studies broadly aimed to investigate the experiences or impacts of museum-based interventions on PWD (and, to a lesser extent, their carers) in a range of domains such as subjective wellbeing, cognitive functioning, engagement, quality of life and mood. In addition, one study compared two museum-based interventions, and two studies also sought to develop a conceptual understanding.

All interventions took place in public art galleries or museums, in either or both the main galleries and private rooms. The length of interventions varied from one-off sessions to 8-week programmes, and sessions ranged from 45 minutes to three hours. Of the interventions used, seven included both art-viewing and art-making components (one of which also asked participants to bring in objects to share in two of eight sessions), two studies consisted of art-viewing only, one compared art-viewing and object handling, and one used only images, only object handling, a combination of both, and gallery tours. The majority of interventions included a discussion-based exploration of art, and utilised facilitators with some form of training in dementia awareness or working with PWD. In addition, all interventions included carers in some capacity. Some interventions were designed equally for carers and PWD, others noted carers were invited as support for PWD, one study stated carers were optional, but most attended with a carer. The role of carers in one study not specified. The majority of carers were family members, but this also included close friends, paid carers and staff. Data collection varied from in-the-moment measures to those several weeks post intervention. Some measures relied more on the self-reports of PWD and others on the observations of researchers or carers. With regard to geographical location, the studies took place in the UK, USA, Australia, New Zealand and Germany.

Quality check and critique of studies

The overall scores of studies ranged from 68% to 91%. The below critique reports the general patterns highlighted by the QualSyst scoring tool for both the quantitative and qualitative studies or aspects of studies in those comprising mixed-methods.

Overall, studies stated their aims clearly and used appropriate designs to address these. Most included small sample sizes (range=6-44). This was deemed appropriate for one quantitative study. However, for the majority of studies, this was rated as only partially appropriate, particularly given the use of statistical tests and general lack of power calculations, or the inability to conduct statistical tests and instead rely on drawing interpretations from descriptive data. One study did include power calculations, but their sample size was smaller than that specified for some calculations. However, this limitation was generally acknowledged by the authors and is understandable, given the exploratory nature of the studies and the recruitment of PWD who are able to access the heritage setting and be accompanied by a carer. A number of authors highlighted the value of using mixed-methods in the face of small sample sizes to further explore and corroborate findings.

In relation to the recruitment of participants, studies were typically lacking in replicable detail around recruitment methods and procedures. All studies were rated as partially meeting the quality criteria in this domain, given the opportunity samples used. Authors demonstrated some awareness of this limitation in which samples may be biased to comprise people who have an interest in the arts.

The range of participant characteristics reported varied across the studies, although all but one study was rated as giving sufficient information. This study provided fewer characteristics and did not specify the sex of participants or where they were residing. One study did not specify the level of dementia severity but did note participants could consent for themselves. Several did not report the subtypes of dementia of people within the sample. These characteristics were not central to the research questions but can make it difficult to compare samples across studies.

On the whole, studies did not control well for confounds. Few studies used a control group, and only one was able to randomly allocate to groups and used an appropriate method for this. However, comparability of baseline characteristics were conducted for few studies.

Measures for outcomes were generally well reported and explained, including non-standardised measures. These were appropriate, again given the studies' exploratory nature. For example, two studies used quantitative content analysis as a novel way to explore data in a naturalistic setting, which, whilst not as robust as validated measures, was appropriate to the aims of the study to use non-obtrusive methods to capture in-the-moment change. A wide range of measures were used to explore a wide range of outcomes (including psychological, social, cognitive and, whilst not a focus of this study, physiological) sometimes using different tools across studies for the same domain. This can make it more difficult to compare studies and also reflects the widely reported issues of defining concepts such as "wellbeing" (Camic et al. 2019).

Qualitative data collection methods were on the whole described well and could be replicated, with the exception of two studies, which did not give sufficient detail of the focus of interviews or focus groups.

Analytical methods were often well described and appropriate. However, there were instances in which statistical tests were not conducted, without a clear rationale for their omission. In other cases, statistical tests were run for some parts of the data and not others, again without a clear rationale. It is possible this was due to small sample sizes, but could also be due to only reporting tests that were run and yielded significant results, thus giving an incomplete picture of the analysis. Variance was often not adequately reported, only providing standard deviations.

Qualitative methodologies varied from descriptive to thematic analysis and grounded theory. These were typically well explained with supporting quotes, and all but one study reported some method to increase credibility, including the triangulation of data, peer reviews and inter-rater reliability. However, only two studies were reflexive, and none specifically reported how their own characteristics may have influenced the data. Qualitative analyses were only partially explained in some instances. These included having few supporting quotes to allow a judgement to be made on the appropriateness of the interpretation in one study, and not clearly describing the analytical procedure so that it could be sufficiently understood and replicated in other studies.

Results tended to be reported in sufficient detail and conclusions supported by them. Where descriptive results were interpreted as support for positive changes in a domain, conclusions presented this evidence more tentatively, acknowledging the limitations within the methodology. This was appropriate and tended to prevent findings from being overstated.

Themes

Themes and subthemes have been organised by their relationship to the areas of psychological and social impacts across both the qualitative and quantitative findings of the studies.

Psychological outcomes.

Mood and enjoyment. This subtheme relates to findings concerned with mood and enjoyment of the interventions.

In terms of quantitative outcomes, results were mixed. D'Cunha et al. (2019) found improved pre-post intervention scores for depression using the GDS, however this was not maintained six weeks later. Schall et al. (2018) also used this measure but did not find an improvement. However, using a measure of neuropsychiatric symptoms (NPI), Schall et al. (2018) found a significant improvement in the total NPI score and on the subscales of apathy and affect (anxiety and depression). In their control group, there was also a significant improvement in the NPI apathy subscale. Whilst some positive impact was found in some areas of psychological and behavioural symptoms, the authors note this suggests some effects may be in relation to visiting a museum, rather than specific to the intervention.

In qualitative studies, improved mood and enjoyment featured as benefits of the interventions identified by PWD. For example, in MacPherson, Bird, Anderson, Davis and Blair's study (2009), "enjoyment of the programme" was highlighted as the most frequently reported theme by PWD. Another identified theme was "future of the programme", including wanting the sessions to continue. Johnson, Culverwell, Hulbert, Robertson and Camic (2017) reported 91% of participant's (PWD and carers) used positive adjectives to describe their experience of the study and 6% neutral, while Flatt et al. (2015) found the programme was on average rated highly (4.51 of 5), meeting expectations (84%) and a programme they would like to attend again (89%). Burnside, Knecht, Hopley and Logsdon (2017) highlighted "enjoyment" as one of several themes that contributed to "mindfulness", identified as the process and essence of the intervention. Eekelaar, Camic, and Springham (2012) identified the theme PWD "becoming old selves", which included the subtheme "improvement in mood". Enjoyment was reported both during and after the interventions: D'Cunha et al. (2019) found of the 48% of participants who could recall the intervention 6 weeks later, the programme was rated (from the highest to lowest percentage participant rating) regarding its memorability as “very”, “extremely”, “neutral” and “slightly”, and how much they looked forward to sessions as “extremely”, “very”, and “neutral”.

Some studies sought to investigate the specific components of the intervention that might have contributed to enjoyment. In Johnson et al. (2017) preferences of the experienced art activities were rated as (from the most to least preferred) object handling, art-viewing, and both equally. Flatt et al. (2015) found participants enjoyed the components of the intervention in the following order from the most enjoyable: art-making (rated significantly higher than the following two components), group interaction, and guided art discussion.

Finally, three studies drawing on carers’ and/or facilitators’ perspectives regarding the impact of interventions on PWD also reported benefits to mood and enjoyment levels. MacPherson et al.’s (2009) analysis of carers’ reports in relation to PWD resulted in the theme “enjoyment”, with one carer noting, “you do it for the moment” (p. 748). The theme of “effects on PWD” extracted from the comments of session facilitators also included “enjoyment” and “confidence”. D’Cunha et al. (2019) found carers rated the experience as beneficial to PWD (in order of frequency) as “very”, “extremely”, “neutral”, “slightly”, and “unsure”. The programme received an average rating of 8.12/10 (1=horrible, 10=wonderful). Schall et al. (2018) descriptively reported carers’ subjective evaluations around the behaviour, communication and engagement of PWD during sessions. These reflected frequent expressions of positive emotion by PWD during creative activities such as those based on biographical themes and when drawing to music. PWD were reported to be quieter and appear relaxed when involved in independent art-making and to be proactive in ways such as choosing colours and communicating with each other. The authors noted the reports “largely confirm the positive impact on the emotional state and well-being” (p.738) reflected in their quantitative findings. Quotes from open-ended questions also referred to getting on well with the PWD during the sessions, PWD being inspired to make art at home, and experiencing enjoyment.

Overall, despite the mixed reports from quantitative measures, the reviewed papers suggest enjoyment and improved mood are two potential benefits of the interventions.

Subjective wellbeing. This relates to findings of self-reported wellbeing. As noted, Kaufmann and Engel (2014) advocate that PWD are important informants of their subjective wellbeing.

Employing a measure of general wellbeing (GWQ) in weeks 1, 3 and 6 of a 6-week intervention, D'Cunha et al. (2019) found an increase between weeks 1 and 3, which was maintained at week 6. Johnson et al. (2017) found subjective wellbeing to significantly increase pre-post both art-viewing and object handling sessions but not for a (shorter) refreshment break for both PWD and carers, suggesting wellbeing was impacted by the art activities over and above socialisation and refreshments. These change scores did not differ significantly between art-viewing and object handling. However, the reported results show that whilst mean wellbeing scores increased over time points 1 to 4 (pre and post the two counterbalanced activities with a refreshment break in the middle) and were significant pre-post the first activity (time 1 and 2), the second activity (time points 3 and 4) was only significant for carers and not for PWD. This was not explicitly discussed. Schall et al. (2018) also used a visual subjective wellbeing measure (Smiley Scale) pre- and post- intervention and control group sessions, finding significant improvements following the intervention and a non-significant but slightly positive trend in the control group. Comparisons between each of the intervention sessions with the control group showed an overall majority of medium effect sizes.

Overall, these findings provide support for interventions having a positive impact on subjective wellbeing.

Quality of life. This refers to findings pertaining to quality of life. Quality of life can have a significant influence on wellbeing (Moyle, Mcallister, Venturato & Adams, 2007).

D'Cunha et al. (2019) reported improved pre-post intervention scores in self-reported health-related quality of life (DEMQOL), which was not maintained at follow up six weeks later. However, this was not in line with carer reports (DEMQOL-carer), which were not significant and which the authors describe as "weakening the self-reported finding". Schall et al. (2018) used the QoL-AD measure of self-reported quality of life and found significant improvements pre-post intervention in comparison to a control group, who showed a non-significant but positive trend. Camic, Tischler and Pearman (2014) used the DEMQOL-4 and found no significant pre-post intervention differences, however the authors reported that ratings appeared to remain stable across the sessions. The authors discuss possible reasons for non-significant results, including the sample size being too small to detect change (n=12) and the possibility that the specificity of the measures in relation to the intervention may have been lacking. They note the value of employing mixed-methods in the face of small samples, highlighting that despite non-significant results, qualitative reports reflected positive benefits of the intervention.

These mixed results indicate a need for further research and highlight possible challenges in attempting to measure quality of life.

Personhood. This pertains to findings in relation to the concept defined by Kitwood (1997).

Several qualitative studies identified concepts relating to personhood as themes in their analysis. Burnside et al. (2017) developed a conceptual model which included personal outcomes of the intervention, comprising themes of "personal growth" and "preservation of personhood". They also highlighted "personhood" as one of several incorporated themes that made up "mindfulness", which was reported to contribute to the process and essence of the intervention. Camic, Baker and Tischler (2016) also reported a category of “the gallery setting” of which one subcategory was “ordinary users of a community place”, noting that both others and the setting contributed to “a sense of normalcy, equality and personhood”. MacPherson et al. (2009) identified themes of “normalisation and discovery of residual abilities” relating to being treated by others as normal and having the ability to do things despite dementia. Flatt et al. (2015) identified the theme “self-esteem” referring to the positive feelings expressed when discussing the intervention, which the authors note represents the most enjoyable aspects of the intervention for those who took part. This theme comprised the subthemes “feeling accepted or a sense of normalcy”, “a sense of autonomy or control or mastery”, and “feeling special or important”.

These findings highlight the potential for museum-interventions to promote the personhood of PWD.

Cognition.

This theme describes findings relating to cognitive functioning.

Memory and verbal fluency were two specific cognitive domains that featured in the reviewed literature.

In qualitative analyses, memory emerged as a commonly reported theme. MacPherson et al. (2009) identified a theme of “recall”, with PWD recognising things such as artworks from previous sessions. Additional themes from the comments of facilitators were “effects on PWD” including “memory stimulation”. Camic et al. (2014) also identified the theme “cognitive capacities” and subcategories “engagement”, “new learning”, “memory”. In addition, Flatt et al. (2015) identified “cognitive stimulation” as a theme referring to the parts of the activity that appeared to be mentally stimulating, with the subthemes “learning”, “novelty of the experience”, and “reminiscing about the past or being nostalgic”. McGuigan, Legget and Horsburgh (2015) highlighted the theme of “shared experiences”, including the subthemes “nostalgia”, “memories inspired by the sessions”, and “other memories”. Eekelaar et al. (2012) identified the theme “becoming old selves” including the subthemes “recalling memories” and “increased verbalizations”. Camic et al. (2016) reported a superordinate category of “intellectual stimulation” referring to a learning experience rather than reminiscence. Two of the associated subcategories were “art as a universal interest” and “competency” with some making comparisons with previous abilities.

Quantitative explorations reported overall more ambiguous results. Eekelaar et al. (2012) reported overall improvements in verbal fluency (as explored through disfluent speech and semantic clustering) from pre-interviews to art-making sessions, but these were not maintained at follow up. Disfluencies in speech only decreased slightly during art-making (and include some anomalies), which the authors acknowledge as a more ambiguous finding. An overall increase in episodic memory frequencies was also found from pre-interviews across sessions and was maintained at follow up (again including some variability). The authors noted these findings were corroborated by qualitative findings.

Building on Eekelaar et al. (2012), Young, Tischler, Hulbert and Camic (2015) reported that both disfluencies and sematic clustering improved in both art-viewing and making activities from the first (or second session where there was missing data) to the final session. The changes in disfluencies were smaller (an increase of 1.2% and 2.19% respectively for art-viewing and art-making) than for semantic clustering (an increase of 29.95% and 18.71% respectively for art-viewing and art-making). Disfluencies were most positively impacted during art-making (with significant differences in comparison to art-viewing in 3 of 8 sessions) and semantic clustering during art-viewing. Lifetime memory reporting was also found to increase from the first to final sessions in both art activities, with a bigger impact during art-viewing than art-making (increase of 7.18% and 4.08% respectively). However, changes in verbal fluency and memory were not linear and fluctuated considerably from session to session, which the authors note presents challenges when trying to draw definitive conclusions without looking in more depth at the content of session discussions. The authors conclude that, whilst the results need to be interpreted with caution, they suggest art-viewing and making do not adversely, and potentially positively, impact cognition in PWD, although further research is needed.

Other findings also related to whether positive cognitive effects were maintained after the intervention. D'Cunha et al. (2019) reported a pre-post intervention increase in cognitive function (M-ACE) in both the overall score and the subdomains of "immediate recall" and "verbal fluency", but this was not maintained 6 weeks later. Improvements in verbal fluency from pre-interviews to art-making sessions in Eekelaar et al. (2012) were similarly not maintained at follow up.

Finally, there was little exploration of, or evidence to suggest, other domains of cognitive function may have been improved by the interventions. D'Cunha et al. (2019) reported no improvements in the subdomains of attention, visuospatial skills and delayed recall on the M-ACE. Schall et al. (2018) found no significant pre-post intervention changes on standardised measures of cognitive status and dementia severity (MMSE and ADAS-Cog).

Overall, the findings suggest museum interventions were cognitively stimulating and may improve aspects of memory and verbal fluency in PWD.

Engagement.

This theme describes findings identified by the literature as relating to engagement.

Both qualitative and quantitative results highlighted engagement as an important factor of the interventions.

Qualitatively, Burnside et al. (2017) highlighted the theme "engagement", which encompassed participant responses including communication with the facilitator, the process of the art activity and feeling connected with others. Camic et al. (2016) also reported a superordinate category of “intellectual stimulation” in which one of the subthemes was “engagement” including different perspectives on engaging with art from positive to feeling overwhelmed or discomfort.

Quantitative methods enabled some researchers to capture high levels of engagement experienced by PWD. MacPherson et al. (2009) explored changes in engagement (collapsed into negative, neutral, engaged, highly engaged). No significant differences were found between sessions 1 and 5, which authors note suggests participants began and remained engaged throughout (84.4% of observations were coded as engaged or highly engaged across the community and more impaired groups at session 1). Only a small proportion of negative or neutral observations were made (less than 10% across groups). “Engagement and intrinsic benefits independent of having dementia” was a theme identified in their qualitative analysis. McGuigan et al. (2015) found the average attentiveness of PWD remained high across sessions (remaining at 4/7 (focusing on the presenter for 50% of the time) or higher). This study found higher mean scores in sessions held in a members’ lounge (however several members were also observed to fall asleep) compared with the sessions involving gallery tours. However, the authors considered the potential impact of the increased difficulty in observing participants in the gallery in relation to this finding. PWD were found to be most attentive in a session that used both objects and images. The authors advocate for this combination in maximising engagement opportunities.

Other studies reported more mixed results. D’Cunha et al. (2019) found behavioural observations showed no changes in prompted or unprompted discussion, sleeping, or negative emotions. They did find an increase in happiness and laughter between sessions 1 and 2, which decreased between sessions 2 and 5. Eekelaar et al. (2012) found factual observations and opinions made by PWD in response to art works decreased during art-making sessions and rose again at follow up, with some individual variability at follow up in factual observations. The frequencies of emotional reactions to paintings occurred at a similar rate both pre- and during sessions and decreased in post-interviews, however individual data shows variability. Emotional reactions to the group codes showed 6.47% of speech in sessions related to the experience of the group, falling at post interview, and 2.16% a desire to continue with art activities in sessions and 2.94% at post interview. Soliciting information (seeking knowledge and requesting guidance) was also observed. Seeking knowledge showed similar levels at pre- and during sessions, which dropped at post interview, but with inconsistent individual patterns. One PWD displayed direct requests of guidance to facilitators (about what to do or say) and more so in sessions than in pre-post interviews.

Overall, these findings present a varied picture of the ways in which PWD appeared to be engaged during the art programmes (including with the artwork and others present).

Social outcomes.

This subtheme describes findings relating to social outcomes.

Numerous papers highlighted the social benefits of interventions. McGuigan et al. (2015) identified themes of “socialisation”, including subthemes of “connecting with others”, “novelty”, “re-engagement with the museum”, “opening up another venue to visit” and the theme “shared experiences”. Eekelaar et al. (2012) identified themes of “social activity” and subthemes of (reduced) “isolation” and “structure”, and the theme “shared experience”, with subthemes of “learning together” and “making art together”. Camic et al. (2014) identified the theme “social impact” and subcategories of “social aspect of the group” and “caring relationship”. Camic et al. (2016) also reported a superordinate category of “social interaction” with associated subcategories of “carer respite and support” and “interaction”. Flatt et al. (2015) identified “social connections” as a theme with the subthemes “connecting with others” and “how others shaped the experience”. In addition, they found people with

ADRD to rate the group interactions significantly higher with regard to enjoyment than their carers. Overall satisfaction with the sessions was found to be significantly correlated with participants previous experience with art (compared with people without experience) and with perceived social cohesion (both feelings of belonging and morale, which were also rated highly (4.15 and 4.32 respectively)).

MacPherson et al.'s (2009) theme "social aspects" included positive elements of social contact, but also expressed concerns such as "making an idiot of self". In addition, an identified theme from carers reports was "social aspects and [no] lasting change", while a theme from the comments of session facilitators was "excess disability", where PWD displayed less confidence when their carers' were present.

Burnside et al. (2017) developed a conceptual model which identified the process and essence of the intervention as the theme "mindfulness", incorporating themes including "socialisation" and "joint respite". Their model highlighted an outcome of relationship effects comprising themes of "relationship normalising", collaborating and removing the stigma associated with dementia, "relationship affirming" in relation to the current bonds and "relationship growth" together in a meaningful experience.

Overall, these findings suggest interventions afforded a range of social benefits.

Discussion

This review set out to better understand the psychological and social impacts of museum-based programmes for people living with a mild-to-moderate dementia. A synthesis of the findings of the 11 reviewed studies has highlighted key themes across the literature in relation to these impacts.

As is often the case in studies focusing on new areas of research, the papers reviewed here were largely exploratory in nature. Due in part to the practical restraints imposed by conducting research in naturalistic settings, sample sizes across the board were small. As a result, any conclusions must be drawn tentatively, something the authors tended to acknowledge appropriately. With this caveat in mind, this review offers observations regarding key themes, taking into account the evidence reviewed and its limitations.

Two clear themes emerging across both qualitative and quantitative studies included social benefits, improvements in mood (although quantitative findings were mixed) and enjoyment. These reflect the findings of a previous review of museum programmes in a more general older adult population (Smiraglia, 2016). Evidence suggesting improvements to quality of life was more mixed, with some studies reporting increases and others finding none. The issue of a variation in the reliability of different quality of life measures for PWD was raised by D'Cunha et al. (2019). More generally across the studies a range of measures were used to explore the same concept, reflecting the reported difficulties in clearly defining concepts such as wellbeing, as noted by Camic et al. (2019).

The theme of cognition was also present and is more broadly explored in a review by Young, Camic and Tischler (2016). Papers utilising quantitative methods were again limited in the conclusions they could draw in relation to these findings. Sample sizes meant statistical analyses were unable to be run, instead descriptive frequencies and improvements were reported where small increases in measures were observed. At times, these observations appeared to obscure the substantial fluctuation in scores that occurred between sessions. However, as exploratory studies employing novel methods that seek to capture changes during sessions, rather than simply pre- and post, these emerging findings are promising.

Themes of subjective wellbeing, and personhood as discussed by Kitwood (1997), were also reported in a number of the reviewed studies and highlight the interventions as valuing each PWD in a society where much stigma still exists (Batsch & Mittelman, 2012).

Across the themes identified by this review, findings from quantitative measures were often mixed, which may reflect methodological limitations discussed, such as small sample sizes and a lack of power, or indeed reflect a differential impact of different interventions. However, much overlap was found in the qualitative themes across the studies, suggesting a range of benefits for PWD. This finding supports Camic et al's (2014) assertion of the value of using mixed-method designs in the face of small sample sizes, as qualitative information can be useful in exploring the impact of interventions in the face of these issues. Overall, the studies' reviewed offered evidence supporting that museum-based interventions can be engaging and have a range of benefits pertaining to the psychological and social wellbeing of PWD.

Across the studies reviewed, confounding variables were generally poorly controlled for. This means they were unable to account for the impact of possible confounds such as different components of the interventions, the role of carers in the sessions (particularly given the mention of excess disability in studies such as MacPherson et al. (2009)), and participant characteristics, such as the type of dementia. In general, this was appropriately recognised with authors acknowledging that improvements could not definitively be attributed specifically to the interventions themselves. Further highlighting this issue, one study reviewed (Schall et al., 2018) included a control group in which benefits were reported following independent museum visits, suggesting some outcomes may not have been specific to the intervention.

Findings were drawn from data from PWD, carers, facilitators and wider staff involved in the interventions. These data were also taken at a range of times, from during or close to the intervention, to several weeks post. It is possible these sources may invite some bias, driven by motivations and hopes for meaningful outcomes, particularly as blinding was not possible.

Clinical implications

Given the limitations discussed, firm conclusions cannot be drawn regarding the psychological and social impacts of museum-based interventions in people with a mild-to-moderate dementia. However, whilst tentative, the findings do provide promising support that such interventions offer benefits to this population which can be further explored through drawing on more robust research methodologies. The findings also reflect wider literature promoting the positive benefits of museum settings and interventions for PWD (Camic and Chatterjee, 2013).

Therefore, it would be worthwhile for health care professionals, including clinical psychologists, to offer support and training in making these interventions more widely available and considering ways to increase access. This is in line with recommendations for improving dementia care, such as those outlined in the Prime Minister's Challenge on Dementia (DOH, 2012), social prescribing (NHS England, 2019) and public health interventions (Camic and Chatterjee, 2013).

Future research

It is important that future studies learn from the limitations in the existing literature in order to improve methodological rigour and the quality of research in line with the acknowledgement of these issues in the wider literature (Gray et al., 2018). Pursuing mixed-methods studies (as recommended by Camic et al., 2014) and including more wait-list controlled studies, as conducted by Schall et al. (2018), to better understand the factors that benefits may be attributed to will contribute towards a more robust evidence base, sensitive to the realistic issues faced. This can in turn impact funding and guide policy in this area.

The majority of interventions in the studies reviewed were based on art-viewing and art-making. It could be fruitful to extend this area of research to investigate other museum-based interventions, given that offering a range of stimulating and meaningful activities speaks to guidance advocating for activities to be tailored to the interests of PWD (NICE, 2018). For example, the use of objects was identified as having potential benefits in three of the studies reviewed (McGuigan et al., 2015; Young et al., 2015; Johnson et al., 2017) and could benefit from being further explored. Based on their findings, McGuigan et al. (2015) advocated for the combination of objects and images to maximise engagement. Studies such as Camic et al. (2019) have also found object handling to increase wellbeing in PWD.

In addition, the majority of participants across studies were white British. Future studies could benefit from considering how to increase the diversity of samples and access to interventions across ethnic groups.

Limitations of the review

The Qualsyst tool (Kmet, Lee & Cook, 2004) used to assess the quality of the studies was appropriate given its ability to guide critique on both quantitative and qualitative studies. However, the application of this is subjective, as is recognised by the authors. Despite clear questions and an adequate guide, there is still room for subjective interpretation.

This review sought to control for some confounds of the stage of dementia and setting by limiting its inclusion criteria to those living with mild-to-moderate dementia and interventions exclusively in heritage settings. Therefore the findings may only be applicable to these specified settings and population. Future reviews could seek to compare outcomes for those with mild-to-moderate and moderate-to-severe dementia, or in authentic heritage settings versus outreach interventions, to understand what impact these factors may have.

Given the focus of the research question this review set out to answer, there was not scope to consider other themes in the studies' findings, such as the museum setting, facilitation and logistics, nor findings relating to carers, facilitators or functional and physiological findings (of which there were fewer reported findings). These are undoubtedly important features of the interventions and were frequently mentioned. However, these may lend themselves more to the processes and practical features in improving future interventions, which were not the focus of this review. See Windle et al. (2018) for a realist synthesis in this area or Sharma and Lee (2019) for a more descriptive overview of these findings.

Whilst it was important this review included only peer-reviewed empirical papers in order to have sufficient methodological details and rigour to meaningfully synthesise findings, this means much grey literature was excluded which also forms a part of the landscape of such interventions. This includes some long-standing and reputable museum programmes such as MoMA (Mittleman & Epstein, 2009) on which several of the reviewed studies were based.

Conclusion

Given the limitations, firm conclusions cannot be drawn regarding the psychological and social impacts of museum-based interventions for people with a mild-to-moderate dementia. However, the positive findings highlighted in this review do suggest that such interventions can offer a range of valuable benefits to this population in these domains. Such benefits can be further explored through drawing on more robust mixed-method research methodologies with larger sample sizes, and better controlling for confounds.

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SECTION B

Subjective wellbeing in people with dementia: Exploring the process of facilitated small group object handling sessions in a museum setting

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Abstract

Introduction: Dementia is a public health priority given its increasing prevalence in the population. Dementia care guidance highlights the importance of supporting people with dementia (PWD) to access engaging and meaningful activities to promote their quality of life. There is a growing evidence base for the efficacy of heritage settings and arts-based interventions to provide social prescribing opportunities for clinical psychologists to help support wellbeing in this population. This study extended previous research and explored the potential processes underlying this effect in small group object handling (OH) sessions in a museum setting.

Method: A mixed-methods design was used comprising a pre-post measure of subjective wellbeing and an inductive thematic analysis to explore in-the-moment session content. Four PWD participated in three, one-hour group object handling sessions led by two facilitators.

Results: Pre-post wellbeing scores tentatively suggested an overall increase in subjective wellbeing post OH sessions, however no statistical analysis was conducted due to the small sample size. Qualitative findings identified four key themes: scaffolding, exploring objects, agency, and group collaboration. Tentative interpretations were made around the dynamic interaction of themes and subthemes.

Discussion: Findings offer ways to optimise sessions for PWD, having useful implications for training and increasing accessibility and specificity of this intervention in health and public health programming. Limitations and implications for future research are discussed.

Keywords: Dementia, object handling, museums, wellbeing, thematic analysis

Introduction

Dementia

Dementia, a syndrome characterised by progressive decline in cognitive functioning, motivation, affective control and social behaviour, is a public health priority, owing to its growing prevalence in the population and associated social and economic challenges (World Health Organisation, 2019). With no cure, promoting quality of life (QoL) and wellbeing is central to supporting those living with a dementia (Algar, Woods & Windle, 2014).

Recognising the significant impact dementia has on both the person and their families and carers, dementia care guidance highlights the importance of enabling people to live independent and meaningful lives through supporting them to engage in meaningful activities (National Collaborating Centre for Mental Health, 2018). Kitwood (1997) also advocates the importance of person-centred approaches to dementia care that recognise and maintain the personhood of people with dementia (PWD) in the face of cognitive decline. Therefore, increasing the availability and accessibility of meaningful and engaging interventions for PWD is an important challenge (Zeilig, Killick & Fox, 2014).

Heritage and arts interventions

Evidence-based non-pharmacological interventions such as cognitive stimulation therapy (CST) (Spector et al., 2003), are found to be effective in increasing QoL (and cognitive functioning) in PWD through themed, cognitively stimulating group activities (Woods, Thorgrimsen, Spector, Royan & Orrell, 2006). This is recommended for people living with a mild-to-moderate dementia (National Institute for Health and Care Excellence, 2018). However, in the interest of supporting people to live well with dementia, it is important to explore further opportunities for interventions that can increase QoL and wellbeing in the wider community.

Participative arts interventions (e.g. singing and music, dance, poetry and art-making, museum and art gallery interventions) have become a growing area of interest due to their potential for positive outcomes for PWD (Zeilig et al., 2014). In addition, arts and heritage environments (such as art galleries and museums) are often widely accessible and are recognised as having the potential to play an important role in health, wellbeing (Ander et al., 2013b; All-Party Parliamentary Group, 2017) and public health, as non-stigmatising settings that promote learning and engagement (Camic & Chatterjee, 2013), including for PWD and their caregivers (Sharma & Lee, 2019). Museums also provide important opportunities for social inclusion for isolated populations, such as older people in general (Todd, Camic, Lockyer, Thomson & Chatterjee, 2017). This has given rise to initiatives such as Museums on Prescription (Veall et al., 2017) as part of the new overall social prescribing initiative supported by the National Health Service (NHS England, 2019).

Research into the benefits of art gallery and museum-based interventions for PWD and their carers has suggested positive outcomes related to cognitive functioning (Eekelaar, Camic & Springham, 2012; Young, Tischler, Hulbert & Camic, 2015) and wellbeing (Johnson, Culverwell, Hulbert, Robertson & Camic, 2017) in people with early and middle stages of dementia (Camic, Hulbert & Kimmel, 2019). Carers have also reported observing improvements in mood and confidence in PWD during these interventions (Eekelaar et al., 2012). In addition, research into the subjective experiences of PWD and related cognitive disorders and caregivers of art museum interventions has highlighted key enjoyable aspects of such interventions: “cognitive stimulation”, “social connections” and “self -esteem” (Flatt et al., 2015).

Object handling and wellbeing

Museum object handling (OH) is one such arts intervention that has a growing evidence base in promoting wellbeing (see extant research presented below). Camic et al.

(2019) highlights that wellbeing is a multi-dimensional construct that has proven difficult to define in terms of theoretical consensus. They draw on the works of Dodge et al. (2012) and Huppert and So (2013) to consider the fluctuations in cognition, emotions and behaviour that PWD can experience and conceptualise subjective wellbeing in PWD as a biopsychosocial process. This process involves "(1) various fluctuating internal states… that (2) are experienced in numerous different ways across the different types of dementia and where (3) the accessibility and use of external resources (e.g. stimulating activities that engage the senses combined with social support) can help mitigate internal states (challenges) and increase wellbeing" (p. 4).

Camic (2010) proposes that discovering and exploring objects can stimulate areas such as motivation, emotion and cognition, provoking curiosity, creativity and linking to personal memories and meanings. In addition, Solway, Camic, Thomson and Chatterjee (2016) highlight the theoretical potential of the combination of multiple sense modalities, including the multidimensional sense of touch, to enhance memory, cognition and emotion.

Thomson, Ander, Menon, Lanceley and Chatterjee (2012) discuss theory relating to the interaction of the different sensory modalities (visual, verbal and touch) involved in OH. They propose in addition to verbal and visual modalities, the tactile element in handling objects may further increase wellbeing through a "triple-coding model". This builds on Paivio's (1986) dual-coding theory of memory and cognition, where verbal and visual representations connect in working memory during encoding processes and are integrated with information in long-term memory. This also draws on Simmons' (2006) proposal that this may also be enhanced by the "contiguity effect" (Clark & Paivio, 1991), where the coordinated (rather than separate) presentation of verbal and visual information leads to improved performance. They also suggest that in line with Craik and Lockhart's levels of processing model (1972), the additional modality of touch may increase the "kinaesthetic experience” resulting in “deeper and more elaborate memory traces” being created (p. 76). This is especially relevant in the context of sensory impairment, which can occur in dementia (Alzheimer’s Society, 2016).

Extant literature

OH has been shown to increase wellbeing and engagement across settings and client groups (see Solway et al., 2016 which includes a review of previous OH research). Studies have also begun to investigate the features and processes underlying this effect. For example, Ander et al. (2013b) conducted a grounded theory on a combination of group and one-to-one OH sessions and associated field notes and interviews, across a number of acute hospital wards, neurological rehabilitation units, an elderly psychiatric ward and an elderly care home. This focussed on the impact of sessions on wellbeing and described two key findings: the process of engagement (particularly in hospital patients due to the challenges of the setting, e.g. a lack of stimulation and uncertainty) and expressions of wellbeing (including improved mood and confidence).

Paddon, Thomson, Menon, Lanceley and Chatterjee (2014) used quantitative pre-post measures of wellbeing and inductive and deductive thematic analysis to investigate the content of one-to-one OH sessions in hospital patients (across elderly, oncology and neurological rehabilitation wards). They explored processes relating to object engagement, facilitation and wellbeing. They found sessions significantly improved wellbeing and identified “thinking and meaning-making” as the most important aspect of the patient’s role in sessions, which they linked to promoting an increased capacity to cope with stressful events.

Elaborating on these findings, a review by Solway et al. (2016) suggests group processes, encompassing the use of museum artefacts, may occur that influence or enhance the outcomes and participants experiences of sessions. In line with this, Solway, Thompson, Camic and Chatterjee (2015) used thematic analysis to explore open group OH sessions in older people in a mental health ward. They identified five main themes: “responding to object focussed questions”, “learning about objects and from each other”, “enjoyment, enrichment through touch and privilege”, “memories, personal associations and identity” and “imagination and storytelling”, which they note reflect participants’ working in collaboration, interacting and sharing knowledge.

Only two studies to date have looked at the potential benefits of OH specifically for PWD. Both have adopted quantitative pre-post methods in museum settings. Johnson et al. (2017) compared OH and art-viewing to a social refreshment break. They found significant increases in wellbeing in both interventions for PWD and their caregivers, but not in the refreshment break, which they propose suggests benefits were not purely down to the social element of the intervention. Camic et al. (2019) expanded on this study and found small group OH sessions to increase subjective wellbeing in people with both early and moderate stages of dementia. Both studies utilised subjective wellbeing measures (using visual analogue-based scales which form the Canterbury Wellbeing Scales (CWS)) and emphasise the value of capturing “in-the-moment” changes which may otherwise be lost in PWD or where longer-term maintenance of benefits may not exist (Camic et al., 2019).

Previous research has also highlighted the importance of the facilitator’s role and the qualities that may engage and facilitate participation. For example, having training in working with PWD and group facilitation, asking questions, providing knowledge of objects and using humour to create an atmosphere that supports PWD to feel at ease and stimulates curiosity (Camic et al., 2019). Therefore, understanding the ways in which facilitators can work to optimise sessions is an important consideration.

The present study

The literature to date provides promising support for the value of OH sessions in improving wellbeing in a range of conditions, including for PWD. An understanding of the mechanisms underlying these positive effects is also developing. However, there have been no studies that the researcher is aware of that explore the content and processes of group OH sessions specifically within PWD. This would further the pre-post studies that have been conducted within this population.

Therefore, the present study builds on the pre-post findings of Johnson et al. (2017) and Camic et al. (2019), which show an increase in the subjective wellbeing of PWD following object handling, to explore the processes present within sessions that may contribute to this effect. Investigating these processes for PWD living in the community is important in order to better understand how they may promote wellbeing and to optimise sessions for this population. This can have useful implications for training and increasing accessibility and specificity of this intervention in health and public health programming.

Aims, hypotheses and research questions

The present study had two aims: Firstly, to explore whether subjective in-the-moment wellbeing would increase post-OH sessions in line with the previous studies outlined. The second and main aim of the study was to explore the processes within three facilitated small group OH sessions in a museum setting. This was to better understand the ways in which the sessions may be effective in promoting subjective wellbeing for PWD.

The study was guided by the following research hypothesis and questions:

H1: Subjective in-the-moment wellbeing will increase post-OH sessions

Q1: What is the process of facilitation?

Q2: What are the roles of material objects?

Q3: What is the process of person-to-person interaction within the group?

Method

Design

This study adopted a mixed-methods design. This comprised a quantitative pre-post self-report measure of wellbeing (CWS; Appendix 2) and qualitative thematic analysis of continuous audio and video recorded content from three group object handling sessions.

Service user involvement. PWD and their carers had been consulted by the developers of the CWS on two previous projects using object handling and in the development of the CWS used in the present study (Camic et al., 2019; Johnson et al., 2017). This feedback was used to determine the length of sessions and the number of objects used.

Methodology

Thematic analysis was used to analyse the data in relation to the research questions. Thematic analysis allows patterns or themes to be identified and analysed, describing the data in rich detail (Braun & Clarke, 2006), therefore allowing the content of the object handling sessions to be studied in depth. Clarke and Braun (2018) emphasise thematic analysis is an umbrella term describing a range of different approaches which vary in their philosophical underpinnings and procedure for analysis. A "coding reliability" approach (Clarke & Braun, 2018, p.108) was adopted in this study in line with Boyatzis (1998), utilising a structured approach to generating codes and themes to improve their accuracy and reliability. This study was underpinned by a critical realist epistemological approach which posits the existence of an objective world, independent of human language and perception, whilst also acknowledging that this world is in part made up of subjective interpretations that influence how it is experienced and perceived (O'Mahoney & Vincent, 2014). This study sought to gain knowledge about the ways in which object handling sessions can be effective in promoting wellbeing for PWD through the subjective reports of participants (wellbeing measure) and the interpretations of the researcher (thematic analysis on the verbal interactions within sessions) in order to inform future object handling research and the delivery of sessions in the community for PWD.

An inductive approach was utilised which draws on the observed data to identify patterns (Patton, 2015) rather than being driven by theory or previous research (Braun & Clarke, 2006). Although a bottom-up approach, it is important to acknowledge that inductive analysis is always influenced to some degree by the researcher (Braun & Clarke, 2013). This approach was chosen due to the present study being the first to explore group OH sessions in PWD using qualitative methods. Therefore the researcher felt it was important to be driven by the data in this exploratory study.

Ethical considerations

The study was granted ethical approval by a Canterbury Christ Church University ethics panel (Appendix 3). As part of this proposal, due regard was given to data storage and participants' anonymity and capacity to consent. The research adhered to the British Psychological Society's "Code of Human Research Ethics" (2014) and the Data Protection Act (2018).

Measures

The CWS (Appendix 2) is an easy-to-complete subjective measure of wellbeing using visual analogue-style scales (EuroQoL Group, 1990), with good reliability (Camic et al., 2019) in a dementia population. It was specifically developed to look at dimensions of in-the-moment wellbeing relevant to PWD (and their carers) and comprises five subscales (Happy/Sad, Well/Unwell, Interested/Bored, Confident/Not Confident and Optimistic/Not Optimistic) identified by Johnson et al. (2017). Each scale is presented vertically from 0 to 100 and participants are asked to place a mark on each scale to show how they are feeling in the present moment. Scores for each subscale can also be summed for a composite wellbeing score.

Participants

Data were gathered from four white British participants living with a dementia (Table 3), all of whom were living in the community, three with a spouse and one alone. A further four potential participants expressed interest in the study but two withdrew their participation due to diary conflicts with the session dates; two did not give a reason.

The brief version of the mini mental state examination (MMSE – 2 BV; Folstein, Folstein, White & Messer, 2010; Appendix 4) was completed by the researcher. The clinical dementia rating (CDR) scale (Morris, 1997; Appendix 5) was completed by a family member or in the case of participant 2, by the researcher; CDR scoring ranges from 0 (no impairment) to 3.0 (severe impairment) across six categories. These were used to situate the sample with regard to the stage of dementia (all being classified in the mild stages).

Table 3

Participant Demographic Information

Participant	Age	Gender	Type of dementia	MMSE-2 BV	CDR
1	64	Male	Alzheimer's	12	0.5
2	86	Female	Alzheimer's	14	0.5
3	65	Male	Frontotemporal-familial variant	13	1.0
4	61	Male	Frontotemporal-behavioural variant	11	1.0

Note. MMSE-2 BV=mini mental state examination 2nd edition: brief version. This is out of a total score of 16 with lower scores indicating cognitive impairment. CDR=clinical dementia rating scale. This is out of a total score of 3 (0=no impairment to 3.0=severe impairment).

Two participants were deemed to have capacity to consent to participation (Mental Capacity Act 2005, 2007) and two had a spouse act as a proxy to support that participation was in line with the participant’s wishes. Participants attended all three object handling sessions. They were contacted by the researcher to offer to postpone one session due to snowy conditions, but all enthusiastically insisted they would like the group to go ahead. Two female museum visitor experience guides, experienced in handling artefacts, were recruited to facilitate the object handling sessions. Only one facilitator was present in the final session due to an unavoidable diary conflict.

Procedure

This study took place at a dedicated research hub for the arts and dementia, based in a free public museum in an urban area in the South East of England. This was in collaboration with Canterbury Christ Church University (who granted ethical approval for the study) and another local University.

Recruitment. This study was advertised in a range of local non-NHS dementia settings and services by emailing and displaying posters (Appendix 6) both online and in day centres, waiting rooms and at a dementia involvement group. The researcher also attended a dementia support group. In addition, the researcher received approval to contact participants on a dementia research database (Appendix 7).

Participants were considered eligible for the study if they were aged 50 and above, had a confirmed dementia diagnosis in the mild-to-moderate stage, were able to commit to the three sessions and did not have any significant co-morbid psychiatric or health conditions that could impede group participation.

Initially this study aimed to run three, three-week groups with a total of 12-18 participants. However, recruitment difficulties were unexpectedly experienced, perhaps due to the multiple large-scale studies also being conducted at the same time, and after four months, only one, three-week group with four rather than the hoped for six participants was possible. Those who expressed an interest in the study attended a pre-study meeting in order to confirm eligibility, go through the information sheet (Appendix 8) and answer any questions, gain informed consent (Appendix 9), complete the MMSE-2 BV and the CDR. Participants were asked to describe the study in their own words to assess capacity to consent. Two attended with their spouse and two alone. This also provided an orientation to the space where the sessions would take place.

Object handling sessions. Participants attended three one-hour object handling sessions over three consecutive weeks at the same day, time and location in order to create consistency and a sense of familiarity. Sessions took place within a museum setting as an accessible community resource.

Three sessions were chosen based on the design of a previous arts intervention study by Eekelaar et al. (2012) and as a time frame that allowed for multiple sessions to maximise data collection for each participant, without burdening participants. It was also decided, in consultation with museum staff, that three one-hour sessions would have ecological validly for a museum environment. This built on the opportunity to assess the feasibility of running a series of sessions within this population where PWD may require someone to accompany them on the journey to and from the venue.

Those who required a proxy for the consent process were asked to bring someone with them who would remain in the museum and could be contacted if needed. Three of the four participants were accompanied to and from the sessions. Those accompanying participants reported to have enjoyed exploring the museum or to have been able to run errands nearby.

The total length of the sessions was approximately 2 hours to allow time either side for participants to arrive and have refreshments, engage in general conversation with each other and the researchers, and to orientate themselves to the setting.

Participants were invited one at a time by the researcher to sit at a table in a quiet corner of the room to complete the CWS. This took a few minutes to complete and was administered both immediately prior to and immediately after each object handling session. Therefore, each participant completed the measure at six time points across the three sessions.

Two 360-degree Fly™ cameras (360-Fly, 2017; Appendix 10) were used to record the verbal and visual content of sessions from different angles and were small in size so as to not distract from the objects. An additional audio recording device was also used as a back up. All data collection methods were designed to be as unobtrusive as possible.

Object handling sessions took place seated around a rectangular table in a well-lit private room in the museum. Sessions were led by two facilitators who were trained at the research hub where the study took place in working with PWD as part of their staff responsibilities. The researchers observed all sessions unobtrusively from the back of the room but did not take part in the sessions.

Sessions were guided by a protocol (Appendix 11) that was created in collaboration between the researchers and facilitators and informed by previous object-handling feedback and research (Ander et al., 2013a; Camic et al., 2019; Camic et al., 2018; Johnson et al., 2017). These were used flexibly within the session based on the interaction of participants. Different objects were used each session (Figure 2) and were picked to be novel and diverse in their cultural, historical and sensory qualities. Some were from the museums handling collection and others were contributed by the lead supervisor. Facilitators focussed on passing around objects and generating discussion through asking a range of questions to encourage participation and exploration before sharing information about each object. At the end of the final session, the group curated a display in the research hub using the objects (Appendix 12).

Participants were provided with a handout (Appendix 13) after each session consisting of pictures and information on the objects explored and the time and date of the next session as a memory prompt. They were given shopping vouchers (£30) to thank them for taking part.

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Figure 2. A selection of the objects used.

Data Analysis. Audio content from the entirety of the three object handling sessions was transcribed and subsequently coded using software package NVivo 12. Following Braun and Clarke's (2006) guidelines for thematic analysis, the researcher initially immersed herself in the data by watching video recorded sessions and reading session transcripts in full. Full transcripts from the three object handling sessions were then coded (approximately 200 pages of text; see Appendix 14 for a coded excerpt) for both semantic and latent themes. Semantic themes captured how sessions were facilitated and how objects were explored. Latent themes captured interactions and processes within the group. Video data were consulted to clarify understanding of the transcripts for accurate coding. In line with a "coding reliability" approach (Clarke & Braun, 2018, p. 108), a codebook (Boyatzis, 1998) was developed across the three sessions as codes were generated, to capture codes and their descriptions (Appendix 15). This was revised and refined to collapse any codes that were too similar or not pertinent to the research questions. Codes were also further broken down where this provided additional relevant information. Through this process, a final codebook of the three sessions was developed (Appendix 16). Initial themes were subsequently developed (Appendix 17) and refined based on these codes and subthemes were identified. All codes (and subsequently developed themes) were discussed in detail with a supervisor, examining supporting quotes throughout, to improve the reliability and validity of the analysis in line with the approach. In addition, discussions also took place with two other colleagues, both at the stage of code development and theme and subtheme development.

Had it been possible to run the intended additional group sessions, the codebook would have been used to code further sessions. However, given that only three sessions were run, these were used to develop the initial codebook which can be utilised in future research.

Quality assurance. Meyrick's (2006) guiding framework for rating the quality of qualitative research was consulted to inform this study at each stage of the process, honouring its key principles of transparency and systematicity. Feedback gathered from PWD and carers in previous projects was used to inform the design of OH sessions. This is in line with quality assurance (Weinstein, 2006) and the NICE (2013, updated 2019) quality standard statement on providing "Activities to promote wellbeing" (QS184.5) through discussing with PWD their needs and preferences to inform these.

The researcher kept a reflective diary (excerpt, Appendix 18) throughout the study as a way of acknowledging her own biases and subjectivity. These were also reflected on with the lead supervisor. For example, the researcher's own feelings of interest towards the objects and positivity about the potential benefits of OH and the need to remain open to possible positive and negative participant experiences within the sessions.

Results

Subjective wellbeing scores

Mean pre-post CWS scores for each of the five subscales (Happy/Sad, Well/Unwell, Interested/Bored, Confident/Not Confident and Optimistic/Not Optimistic) and composite scores of all subscales were calculated for each object handling session across all participants and are displayed in Figure 3. These scores suggest an overall trend of an increase in self-reported wellbeing post- sessions for all subscales, when compared with pre-session ratings. However, owing to the small sample size of this study, statistical tests were not possible making any interpretations highly tentative.

To the researcher's knowledge there are no reliability data for the CWS and therefore it was not possible to calculate the reliable change index for these scores. However, mean change scores were calculated for each session across participants by subtracting pre- from

Table 4

Group Mean Pre-Post Subjective Wellbeing Change Scores for Sessions 1 to 3

CWS Subscale/composite score	Session 1	Session 2	Session 3
Composite score	+30	+28.75	+15
Happy	+7.5	+3.75	+5
Well	+ 10	+5	+2.5
Interested	+8.75	+11.25	+2.5
Confident	+1.25	+7.5	+2.5
Optimistic	+2.5	+1.25	+2.5

Note. CWS=Canterbury wellbeing scales. Composite score=sum of the subscales. Subscales are scored from 0-100 and the composite score from 0-500.

post-scores on the CWS in line with previous studies. Change scores for subscales and the composite score are displayed in Table 4.

Change scores ranged from an increase of 1.25 to 11.25 points for individual subscales (out of a possible score of 100). The greatest subscale change score at session 1 was for the “well” subscale, in session 2 the “interested” subscale and at session 3 the “happy” subsale. For the composite score, average change scores ranged from an increase of 30 points at session 1 to 15 at session 3 (out of a possible score of 500). These change scores are in the same direction as those reported by Camic et al. (2019) who used a much larger sample size (n=80) and found participant composite scores to increase by an average of 57.81 points and Johnson et al. (2017) who found an overall increase of 30.29 and 39.74 points (n=36).

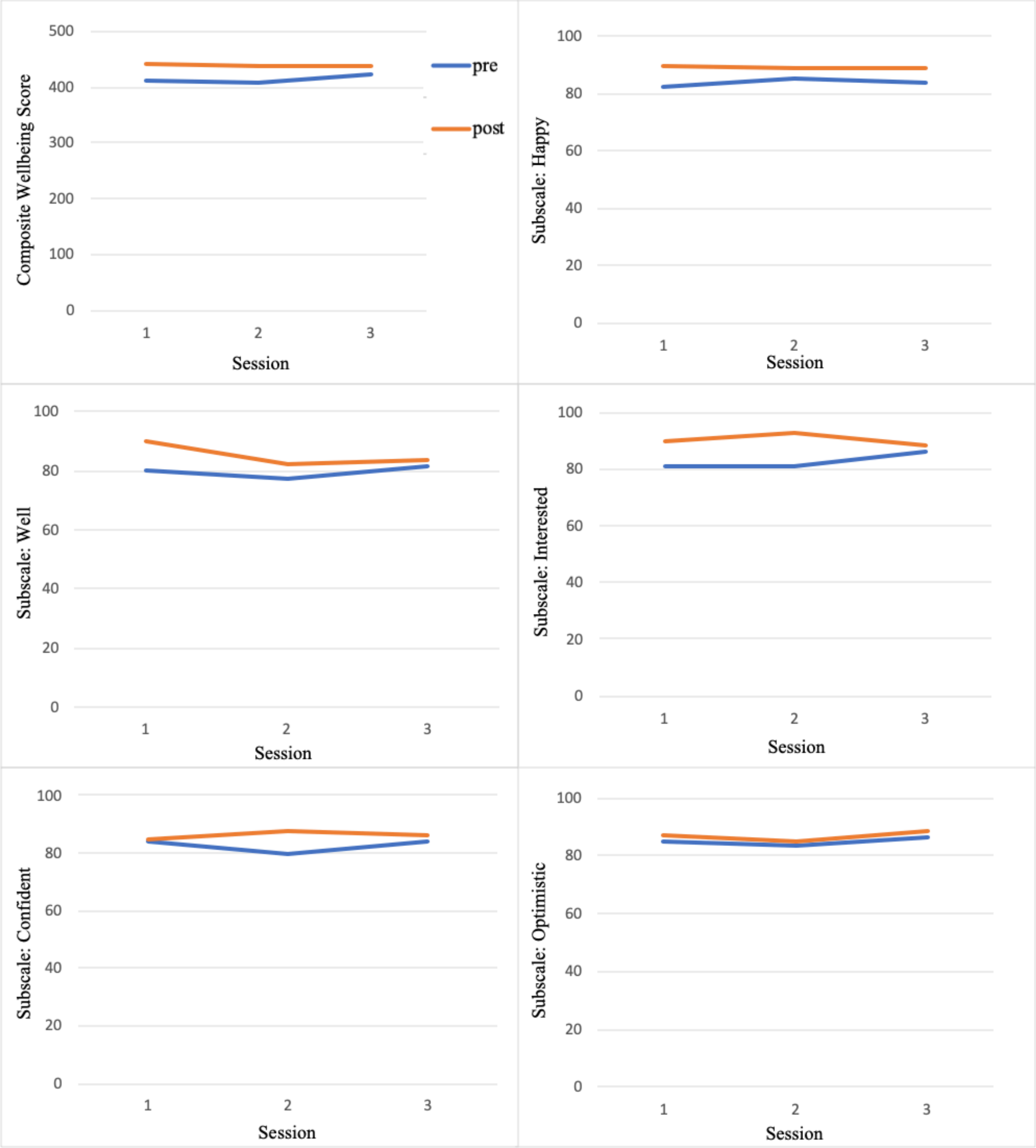

Figure 3. Mean pre-post CWS scores across participants for each object handling session by subscale and composite score for all subscales.

Overview of themes

Data were analysed using an inductive thematic approach to identify themes in order to address three research questions: Q1: What is the process of facilitation? Q2: What are the roles of material objects? Q3: What is the process of person-to-person interaction within the group? The final thematic map is displayed in Figure 4 and the themes and subthemes with example codes and supporting quotes are outlined in Table 5.

The thematic map displays the themes and subthemes identified within and across the group sessions. Arrows and lines depict the dynamic interactions between themes, with thicker lines representing a stronger relationship. *Scaffolding* conditions created by the contributions of the facilitators (process of facilitation) led to participants exercising *agency* in expressing themselves and participating in a variety of ways, *exploring objects* from a range of perspectives. This led to a sense of group cohesion and *group collaboration* (including both participants and facilitators) in the further exploration of objects. Objects appeared to provide a shared focus, acting as a vehicle through which these processes took place.

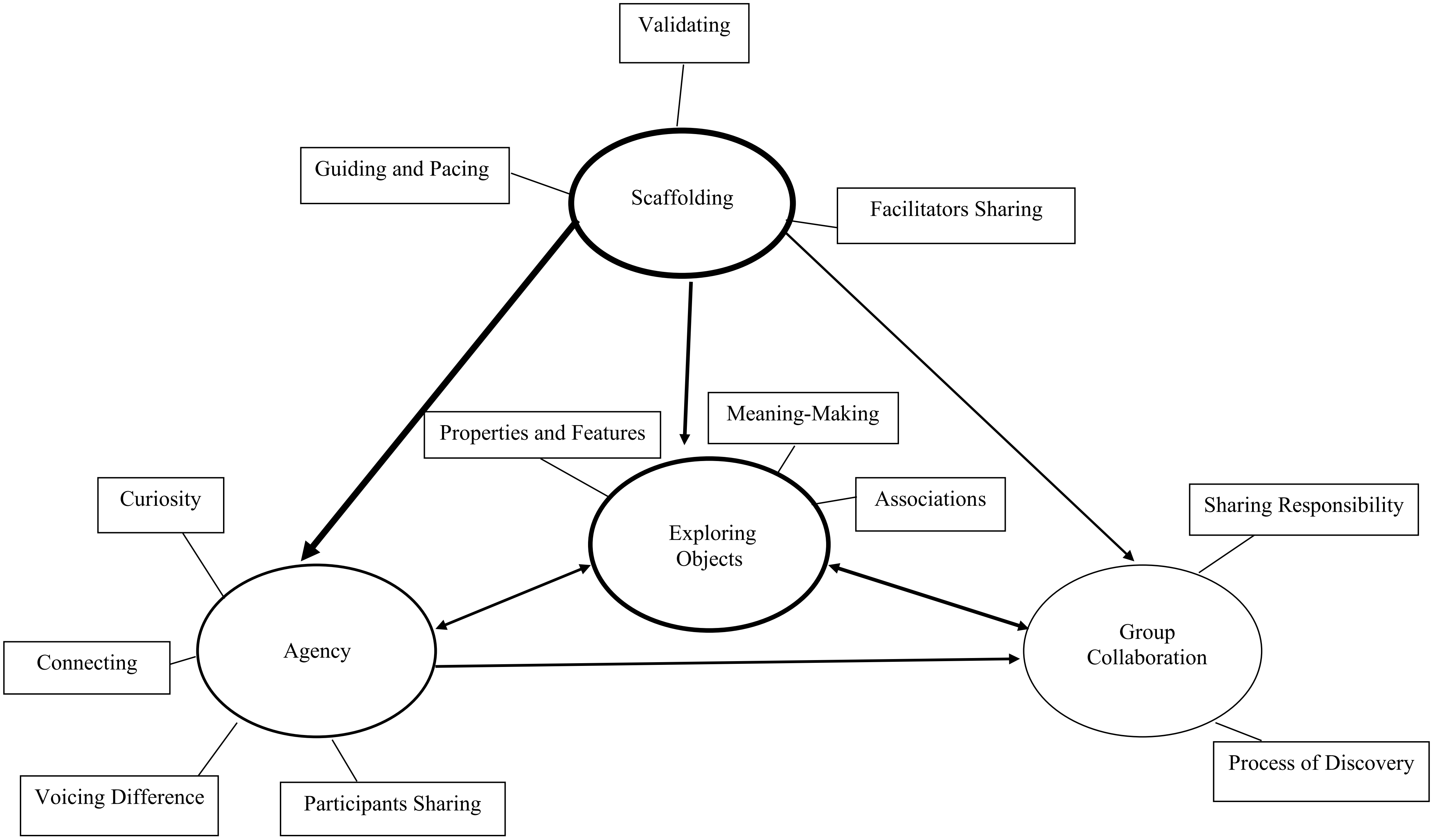

Figure 4. Thematic map

Note. Arrows signify the direction of the relationship between themes. The thickness of the line depicts the strength of this relationship, with a thicker line representing a stronger relationship.

Table 5

Summary of Themes

Theme	Subtheme	Relevant codes	Supporting quotes
Scaffolding	Guiding and pacing	F asking questions (exploration; memories, existing knowledge or personal experience; opinions and preferences). F direction or instruction - prompting F changing topic or introducing new idea F providing information F answering questions	F1: “Hmm, do you want to have a look and just pass it around? How does it feel? It’s pretty heavy.” F2: “And it’s used for you know if you had a beautiful wooden floor and you didn’t want that to get scratched by your legs of your chairs and tables.” F2: “What would you use it for, do you think?”
	Validating	F bringing people in F validating or encouraging to P F responding to P	F2: “So have people have seen them before? So it sounds like you have. Does anyone else? Have you not seen them?” F1: “It doesn’t look edible, yeah, I agree, especially when you hold it” P4: “That’s for cooking”, F2: “You’d use it in the kitchen”
	Facilitators sharing	F not knowing F sharing opinions F sharing personal information Humour	F2: “I think that’s why I don’t, for years I didn’t like it, because I think we were given it as children erm, and it put me off it. But I like it now.” F1: “I think as a sense, smell in general is quite under erm represented and we don’t really talk about, we’re quite like visual as as a society. So maybe we do smell, but we’re not aware of it.” F2: “I had absolutely no idea actually what that was for. And then I, last night, I was looking at something my father had, which is a little elephant, a little iron elephant with holes in it. And that’s very clearly for incense, it’s got a hole in the bottom and you put a a burning comb into it and it comes up through the holes.”

Agency	Curiosity	P asking questions P guessing and hypothesising	P1: “I think it’s probably something medieval” P4: “I think it’s just a paperweight.” P3: “Is it that they thought of handling it maybe it would be get the bit of iron into their system somehow?”
	Connecting	P responding to F P asking P question P clarifying P agreement with another P Ps agreeing or reaching consensus P short-phrase engagement or contribution Ps responding to each other P changes or introduces new topic or moves conversation on	P1: “I can’t believe that that’s 18th century, can you?” P4: “I believe that they could be used in that time, but I don’t know how they would make it.” P3: “I didn’t hear what you said.” P4: “I said it’s looking at me, it’s got a pupil, it’s got an iris, and it’s the white.” P3: “It’s funny, I was thinking just the same, it’s like an eye face, like that.” P2: “Really?” P3: “Oh god, ask [name]. Get it over and done with.”
	Voicing difference	P disagreeing with or challenging others	P1: “I’m not quite sure that is true actually” P1: “Yeah, the bit, I mean I quite like the beads but erm” P3: “I think the beads are a distraction.” F1: “I’m sure you can use it as an ashtray if you want.” P3: “Yes, multifaceted.” P4: “No, because there’s nowhere to put the cigarette.”
	Participants sharing	P providing explanations or reasoning P uncertainty, not knowing or forgetting P sharing opinions and preferences P sharing personal information and stories P sharing personal knowledge Humour	P2: “Gosh, it’s not too heavy, it’s a bit, it’s obviously quite intriguing. Amazing.” P3: “I remember my auntie used to make apple pie with a lot of that. I really didn’t like it actually. I couldn’t really say anything, so” (all laugh). P4: “I got it because of the, the wood was very interesting and then I couldn’t bring it back to England and I didn’t see it for seven months because it was travelling by itself. And when I got, when I opened it, I sort of felt I must respect it.”

Exploring objects	Properties and features	Details or features	Shape		P4: “It smells of reed.”
		Material	Fragility		P2: “different surface on the inside here, smooth surface on the outside”
		Visual properties	Size		F1: “And what is the other one, and what shape is the other one?”
		Weight	Orientation		P4: “Is it wood or is it ceramic?”
		Smell	Taste		
		Touch or texture			
	Meaning-making	Identity or function/purpose	Origin	Age	P2: “It’s very good quality.”
		Meaning	Ownership	Quality	P4: “You’d have to be very careful where you hung them, because if you’ve got lights through them, they could cause a fire.”
		Authenticity	Production	Condition	F1: “Exactly, I think it’s because you’re just wealthy and you want to show off.”
		Usefulness of object	Monetary value		
		Practicality	Object skill or appreciation		
		Danger			
	Associations	It’s like…			F1: “But I mean you’re, you’re right to associate smells with with rituals, that’s absolutely is been happening throughout different religions.”
		Associations beyond the physical object			P4: “It looks like a tooth; P4: It’s got the root and then the little tooth.”
					F2: “Yeah, it looks like a face.”

Group collaboration	Sharing responsibility	Remembering – recapping what has been discussed Humour Sharing Introducing new idea/moving on	F2: “Somebody said drink, which was along the right lines.” P3: “I think he came up with that one.” F1: “Have you ever had any kind of things that I don’t know when you were kids your mother gave you? I mean like you know, in [name], my mum was giving me like honey and and lemon and and this type of things instead of I don’t know, paracetamol maybe.” P4: “Well not as a child, but when we were on expeditions, we used to have coco, because if you got a tummy bug, somehow it stops diarrhoea and things.” F2: “Does anybody else have got any idea what these could be? It’s related to people going ‘ouch’.” P4: “So you distract them, you give them that to play with and then you stick the needle in them” (all laugh).
	Process of discovery	P and F interactive learning Process of discovery and problem solving Co-curating	P4: “I think it’s either a key to a a castle or something or it’s a thing for turning off the main water.” P3: “It is.” P2: “I can see it.” P4: “I don’t know.” F2: “What do you two think?” P1: “I haven’t a clue.” P3: “I I thought it was a handle you know, but it probably isn’t, because that would be too simple, or a door knock. I don’t know.” P2: “Yeah, quite, it would be.” P4: “Quite difficult to carve so small, just because I thought at first, oh well, there’s much more work, but one the other hand, to do something as small as that and to make the hole.” P3: “Yes that’s right, very small.” P4: “And how did they make the holes, did they burn them in?” P3: “I don’t know, I hadn’t thought of that one.” P4: “Does it look as though they’re burnt in?” P1: “I don’t think you would’ve done that.” P2: “No, I wouldn’t think so.” F1: “Someone said carved, I think.” P1: “Yeah, I thought.” P2: “Oh it must be carved, I think.” P4: “Yeah, but they’re so perfectly round.” P1: “And the other one is like a snail.” F2: “Yeah.” P4: “So why a snail I don’t know. It certainly is a snail.” P1: “I don’t know. Well is it a snail? It’s quite an original snail.” P2: “Goodness curious.” P4: “Yeah, because look, it’s got the little horn.” P1: “It’s more of marine-type shellfish thing” P2: “Amazing.” P4: “No, but it’s got the horns on it. Can you see the horn?”

Note. P=Participant(s); F=Facilitator(s).

Themes

Scaffolding.

This theme relates to the process of facilitation during the object handing sessions and comprises three subthemes: *guiding and pacing, validating* and *sharing.*

Guiding and pacing reflects the direct guidance facilitators expressed to encourage exploration and learning. This included direct questions to participants to prompt or further exploration (F2: “Any idea where, what part of the world it might come from?”), relating to participants own experiences or knowledge (F1: “Where else is there is turmeric usually, in which food, which type of cuisine?”), eliciting opinions or preferences (F2: “Would you like one of those, would you have one in your house?”) and instructions or changes in topic, which also appeared to help structure the sessions (F2: “Well, let’s look at another object, very different”). This also included information provided by facilitators around objects (F2: “So this is a lucky iron fish and it was originally manufactured in Cambodia”) or to pace sessions by prompting further group discussion before sharing knowledge about an object (F2: “Actually, let’s work out first how old it is...”).

Validating describes the action taken by facilitators to acknowledge what participants have said, responding to and encouraging their contributions (F2: “So it does have a function. I mean you’re right, some of it is luck, it’s to do with good luck”). This also included efforts to reach out directly to participants who may have been quieter in the session to support their participation, valuing all members of the group (F1: “Would you like to pass it on to [name] and see what he thinks”).

Sharing referred to facilitators self-disclosing within the sessions, such as expressing not knowing (F2: “We were puzzled because it’s not an object from the museum, it’s from [name], he’s got an interesting collection of objects and we were totally baffled by it”), sharing personal information and their opinions around objects (F2: “It’s got a great fragrance.”) and using humour (F2: “So it wouldn’t have Gin in it (laughs)?”).

Overall, *scaffolding* may have contributed to a sense of equal status in the group between facilitators and participants and enabled safe and respecting conditions for participation.

Agency.

This theme relates to the contributions of participants within the object handing sessions and is made up of the subthemes: *curiosity, connecting, voicing difference* and *sharing*. Independence and the confidence to exercise agency through participation within the sessions may have been enabled by the conditions created by the process of facilitation.

Curiosity relates to the participants stance in the sessions around the objects and associated group discussion in asking questions (P3: “Is it an animal, standing, or is it a …?”) and guessing and hypothesising (P4: “I think it could be a very, very early mirror.”). The latter formed the most prominent part of the sessions towards exploring and discovering more about objects. This may reflect the sense of safety created in the group that allowed participants to take risks and guess without the fear that may be associated with giving an incorrect response.

Connecting describes the ways participants communicated with other participants and facilitators within the sessions. This was often in the form of asking questions, which may have been directed at other participants, facilitators or the wider group (P3: “Which country was that in then? Where was that?”), to clarify what had been said (P3: “So that would be, you’d put the leg into that”), or responding more generally. This is inclusive of all participants and their own personal patterns of communication. For example, one group member generally communicated using shorter phrases (P2: “Amazing; Remarkable; Gosh”) than other participants, however the frequency of their contributions suggested they were engaged. Another group member more frequently took on the role of changing topic or moving the group on (P1: “Okay, what are we going to look at next?”). This may reflect participants’ idiosyncratic personalities and the roles they take up in groups, or possibly the impact of dementia on communication skills.

Voicing difference demonstrates participants’ ability to express differing opinions, disagree with and challenge others in the group (P1: “I just can’t believe you’d stand a table in a glass, that wouldn’t, that doesn’t make sense to me.”). This occurred frequently during discussion as hypotheses were generated and appeared to be tolerated by and even drive the group in making further hypotheses.

Sharing refers to participants self-disclosing within the session. This may relate to the sharing by facilitators, which may have been enabling for participants to feel able to share. Participants expressed not knowing (P2: “I don’t know what you’d use it for”), shared personal opinions (P1: “I think this is fantastic.”), personal stories and experiences (P3: “Well, I was in Paris, when I was about 18, 16, I don’t know. And erm and I bought a couple, not same as [name] but you know, one of them flea markets and black little figures like that.”) and humour (P3: “Get that out and hope it doesn’t mess up the rest of the stew”. (All laugh)).

Exploring objects.

This theme, comprised of three subthemes: *properties and features, meaning-making* and *associations*, refers to how objects were explored through discussion in the OH sessions by both participants and facilitators. The number of these reflects the “multifaceted” (P3) nature of many of the objects. The fact that many of the objects were items participants, and in some cases the facilitators, did not know much about, appeared to allow them to be explored from many different angels. As such, the objects may have acted as a vehicle for a wide range of interaction within the group.

Properties and features of objects refers to discussion around the physical objects themselves. For example, their weight or material (P1: "It's quite heavy. I think its iron, is it iron?"), smell (P3: "It smells kind of like iron, that kind of unpleasant kind of smell."), and decorative features (P4: "It's got a lovely pattern on the bottom").

Meaning-making describes how group members responded to and made sense of objects beyond their physical properties. There was much discussion around the potential identity and function of the objects (P4: "I would now put moth, anti-moth things in it (laughs) but I don't think that's what it was for") and their age (P1: "I mean to me it looks 20th century"). This subtheme also included discussion around whether objects were authentic (F2: "Is it real, I'm going to ask, is it real?"), their origin (P3: "It's from China is it?"), and what they may represent (P4: "The eye, the eye, the eyes are very distinctive and I think that would tell you what tribe, if you knew enough about it.").

Associations captures the links that were made beyond the objects. This included likening objects to other things (P3: "It looks like a face to me, I mean you know, I just see it like that.") and conversations that led on from the discussion of objects. For example, during a conversation about an iron fish, discussion led to the role of iron in diet (F1: "Yeah, Especially I get, very you know more sensitive groups like pregnant women for example if they don't, it can be quite dangerous if they don't have enough iron, yeah.") and when exploring a glass furniture leg protector (P4: "Because it's not blown, you don't chip at glass. So, when did press glass come in? Because that's press glass, but when?"). This also links to personal stories that were shared, for example when using spices in the session (P4: "Hmm, I make French toast with cinnamon.").

Group Collaboration.

This theme relates to the process of the group coming together as a whole within the object handing sessions and comprises the subthemes: *sharing responsibility* and *process of discovery.*

Sharing responsibility describes the finding that both facilitators and participants came to share, as reflected within the themes of *scaffolding* and *agency*. This participation of sharing stories, using humour and moving the group on as previously reported, as well as recapping what had been discussed (F1: "I think you said cinnamon.") appeared to reflect a shared responsibility for group participation. This may have contributed to a sense of equal status in the group and group cohesion.

Process of discovery reflects the process through which group collaboration arose where members built on each other's ideas. This described the learning of new information (P1: "What's divination?", F2: "Erm, well sort of trying to see the future, trying to work out what's going to happen."), sharing different ideas and problem solving around objects (P1: "I think it is an ashtray isn't it?", P4: "No, because it's not big enough to put a cigarette.", P2: "Not there", P1: "No, that's true, but if you turn it around that way.", P4: "But still, there's nowhere to put it, the cigarette.") and the co-curation of a display case in the final session (P3: "Is there any, can we use this oval space?", F: "Absolutely. There's this piece here if you want to put that somewhere?", P4: "No, no, it's too similar to that, isn't that?").

Multiple sessions

The researcher looked at the final frequency of each code across each of the three sessions (see frequency of codes column, Appendix 15) as well as the identified themes, to explore whether any clear changes or patterns could be identified across the sessions. Some fluctuation in the frequency of codes was observed with the varying topics of conversation around different objects. However, no clear changes or patterns were found, suggesting the frequency of the codes and the overall themes were relatively stable across each of the three sessions.

Across all three sessions, the most frequently recorded codes were those relating to *exploring objects* (including both participants and facilitators and in particular around identity and function) and codes relating to *scaffolding* and *agency*: asking questions (both facilitators and participants), participants guessing and hypothesising, participants sharing opinions and preferences and facilitators providing information.

Summary of findings

Pre-post CWS scores may suggest an overall increase in participants' self-reported wellbeing after object handling sessions. However, without a larger sample size and the resulting statistical analysis, no further interpretation can be made.

The identified themes generated from the verbal content of sessions suggest that participant wellbeing may have been increased through a number of processes that took place within the sessions. These comprised the conditions within the group that were created through the process of facilitation (facilitators *guiding and pacing*, *validating* and *sharing* to *scaffold* participation), which may have empowered participants to have *agency* in expressing themselves (*sharing curiosities and stories, making connections* and *voicing different opinions*) and participate however they felt able to. This led to *group collaboration*, between participants and facilitators, for *sharing responsibility* for the group discussion and in building on each other's ideas to come to *discover* more about an object together. The objects appeared to provide a shared focus within the group through which these processes took place, demonstrated by the many perspectives from which they were explored through discussion (*exploring objects: properties and features, meaning-making and associations*). It is possible these processes impacted on participants' experiences of feeling happy, well, interested, confident and optimistic, as reflected in the CWS.

Discussion

This study was unable to fully explore the hypothesis made that subjective in-the-moment wellbeing, as measured by the CWS, would increase post OH sessions, due to the lack of an adequate sample size. However, the observation made from the pre-post wellbeing scores that there was an overall increase in scores post OH sessions is in line with previous research findings in a dementia population (Camic et al., 2019; Johnson et al., 2017).

The most important aspect of this study is that it provides a detailed account of the processes that occurred within the OH sessions in relation to their facilitation, the roles of material objects, and person-to-person interactions. This contributes towards a greater understanding of the ways in which museum-based OH sessions may have been effective in promoting in-the-moment wellbeing in PWD.

The theme *scaffolding* described how facilitators worked to create an atmosphere that enabled participants to feel at ease and supported participation. These are important factors for promoting engagement (Camic et al., 2019; Todd et al., 2017). In providing a closer analysis of facilitators' contributions, which make up the process of creating such an environment, this study offers important implications for training museum facilitators. For example, using humour, sharing personal experiences, being open about not knowing all the information about an object and prioritising exploration, in order to create a sense of equal status within the group. This can empower PWD in non-clinical settings to express themselves and share their own thoughts and ideas.

The theme *exploring objects* reflected the many different perspectives from which objects were explored and discussed. The number and range of different and novel objects used may have supported this, providing increased opportunities for multisensory and kinaesthetic experiences. This may reflect the triple-coding model proposed by Thomson et al. (2012) in that participation was increased through the combination of sensory stimulation, including touch in handling the objects, which may have been particularly beneficial in the face of other possible dementia-related difficulties. Handling the objects may have enabled continued and valued participation in a way that only visual and verbal stimulation alone may not have afforded. This may also have empowered participants by meeting their different abilities and needs within the group. Thus the exploration of objects also links to the theme of *agency*, relevant to the role of the object in providing a joint focus within the group, for promoting participation, self-expression and interactions with others. In relation to art therapy, Isserow (2008) describes the triangular relationship between an art object, therapist and client in which the joint attention of the therapist and client is directed at the art object. This underpins the therapeutic work in promoting a shared experience to share feelings and meaning-making opportunities.

Agency was the most prominent theme in relation to the participants and has some overlap with several themes identified in an older people's mental health setting by Solway et al. (2015). For example, "imagination and storytelling" in participants sharing personal stories and "learning about objects, learning from each other" in asking questions and sharing opinions. *Agency* appeared to be a particularly important finding given PWD can often be disempowered both due to cognitive impairments and the attitudes and actions of others around them and stigma in wider society (Kitwood, 1997). As part of this theme, participants displayed a confidence and independence in being able to direct questions to and challenge each other and share different ideas, which led to *group collaboration*. This reflects the potential added benefits that can come from the social interactions within the groups. Research has shown that engaging in activities with others in heritage settings can reduce isolation and provide a sense of "normality" for PWD and caregivers through taking part in activities in the community as they may have done before the onset of dementia (Sharma & Lee, 2019).

Paddon et al. (2014) reported that certain “features” identified within their thematic analysis appeared specific to a participant or facilitator, but that “interactional aspects of the sessions strongly implied that features were interlinked” (p. 37). This was also an experience of the present study. For example, *sharing* was both a subtheme of *scaffolding* (in which facilitators sharing created a sense of equal status in the group between facilitators and participants), and also linked to participants sense of *agency* (in which it served to allow participants to express themselves and make links with others). These subthemes interacted to contribute to the theme of *group collaboration,* illustrating a dynamic interaction of subthemes and themes in forming the in-the-moment processes within the group.

Although not part of the formal analysis, the three researchers who were present across all sessions subjectively observed that these dynamic processes appeared to take place more quickly in sessions 2 and 3; this observation was confirmed after viewing the video data. This may have been linked to the familiarity of the setting and as the group, including the facilitators, became more adept at creating an atmosphere that promoted agency.

That there were no clear changes found in the frequency of codes or in the identified themes across the three sessions may be a limitation of the methodology used, or a reflection of the high level of engagement across the sessions, perhaps due to the different objects used. It is also possible that benefits were limited to “in-the-moment” changes and were not maintained or built on across sessions due to the range of impairments associated with the types of dementia the participants in this study were living with. Future research could explore this further by focussing on a greater number of sessions to see effects over time.

Clinical implications

This study offers a tentative understanding of the processes through which group OH sessions may promote wellbeing in PWD. Whilst being a small-scale exploratory study, highlighting particularly important components of sessions can inform future training of facilitators to optimise sessions for this population. This also has important implications for the role of museums in public health (Camic & Chatterjee, 2013), and social prescribing opportunities (Todd et al., 2017) for clinical psychologists engaged in dementia care services. For example, in line with public health programming and social prescribing initiatives (NHS England, 2019) professionals, such as clinical psychologists, could train people in working with PWD across community and non-healthcare settings, to increase the accessibility and specificity of this intervention. Such interventions speak to the person-centred approaches advocated by Kitwood (1997) that see and champion the person, rather than focussing on the cognitive and behavioural changes and losses.

Expanding training beyond those who work in museum and heritage settings could also serve to raise awareness of dementia in the wider community. This could also empower people already working in creative settings to adapt their ways of working to be more accessible for PWD in line with The Prime Minister's Challenge on Dementia (DOH, 2012). For example, the museum in which the study took place already provided sessions for members of the public to handle and engage with museum objects. Training could help emphasise important aspects of the intervention that may hold therapeutic benefits for PWD, such as supporting object exploration and group interaction rather than prioritising providing information.

Strengths, limitations and recommendations for future research

The small sample size can be viewed as both a strength and a limitation of the research. The small number of participants was not representative of the demographic diversity of the population of PWD across characteristics such as ethnicity, socioeconomic status and type and stage of dementia, thus limiting the applicability of the present study's findings. A larger scale study comprising multiple groups in a more diverse location could help to further explore and develop interventions that are accessible to more diverse populations of PWD across characteristics such as ethnicity and type of dementia.

The small group size allowed for a unique opportunity to examine processes that have not yet been reported in previous studies within this population and therefore the findings offer a rich and comprehensive account of the sessions that took place. This also allowed each participant more time and space to participate and interact, which may be particularly important within the context of dementia related difficulties. Future studies with larger group sessions could identify whether this has an impact on themes such as *agency*.

It is important to reflect on the difficulties recruiting participants for this study in relation to future hopes of increasing accessibility to object handling interventions in museums. The study required commitment to three sessions, with fixed dates and one location. If sessions were held more frequently and were open rather than requiring commitment to specific dates, this may increase attendance. Improving links with other services that provide dementia care and support, such as those who advertised the present study, may encourage more PWD to engage.

This study focussed on the participation of PWD and therefore it is not known what possible impact carers may have had on the associated findings, both in terms of the participation of PWD and on the potential benefits for carers. However, for the three participants who were accompanied to the sessions, the groups provided a period of reported respite for carers. Future research comparing the processes during OH sessions with and without carers could be an interesting avenue to explore how this may impact the themes identified here such as *agency* and *group collaboration*, as carers participation in museum interventions for PWD has been found to have both positive and negative impacts (Kinsey, Lang, Orr, Anderson & Parker, 2019).

This study focussed on the spoken content of sessions. Future research could extend these findings by also exploring non-verbal interactions, such as the impact of touch itself on participation.

A strength of this study was its ability to provide ecologically valid OH sessions in a well-known museum, as an accessible community intervention. In line with this, the present study also benefitted from using in-the-moment non-intrusive methods of data collection, rather than relying on other methods such as post-session interviews. Future research maximising on such measures may allow the benefits of interventions to be more fully explored. For example, previous studies in other arts interventions for PWD have utilised in-the-moment methods to explore verbal fluency (Eekelaar et al., 2012; Young et al., 2015) and to interpret responses such as stress and positive stimulation through physiological measures (Thomas, Crutch & Camic, 2017).

Conclusion

This was the first study to explore the content of facilitated small group object handling sessions involving people living with a dementia, in a museum setting, across multiple sessions. Findings suggest a positive impact of OH on subjective wellbeing in PWD and identified four key themes (*scaffolding, exploring objects, agency,* and *group collaboration*) to help explain the possible processes present in the facilitation of sessions, the roles of material objects, and person-to-person interactions. Findings suggest facilitators' guidance created conditions within the group that led to participants demonstrating agency in expressing themselves (including voicing different opinions), leading to group cohesion and collaboration between participants and facilitators in sharing responsibility for the group and building on each other's ideas to discover more about objects. Objects were explored from many different perspectives and may have provided a shared focus within the group through which these processes took place. These findings should be held tentatively due to the small sample size; however they offer important ideas around how to optimise sessions for PWD. Future research using multiple groups and a more diverse sample can extend the present study’s findings.

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SECTION C

Appendices of supporting material

Laura E. Dickens BSc Hons MSc

A thesis submitted in partial fulfilment of the requirements of
Canterbury Christ Church University for the degree of
Doctor of Clinical Psychology

MAY 2020

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Appendix 1: QualSyst quality checklist and scores for quantitative and qualitative studies

QualSyst Quality Checklist and Scores for Quantitative Studies

	Camic et al. (2014)	D'Cunha et al. (2019)	Eekelaar et al. (2012)	Flatt et al. (2015)	Johnson et al. (2017)	MacPherson et al. (2009)	McGuigan et al., (2015)	Schall et al. (2018)	Young et al. (2015)
1. Question / objective sufficiently described?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Study design evident and appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Method of subject/comparison group selection *or* source of information/input variables described and appropriate?	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Partial	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5. If interventional and random allocation was possible, was it described?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A
6. If interventional and blinding of investigators was possible, was it reported?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7. If interventional and blinding of subjects was possible, was it reported?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement / misclassification bias? Means of assessment reported?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9. Sample size appropriate?	Partial	Partial	Yes	Partial	Partial	Partial	Partial	Partial	Partial
10. Analytic methods described/justified and appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Partial	Partial	Yes
11. Some estimate of variance is reported for the main results/outcomes	Partial	Yes	N/A	Partial	Partial	Partial	N/A	Partial	Partial
12. Controlled for confounding?	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial
13. Results reported in sufficient detail?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14. Conclusions supported by the results?	Yes	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes
Total score (%)	17/22 (77)	19/22 (86)	18/22 (82)	18/22 (82)	18/22 (82)	18/22 (82)	15/22 (68)	19/24 (79)	18/22 (82)

Key: Yes (2); Partial (1); No (0).

QualSyst Quality Checklist and Scores for Qualitative Studies

	Burnside et al. (2017)	Camic et al. (2014)	Camic et al. (2016)	Eekelaar et al. (2012)	Flatt et al. (2015)	MacPherson et al. (2009)	McGuigan et al. (2015)	Schall et al. (2018)
1. Question / objective sufficiently described?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Study design evident and appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Context for the study clear?	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes
4. Connection to a theoretical framework / wider body of knowledge?	Partial	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5. Sampling strategy described, relevant and justified?	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial
6. Data collection methods clearly described and systematic?	Yes	Yes	Partial	Yes	Yes	Partial	Yes	Yes
7. Data analysis clearly described and systematic?	Yes	Yes	Yes	Partial	Yes	Partial	Partial	Partial
8. Use of verification procedure(s) to establish credibility?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
9. Conclusions supported by the results?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10. Reflexivity of the account?	No	Partial	Partial	No	No	No	No	No
Total score (%)	16/20 (80)	18/20 (90)	17/20 (85)	16/20 (80)	17/20 (85)	14/20 (70)	16/20 (80)	14/20 (70)

Key: Yes (2); Partial (1); No (0).

Appendix 2: Canterbury wellbeing scales

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Appendix 3: Ethical approval documentation

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Appendix 4: Mini mental state examination (brief version)

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Appendix 5: Clinical dementia rating scale

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Appendix 6: Study recruitment poster

Would you like to take part in a research study?

Things in our lives:
Exploring the use of museum and heritage objects

A group exploring novel and historic objects for people living with a dementia.

I am seeking people living with a dementia to take part in my research study. I am a Trainee clinical psychologist at Canterbury Christ Church University and am completing this project as part of my doctorate. I am interested in how people respond to novel and historic objects.

This project is part of Created Out of Mind at the Wellcome Collection [location]. Created Out of Mind aims to explore, challenge and shape perceptions and understanding of dementias through science and the creative arts.

What does the study involve?

- Three 90-minute sessions where we look at and discuss different objects in small groups with a museum curator.
- You will be asked to complete a few short questionnaires and wear a wristband that will help us understand how your body responds.
- No experience or preparation is required.
- Refreshments will be provided after each session.
- If you attend sessions at the [venue], we ask that you bring someone to the sessions with you. They will be offered a museum activity and invited to join us for refreshments after the session.

We hope this will be an enjoyable and interesting experience.

If you are interested in taking part or would like to find out more, please contact Laura Dickens on [phone numbers] or email me at l.e.dickens299@canterbury.ac.uk

Canterbury Christ Church University

CREATED OUT OF MIND

Appendix 6: [Dementia research database] approval

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Appendix 8: Study information sheet

Information about the research

Things in our lives: Exploring the use of museum and heritage objects

Who are we? Hello, my name is Laura Dickens. I am a trainee clinical psychologist at Canterbury Christ Church University. I would like to invite you to take part in a research study I am conducting as part of my training. My supervisors Professor Paul Camic (Canterbury Christ Church University) and Dr Hannah Zeilig (University of the Arts, London) will also be working on the study. They are both highly experienced researchers in the arts for people who are living with a dementia.

What is the study? We will explore participant's wellbeing, physiological changes, verbal fluency and discussions during sessions in which participants will handle and discuss novel and historic objects in small groups. We hope this will be an enjoyable and interesting experience.

Before you decide if you would like to take part, it is important that you understand why the research is being done and what it would involve for you. You may talk to others about the study if you wish.

Part 1 of this sheet tells you the purpose of this study and what will happen if you take part.

Part 2 gives you more detailed information about how the study will be conducted.

Part 1

What is the purpose of the study?

We are running this study to gain a better understanding of the benefits of object handling sessions for people living with a dementia. Object handling provides an opportunity for people to handle and explore novel and historic objects in small groups, which can stimulate discussions. It does not require any previous knowledge.

This project is part Created Out of Mind at the Wellcome Collection [location]. Created Out of Mind aims to explore, challenge and shape perceptions and understanding of dementias through science and the creative arts.

Do I have to take part?

No. It is up to you if you would like to take part in the study, it is completely voluntary. If you agree to take part then I will ask you or a family member or caregiver on your behalf to sign a consent form. If a family member or caregiver gives consent on your behalf we will ask them to come along to the sessions with you, although they will not form part of the study. You are free to withdraw at any time, without giving a reason.

What will happen to me if I take part?

1. If you decide that you would like to take part you will firstly meet with one of the researchers ahead of the beginning of the study to go over this information, ask any questions you may have and sign a consent form if you would still like to continue. We invite you to bring someone to this meeting such as a family member or carer if you wish to, they will be asked to complete a short questionnaire.

2. You will then be invited to attend a total of 3 sessions over a period of 3-weeks at either the centre you were recruited from or at [venue]. We ask that you commit to coming to all 3 sessions.

In these sessions, you will be in a group of around 6-8 people for each session. Each session will last about 90 minutes and will be run by someone who is knowledgeable about this topic.

3. During each session you will be asked to wear a small wristband, which will be able to take measures of your movement, heart rate, and electrical activity conducted by your skin. This will help us to understand how your body responds during the session and in response to the objects.

These are designed to be non-intrusive and may feel like wearing a watch. Someone will help you to put this on at the start of each session and take it off at the end. You will also be asked to complete a short questionnaire and very brief interview at the start and end of each session.

4. Each session will be video recorded in order to gather the data needed for the study.

Session format: Each session will start with a 15-minute period where we will ask you some questions and put on the wristband. We will then give you some objects to touch and talk about. The session will end with 15 minutes for us to ask you a few more questions and refreshments for the group will be provided.

Expenses and payments

Each person that takes part in the study will be given a £10 shopping voucher at the third session to say thank you. Should you fail to attend the third session it will be posted to you. Refreshments at each session will be provided free of charge. We are unable to contribute towards any transport costs for the study.

What will I be asked to do?

In addition to the details above, you will be asked to do your best to attend all 3 sessions in order for us to collect the full range of measures needed to analyse the intervention. The dates of the next sessions are:

____________________________.

What are the possible disadvantages and risks of taking part?

There are no known disadvantages or risks for taking part in the object handling sessions.

What are the possible benefits of taking part?

The results of this study will be used to develop a better understanding of how object handling is experienced and what associated benefits may occur.

Sessions will provide an opportunity to be in a small group environment with others and have discussions about novel and unusual objects. People who have taken part in object handling studies before have reported it to be enjoyable, interesting and an opportunity to learn new things.

If you are interested in taking part in the study please read the additional information in **part 2** before making a decision.

Part 2

What will happen if I don't want to carry on with the study?
If you change your mind at any point in the study and wish to no longer take part, please let the researcher know. You do not have to give a reason. If you withdraw from the study and have attended any of a recorded session, we would like to use the data collected up to your withdrawal.

What if there is a problem?
If there is a problem you can ask one of the researchers or a member of staff to help you or to give you more information.

Concerns and Complaints
If you have any *concerns* or questions about the research, please contact Laura Dickens (see contact details provided in the 'further information and contact details' section below). If you should need to escalate your concern please contact Professor Paul Camic, Salomons Centre for Applied Psychology, Canterbury Christ Church University, 1 Meadow Road, Tunbridge Wells, Kent TN1 paul.camic@canterbury.ac.uk. You can also leave a message on the telephone at [phone number] and he will get back to you as soon as possible.

If you would like to make a *complaint* about any aspect of the research please contact Professor Margie Callanan, Chair, University Ethics Panel at Salomons Centre for Applied Psychology, Canterbury Christ Church University at margie.callanan@canterbury.ac.uk [phone number].

Will information from or about me from taking part in the study be kept confidential?
All information that is collected from or about you during the course of the research will be kept strictly confidential. The only exceptions to this would be if we believed you or another adult or child was at risk of harm. In addition, the video recordings from the study may be used in possible future research and for educational purposes for researchers and health and social care staff.

No participant in the object handling sessions will be identified.

The video recordings will be kept on a password-protected computer that only the researchers have access to and kept safe and confidential.

What will happen to the results of the research study?
We will send you a brief review of the study when it is completed. Please inform Laura Dickens if you do not wish to receive this. The results of the study will also be part of the doctoral dissertation of Laura Dickens. It is hoped that the results of the research will also be published in journal articles.

Who is organising and funding the research?
Canterbury Christ Church University and Created Out of Mind at the Wellcome Collection are funding and organising the research. The Wellcome Collection, and [local organisations] are helping organise the object handling sessions and are partners in this research.

Who has approved the study?
This study has been approved by an independent research review panel at the Salomons Centre for Applied Psychology, Canterbury Christ Church University. It has also been reviewed and given approval by Salomons Ethics Panel on 26.10.2017.

Further information and contact details
If you would like to speak to the research team about the study or have any further questions, please contact Laura Dickens on [phone numbers] or email l.e.dickens299@canterbury.ac.uk. If you provide a telephone number we can call you back.

Thank you

Appendix 9: Study consent form

Canterbury
Christ Church
University

CREATED OUT OF MIND

Consent Form

Participant ID: ______________

Title of Project: Things in our lives: Exploring the use of museum and heritage objects

Name of Researchers: Laura Dickens, Professor Paul Camic and Dr Hannah Zeilig.

Please initial each box if you agree.

1. I confirm that I or my family member or caregiver on my behalf*, have read and understand the information sheet dated 19.10.17 (version 2) for the above research. I/we have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

2. I understand that object handling group sessions will be video recorded for the purpose of this research. ☐

3. I understand the video recordings from the study may be used in possible future research and for educational purposes for researchers and health and social care staff. ☐

4. I understand that anonymous data from this research will be available to Canterbury Christ Church University, University of the Arts-London and University College London researchers and that information from the study may be used in future research projects. ☐

5. I understand results of this research will be submitted as part of a doctoral thesis and for journal publication and that anonymous quotes may be used in published reports of the study findings. ☐

6. I or my family member or caregiver on my behalf agree to take part in the above research study and acknowledge that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐

Signature Page

Name of Participant: ___________________________________

Date: ___________

Signature: ____

Name of family member or caregiver giving consent on behalf of the participant (if the participant is not able to give consent for themselves):

____

Relationship to the participant:___________________________

Date: ___________

Signature: ____

Name of person taking consent: __________________________

Date: ___________

Signature: ____

*When considering whether to give consent for your relative, please think of what your relative would say or consent to were they able to do so, rather than your own views on what is agreeable.

Appendix 10: 360-Fly camera

This has been removed from the electronic copy. The image can be accessed from

https://www.360fly.com/shop/cameras.html

Appendix 11: Protocol for OH sessions and facilitators session plans

Pre-session tasks and measures (15-20 minutes)

- Position 360fly cameras (x2 with medium/high resolution) and audio recorder
- [Other data collection not relevant to this thesis]
- Show participants into the object handling room
- Invite any persons who have accompanied a participant to explore the museum or surrounding area and to return for refreshments after the session
- Complete Canterbury Wellbeing Scales
- [Other data collection not relevant to this thesis]

Object Handling Session (60 minutes)*

- Display a range of 6-7 objects in the centre of a table. Provide chairs for participants to sit down around the table in a circle
- Ensure objects are novel and diverse in their cultural, historical and sensory qualities
- Researchers are not to participate in the object handling sessions
- Facilitator(s) to:
    - Lead sessions in a non-didactic way, maximising on group participation and to ensure a balance is struck between encouraging participation/allowing people to speak and not putting participants on the spot
    - Introduce the session and ask participants to share their name with the group. Sticky labels will be provided to write names on *5 mins*
    - Allow the objects to be passed around and discussion to take place. *10 -15 mins*
    - Place objects back in the centre of the table
    - Pass 1-2 objects around the group at a time asking a range of questions to stimulate group discussion and curiosity (see example questions below). Do not provide factual information on the object until the group has discussed it *30 - 35 mins*
    - Bring the session to a close and notify participants that post-measures will be collected and refreshments provided *5 mins*
    - Provide each participant with a session summary sheet consisting of pictures and information on each object included in the session and the time and date of the next session

Post-session tasks and measures (15-20 minutes)

- Complete Canterbury Wellbeing Scales
- [Other data collection not relevant to this thesis]
- Provide refreshments in the object handling room
- Session end – thank participants for their time
- Turn off 360fly cameras (x2)

- Turn off audio recorder
- Store paper questionnaires securely
- Hand out shopping vouchers

- Each of the 3 object handling sessions will follow the same format, however objects and questions/discussion topics will vary

- Pre- and post-measures will be taken individually at different points during the allocated 15-20 minutes before and after the object handling session. Allow participants to socialise between completing these measures. Multiple staff members will be present to assist with collecting pre- and post-measures to ensure 15-20 minutes is sufficient.

* Facilitators to use this flexibly as a guide and draw on their professional experience of leading handling sessions with the public and training in working with PWD.

Example questions for facilitators

- How does this object make you feel?
- Who would you give this to?
- Where would you keep this in your house?
- What do you think this object is?
- What is its purpose?
- What is your favourite object?
- What is your least favourite object?
- How old do you think the object is?
- Where did this come from?
- What stands out about this object?
- Who might own this?
- What does the object make you think of?
- Does the object tell a story?
- What is the objects most striking feature?

These are to be used flexibly, depending on what comes up in sessions.

Session 1

- Objects for session:
  [objects 1-6]
- Display objects in the centre of the table
- Introduce the session and welcome participants to the group *5 mins*
- Facilitator picks one object from the group of objects on the table and passes it around the group. After it has been passed round once (or sooner, according to the response from the group) facilitators will start to ask questions, similar to the example questions given, to elicit participants' ideas and feelings about the object. Factual information about the object usually emerges in the course of this; if this doesn't happen, facilitators will end by telling participants more about the object. *10-15 mins*
- Second facilitator picks a second object and the process above is repeated. It may be that a lot of conversation is stimulated by the first two objects and the whole timeslot will be filled, but further objects will be selected if there is time. If a third or fourth object is to be chosen, facilitators may ask the participants if they would like to choose what to focus on from those remaining. *25-30 mins*
- Five minutes before the end of the session the facilitators will bring all the objects back together and ask all participants a) is there one object they would chose to have in their home, and where would they keep it? b) is there an object they would like to give to someone else- and why? *5 mins*
- Bring the session to a close, provide handout and notify participants that post-measures will be collected and refreshments provided *5 mins*

Session 2

- Objects for session:
  [objects 1-7]

- Introduce the session and welcome participants to the group *5 mins*

- Facilitators pass the two handling objects [1&2] around the group, ask open questions about them (similar to example questions), for 5 to 10 minutes. We ask participants what they think of the two objects once contained (no right or wrong answers). Show participants [venue] images of pomanders and discuss with participants what pomanders were used for and draw comparisons with the two objects. *10-15 mins*

- Place the two objects and the images back in the centre of the table

- Bring out four closed containers with air holes containing fresh spices. Pass each around in turn encouraging participants to identify the spice. Elicit conversation about the spices, again using example questions, but particularly focusing on topics around preference, memory, taste, use, properties of each spice and which spice participants might like to place in a pomander. *30 - 35 mins*

- Bring the session to a close, provide handout and notify participants that post-measures will be collected and refreshments provided *5 mins*

Session 3

- Objects for session:
  [objects 1-9]

- Introduction to session *2 mins*

- Pass objects around the group one by one -or two by two- from a box kept beneath the table. Ask participants questions, similar to example questions, about each object as it comes around. Different techniques may be used – for example, if there are four participants, putting them into pairs, and giving each pair an object to talk about, as well as passing single objects around the entire group. Objects will end up in centre of table. *35 mins*

- Participants will be put into two pairs (if there are enough participants) and each pair will be given one of the [Artist] boxes to discuss between them; after three or four minutes they will be asked for their response to the boxes and if they think there is a story or theme to each box. The boxes are then put to one side. *5-7 mins*

- Participants will then choose objects, from six remaining in the centre of the table, to form a display: objects they think share a theme or tells a story. An example may be given of how objects might be linked by a story. The group will be asked which objects they would choose and what links they think there are or could be between them. The objects will then be arranged on a sheet of paper on the table before being arranged in the display case. *15 mins*

- Bring the session to a close, provide handout and notify participants that post - measures will be collected and refreshments provided. Carers will be invited to look at the display case. *5 mins*

Appendix 12: Curated display

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Appendix 13: Object handling session handouts for participants

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Appendix 14: Excerpt from coded transcript

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Appendix 15: Codebook development

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
F agreeing with P	Facilitator(s) agreeing with participants.	Removed due to overlaps with “F validating or encouraging to P” and “F sharing opinions”.		Facilitation		13
F answering questions	Facilitators answering questions.			Facilitation	3	44 (17, 12, 15)
F asking questions	Facilitator(s) asking questions: opinions, prompts, hypotheses, knowledge etc.		Facilitator initiated exploration scaffolding, pacing learning. Guides conversation and exploration. Impact of questions on the group E.g. may speed pace, slow pace, increase interest, decrease interest.	Facilitation	3	195 (71, 72, 52)
F asking questions - exploration	Facilitator(s) ask participant(s) questions which further exploration of objects or views in relation to them. Can include prompts that explore different ideas around a topic to help get closer to ‘the answer’.		Can prompt or shut down/change topic of conversation. Prompts guessing and hypothesising.		3	119 (53, 35, 31)
F asking questions - memories or existing knowledge or personal experience	Facilitator(s) asking questions relating to participants knowledge, memories or personal experiences.				3	35 (13, 18, 4)

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
F asking questions - opinions & preferences	Facilitator(s) asking questions relating to participants opinions and preferences.				3	47 (8, 22, 17)
F bringing P in	Facilitators bringing participants into conversations and exploration.		Element of all contributing.	Facilitation	3	32 (9, 15, 8)
F changing topic or introducing new idea	Facilitator changing the topic or introducing new idea. Can perhaps consider unusual topics - e.g. if would put object in mouth. Can be interrupting. F's may do this to each other too. Can be used to prompt further exploration before known information is shared to maximise time hypothesising.			Facilitation	3	30 (16, 12, 2)
F direction or instruction - prompting	Facilitator instructing or inviting participants. E.g. pass it on; setting up expectations for session. Overlap with "F providing information" – different as this is more directive – different parts of the process? Overlap with "F asking questions/F initiated exploration"?		Provides a safe framework – makes accessible and provides boundaries and guidance. Structure of the group and prompts for exploration.	Facilitation	3	48 (13, 19, 16)
F expressing what handlers 'usually' do	Facilitator sharing expectations or what people "usually do".	Removed as captured by "Validating".		Facilitation		5
F Introductions	Facilitators making introductions.	Collapsed into "F providing information".		Facilitation		5
F It's like...	Facilitator likens an object to something else.	Removed as accounted for under combined F and P "It's like"		Objects		2
F not knowing	Facilitators expressing not knowing or being unsure.		Contributes to a sense of equal status in group as things not known by Fs. Creates conditions for it	Facilitation	3	17 (7, 4, 6)

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
			to be ok to share, hypothesise and contribute without needing to be "correct" or have answers.			
F object exploration	Facilitator makes comments, asks questions, provides answers, contributes to discussion in reference to particular aspects or features of the object.	Collapsed with P object exploration as does not seem meaningful to separate into F and P when there is so much overlap.		Objects		
F process of discovery	Facilitators and participants discuss and ask questions to find out more about an object.	Collapsed with P process of discovery as this is a group interaction.		Interaction		8
F providing explanations	Facilitators providing explanations. E.g. in explaining how an object is used or explaining reasons behind own views.	Collapsed into "F providing information" and "F sharing opinions" as overlaps were too great.		Facilitation		6
F providing information	Facilitators providing information. This includes information on what the sessions will entail, information provided within the session (educating), which may also be in response to questions. Includes information that only facilitators are aware of due to knowing more detailed information about the objects relative to the participants. Can include clues or guides to support further discussion. Overlap with "F referring to P as correct or incorrect" and "F answering questions".		Providing information that can also suggest that some hypotheses are correct or incorrect. Does not shut down group but appears to scaffold.	Facilitation	3	119 (41, 33, 45)
F referring to P as correct or incorrect	Facilitator(s) referring to participants as correct or incorrect.	Collapsed into "validating" and "providing information"		Facilitation		22

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
		as no clear examples of being "incorrect".				
F repeats views of group	Facilitator repeating parts of what has been said/expressed by the group (participants). Provides words to link/summaries what different pps say. Overlap with F validation?	Collapsed with "validating".		Facilitation		3
F responding to P	Facilitator(s) responding to participant(s). Overlap with "F answering questions" and "F validating or encouraging P"? Captures units of conversation that are more non-specific but are part of guiding conversations.			Facilitation	3	80 (46, 25, 9)
F setting up expectations of session	Facilitator setting up expectations of session	Collapsed into "F direction or instruction" as too much overlap		Facilitation		2
F sharing opinions	Facilitators sharing own opinions.			Facilitation	3	42 (11, 18, 13)
F sharing personal information	Facilitator(s) sharing personal information.		Facilitator as human. Works to balance power between F and P in the room.	Facilitation	3	15 (6, 8, 1)
F validating or encouraging to P	Facilitator responding in a validating or encouraging way to participant(s) E.g. agreeing with observations or supportive statements. Non-judgmental. Overlaps with "F sharing opinions' and "F responding to P"?		Allows participants to feel heard and contributions validated. Equal status in group. Qualities that create conditions for sharing.	Facilitation	3	96 (39, 36, 21)
Humour	Playfulness, making jokes, laughter.		Brings in fun, unites – creates a 'we'.	Interaction	3	42 (14, 12, 16)
Associations beyond the physical object	Participants discussing (with each other and facilitators) topics associated with, but beyond the physical object in		Meaning-making. Links to personal experiences	Objects, Interaction	3	35 (17, 16, 2)

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
	front of them.		beyond concreteness of object.			
Next object	Participant(s) or Facilitator(s) making references to the next object in the session – moving on.	Deleted code as part of what would expect from facilitator and so not as relevant to the research question which focusses on process.		Facilitation, Interaction		4
P – short phrase engagement or contribution	Participant uses words such as "amazing", which appears to be a way P2 participates as is less vocal than other participants. Perhaps as a way to participate in the face of dementia? P2 more vocal in session 2.		Participating in own way.	Interaction	3	68 (10, 33, 25)
P forgetting	Participant(s) make reference to forgetting or not remembering	Collapsed into "not knowing" due to overlap and low frequency.		Interaction		
P agreement with another P	Participant agreeing with another participant(s).			Interaction	3	33 (15, 11, 7)
P agreement with F	Participant agreeing with facilitator. Overlap with "P responding to F". Interesting not very present.	Removed due to low frequency and overlap with "P responding to F".		Interaction		1
P answering questions	Participant(s) answering questions.	Collapsed into "opinions", "personal stories" "hypothesising" and "providing information".		Interaction		23
P asking P question	Participant asks another participant a question. May just repeat what another participant has said in a questioning way or be used to clarify what was said.			Interaction	3	31 (11, 13, 7)
P asking permission	Participant asking for permission in relation to exploring objects.	Collapsed into "asking questions" due to overlap and low frequency		Interaction		

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
P asking questions	Participants' asking any questions during sessions E.g. thinking out loud, asking permission, challenging others, as an answer to a question, in relation to object features etc… These may be directed at facilitators, other participants or the group (direction sometimes hard to identify even through watching video).			Interaction	3	128 (46, 41, 41)
P question – Curiosity or exploration	Asking what/when/why/how to gain more information or asking for answers to guessing different features relating to the object e.g. "It's an ashtray, isn't it?" or content in associated discussion.	Collapsed into "P asking questions" as does not feel important to split up in this way.			3	94
P question or statement – challenge	Participant asks a question or makes a statement challenging what has been said.	Collapsed into "P disagreeing with others" to form "P disagreeing with or challenging others" due to overlap.			3	35
P changes or introduces new topic or moves conversation on	Participant brings in a new element to the conversation e.g. age when the current discussion was around function or makes a comment relating to the session pace or content e.g. trying to move on to the next object. May go back to a topic discussed before conversation moved onto the current topic or initiate topics of exploration. Often same person - Overlap with "amazing" - roles people hold/personal styles of communicating.		May reflect dementia – impulsivity – may also show feel comfortable to also take lead/initiate at times or change topic as had enough of the current object/discussion. Equal status in the group.	Interaction	3	29 (12, 10, 7)
P clarifying	Participant(s) using clarifying phrases and questions to support understanding of self and others. E.g. May repeat parts of what has been said, may not have heard properly or may clarify question to enhance understanding or point making to make self understood.			Interaction	3	44 (15, 13, 16)

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
Dementia talk	References made to dementia.	Deleted as doesn't speak to research questions and low frequency.		Interaction	2	3
P comment relating to the session pace or content	Participant makes a comment relating to the session pace or content.	Collapsed into "P changes topic or moves conversation on" due to overlap and low frequency.		Interaction		
P disagree with F	Participant disagreeing with facilitator.	Collapsed P disagreeing with F and P together to create "P disagreeing with others"		Interaction	3	9
P disagreeing with another P	Participant disagreeing with another participant/expressing having a different opinion.			Interaction	3	20
P disagreeing with or challenging others	Participant(s) disagree with/express having a different opinion or challenge what is said by another participant or facilitator. Can be presented as a question or statement.		Group affords Ps to have agency to express themselves.	Interaction	3	52 (21, 15, 16)
P guessing and hypothesising	Participants guessing and hypothesising. For example, about an object's identity, age, material, function etc. or in wider discussion.		Creativity – imagination – having a voice – allowing own curiosities.	Objects, Interaction	3	162 (50, 48, 64)
Co-curating	Participants along with other participants and the facilitator make suggestions/negotiate/problem solve to curate a display case.		Unique to this study. Task only occurred in session 3.	Interaction	1	9 (0, 0, 9)
P not bothered	Reports not bothered by object or topic of related conversation. Overlap with "P sharing opinions and preferences"	Removed as overlap with opinions too great.		Interaction		3
Exploring objects	Captures the different perspectives from which objects are explored and discussed. Participants and/or facilitators make reference to different aspects of objects e.g. their age, size, function etc. during any part of session discussion (questions/hypotheses/opinions/providing information etc.).		Multifaceted way objects are explored allows open conversation for all participants ranging	Objects	3	460 (195, 152, 113)

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
			from features of object to personal expressions (stories/opinions). Increases agency – some subjective aspects, some more factual.			
Age	Reference to the age of an object.				3	54 (29, 13, 12)
Authenticity	Reference to the authenticity of an object.				3	10 (5, 1, 4)
It's like...	Likening an object to something else.				3	13 (5, 6, 2)
Condition	Reference to the condition of an object.				2	3 (1, 2, 0)
Fragility	Reference to the fragility of an object.				2	2 (1, 0, 1)
Danger	Worry/concern/danger expressed in relation to an object.				3	8 (5, 2, 1)
Detail or features	Reference made to finer details of or about an object (rather than the object as a whole).				3	43 (17, 7, 19)
Healing properties	Participants refer to objects as having healing properties.	Collapsed into "Meaning"			2	5
Identity or function/ purpose	Reference to the identity or function of an object – what it may or may not be.				3	74 (27, 30, 17)
Material	Reference to the material make up of an object and its qualities.				3	34 (19, 5, 10)
Meaning	Reference to the meaning of objects or what they represent.				3	36 (12, 12, 12)

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
Monetary value	Reference to how much an object may be worth.				3	9 (2, 5, 2)
Orientation	Reference to the orientation of an object.				2	4 (2, 2, 0)
Origin	Reference to the origin of an object.				3	23 (8, 10, 5)
Ownership	References to who might own the object.				3	9 (4, 1, 4)
Production	Reference to the production of an object – how it was made.				3	14 (6, 3, 5)
Quality	Reference to the quality of an object.				2	3 (1, 2, 0)
Shape	Reference to the shape of an object.				2	3 (1, 2, 0)
Sign of wealth	Reference to an object as a sign of wealth.	Collapsed into "Meaning"			1	2
Size	Reference made to the size of an object.				2	4 (0, 1, 3)
Smell	Reference made to the smell of an object.				2	31 (6, 25, 0)
Taste	Reference made to the taste of an object.				2	5 (3, 2, 0)
Touch or texture	Reference made to the feel or texture of an object.				3	13 (10, 1, 2)
Usefulness of object	Reference made to the usefulness of objects. Overlap with "opinions and preferences"?				3	11 (6, 1, 4)

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
Visual properties	Reference made to visual properties of an object.				3	21 (10, 9, 2)
Weight	Reference made to the weight of an object.				2	16 (12, 0, 4)
Practicality	Considering practical aspects of an object.				2	4 (3, 0, 1)
Object skill or appreciation	Reference made appreciating an object or the skill involved in producing it.				2	13 (0, 10, 3)
P problem solving	Participants problem solving through discussion (asking questions and debating) to discover answers in relation to an object. Overlap with “process of discovery”, “asking questions” or “not knowing”.	Collapsed into “process of discovery” as too similar.		Interaction		16
P making suggestions	Equivalent to making hypotheses?	Removed.			1	5
Process of discovery and problem solving	Group engaging in a process together of sharing ideas, asking questions, debating, negotiating and problem solving to discover more about an object. Can include facilitators and doesn’t have to reach an answer or correct answer.		What is achieved together within the group. Comes from interaction between facilitation and contribution of Ps around objects.	Interaction	3	50 (15, 14, 21)
P providing explanations or reasoning	Participant explaining their reasoning or short discussion but not as much as in process of discovery.			Interaction	3	33 (10, 10, 13)
P purpose beyond looking at it	Participants comment on the wider purpose of the object beyond something to be explored within the session. Overlap with “links to world outside the session”?	Deleted due to low frequency and overlap with other codes.		Objects		2
P agreeing or reaching consensus	Participants reach a consensus. Three or more. Overlap with “P agreeing with P”			Interaction	3	23 (8, 12, 3)

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
P responding to F	Can be an acknowledgement or questions or in answer to a question. Can be part of a back and forth conversation between P and F. Overlaps with "asking" and "answering questions" or "conversation". As in F responding to P includes the responses that aren't part of conversations and/or questions or answers E.g. "Oh right".	Consider collapsing into suggested overlapping codes?		Interaction	3	136 (59, 42, 35)
P sharing expectations	Sharing expectations	Removed as captured by "sharing opinions and preferences"		Interaction		2
P sharing opinions and preferences	This may be spontaneous or in response to a question, prompt or associated conversation. Preferences/reactions/expectations/concerns/likes/dislikes e.g. "I think…" Overlap with "hypothesising"?		Sharing creates a 'We'. Agency to express selves in any direction (even if disagreeing with another) without judgement.	Interaction	3	156 (63, 48, 45)
P sharing personal information & stories	Sharing information about own life or experiences/stories.		Creates a 'we'. Suggests people feel comfortable and safe to share.	Interaction	3	43 (13, 21, 9)
P uncertainty, not knowing or forgetting	Expressing not knowing or being unsure or forgetting.			Interaction	3	79 (24, 32, 23)
P using imagination	Participant expressing creative ideas or using their imagination.	Removed as overlapped with "hypothesising".		Interaction		3
P sharing personal knowledge	Participant(s) sharing personal knowledge.			Interaction	3	25 (3, 13, 9)
P what is 'normal' or expected	Participant expressing an element of surprise or something counter to what was expected. What is normal or not normal, expected or unexpected.	Removed as high overlap with "opinions" and "hypothesisng".		Interaction		12
P&F interactive learning	Back and forth conversation made of questions and answers between participant(s) and facilitators on a particular topic			Interaction	3	10 (5, 1, 4)

Code	Description	Collapsed codes	Ideas for theme development	Relevant research question(s)	Number of sessions code present	Frequency of code across all sessions (breakdown 1-3)
	to learn more (about an object or topic or reactions to these). Overlap with “guessing and hypothesising” and “opinions” but more about process. Overlap with “Process of discovery” but more to do with learning around particular facts. E.g. how iron is important in our diets.					
Ps responding to each other	Direct communication between Ps - commenting on what the other has said, an acknowledgement or asking/answering questions. Fs may also join in with this. Can be single instances or back and forth interaction but not reaching process of discovery.	Consider collapsing. Important features captured by other participant categories?		Interaction	3	102 (27, 42, 33)
Remembering - recapping what has been discussed	References to what others have previously said (remembering), or summarising what has been discussed (recapping) to help hold the thread or resume a previous conversation topic. On occasion participants do this too to acknowledge what others have said. Some overlap with “validating”.		Permission not to remember what has been said. Shared responsibility to hold the thread.	Facilitation/ Interaction	3	34 (13, 10, 11)
Definitions: P = Participant(s); F = Facilitator(s)						

Appendix 16: Final codebook

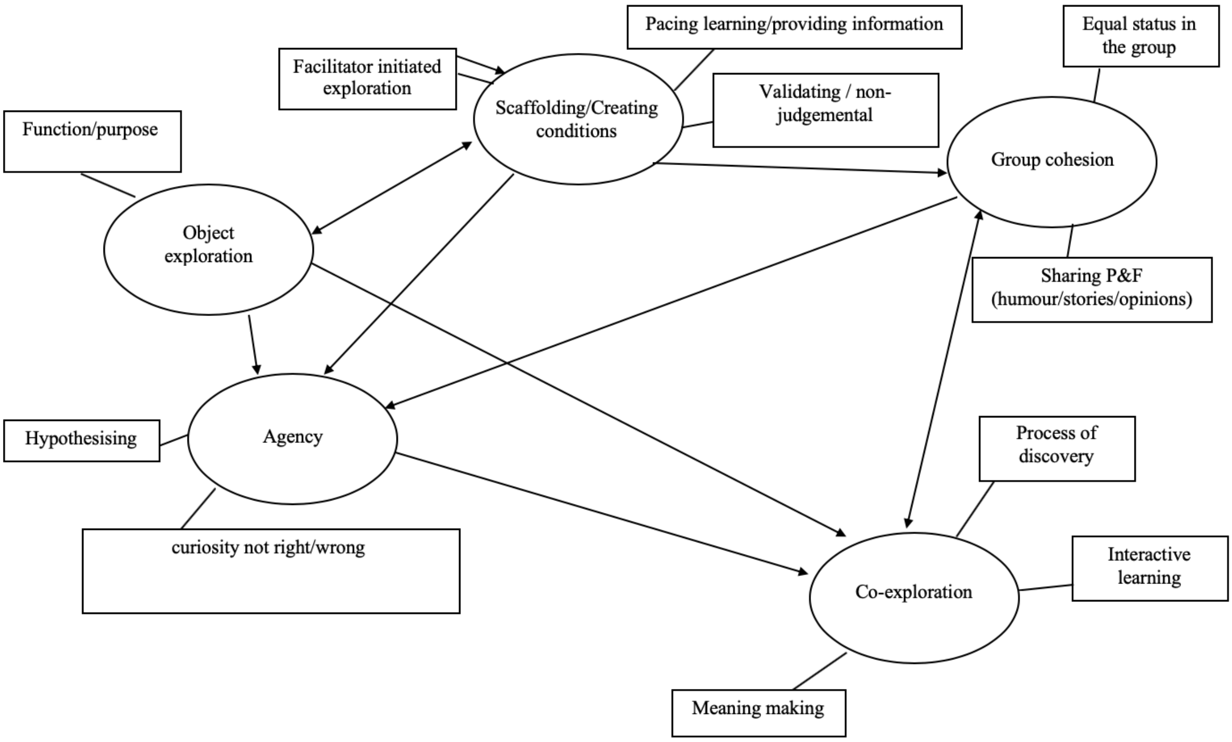
Code	Description
Associations beyond the physical object	Participants and/or facilitators discussing topics associated with, but beyond the physical object in front of them.
Co-curating	Participants along with the facilitator making suggestions/negotiating to curate a display case.
F answering questions	Facilitators answering questions.
F asking questions	Facilitators asking questions. E.g. opinions, prompts, hypotheses, knowledge etc.
F asking questions - exploration	Facilitators asking participants questions which encourage further exploration of objects or topics of discussion in relation to them.
F asking questions - memories or existing knowledge or personal experience	Facilitator(s) asking questions relating to participant’s knowledge, memories or personal experiences.
F asking questions - opinions & preferences	Facilitator(s) asking questions relating to participant’s opinions and preferences.
F bringing P in	Facilitators bringing participants into conversations and exploration, such as when someone appears to be speaking less or hasn’t had an opportunity to handle an object.
F changing topic or introducing new idea	Facilitator changing the topic or introducing new idea. E.g. asking about smell when the current topic is touch.
F direction or instruction - prompting	Facilitator instructing or inviting participants. E.g. asking a participant to pass an object on.
F not knowing	Facilitators expressing being unsure or not knowing.
F providing information	Facilitators providing information. E.g around what the sessions will entail, information on objects (educating), clues to guide further discussion.
F responding to P	Facilitators responding to participants.
F sharing opinions	Facilitators sharing own opinions.
F sharing personal information	Facilitators sharing personal information or stories.
F validating or encouraging to P	Facilitators responding in a validating or encouraging way to participant(s) E.g. making supportive statements.
Humour	Participants and/or facilitators showing playfulness, making jokes, laughter.
Exploring objects	Captures the different perspectives from which objects are explored and discussed. Participants and/or facilitators make reference to different aspects of objects e.g. their age, size, function etc. during any part of session discussion (questions/hypotheses/opinions/providing information etc.).

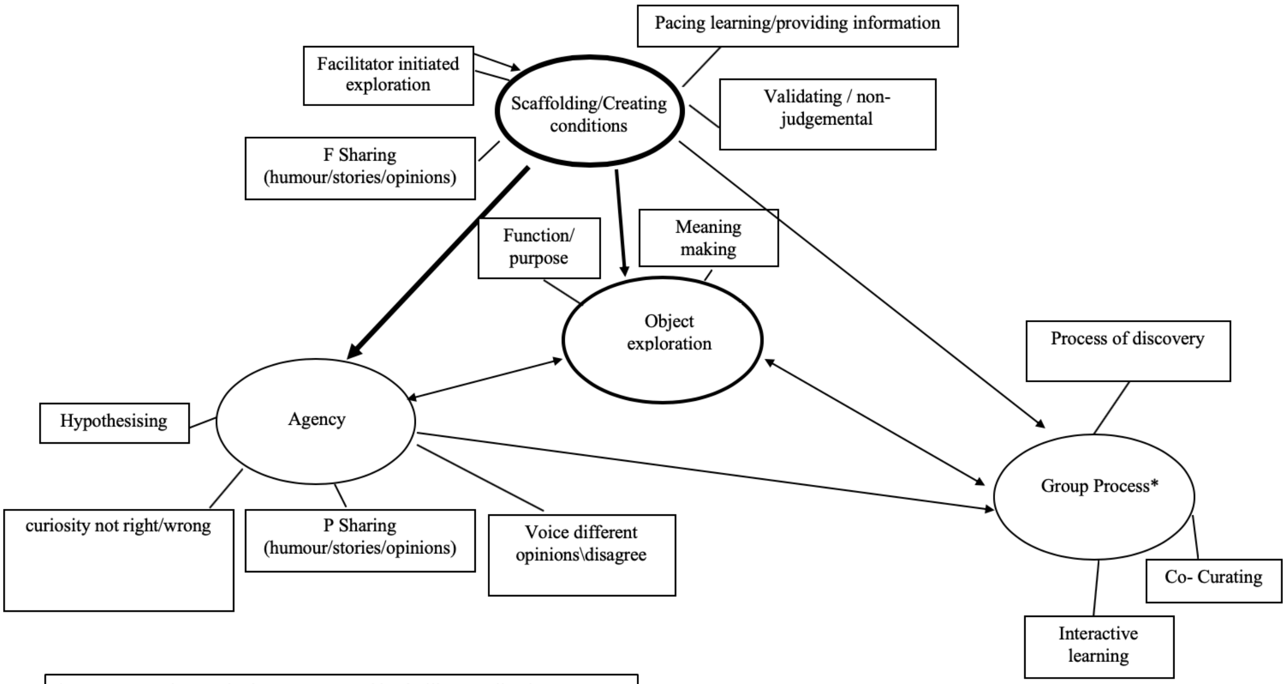
Code	Description
Age	Reference to the age of an object.
Authenticity	Reference to the authenticity of an object.
Condition	Reference to the condition of an object.
Danger	Worry/concern/danger expressed in relation to an object.
Detail or features	Reference made to finer details of or about an object (rather than the object as a whole).
Fragility	Reference to the fragility of an object.
Identity or function/purpose	Reference to the identity or function of an object – what it may or may not be.
It's like...	Likening an object to something else.
Material	Reference to the material make up of an object and/or its qualities.
Meaning	Reference to the meaning of objects. E.g. what they may represent.
Monetary value	Reference to how much an object may be worth.
Object skill or appreciation	Reference made appreciating an object or the skill involved in producing it.
Orientation	Reference to the orientation of an object.
Origin	Reference to the origin of an object.
Ownership	References to who might own the object.
Practicality	Considering practical aspects of an object.
Production	Reference to the production of an object – how it was made.
Quality	Reference to the quality of an object.
Shape	Reference to the shape of an object.
Size	Reference made to the size of an object.
Smell	Reference made to the smell of an object.
Taste	Reference made to the taste of an object.
Touch or texture	Reference made to the feel or texture of an object.
Usefulness of object	Reference made to the usefulness of an object.

Code	Description
Visual properties	Reference made to the visual properties of an object.
Weight	Reference made to the weight of an object.
P agreeing or reaching consensus	Participants reach a consensus. I.e. Three or more in agreement.
P agreement with another P	Participant agreeing with another participant.
P asking P a question	Participant asks another participant a question. May just repeat what another participant has said in a questioning way or be used to clarify what was said.
P asking questions	Participants asking any questions during sessions E.g. thinking out loud, asking permission, challenging others, as an answer to a question, in relation to object features etc.
P changes or introduces new topic or moves conversation on	Participant brings in a new element to the conversation, e.g. age when the current discussion was around function, or makes a comment relating to the session pace or content e.g. trying to move on to the next object. May go back to a topic discussed before conversation moved onto the current topic or initiate topics of exploration.
P clarifying	Participants using clarifying phrases and questions to support understanding of self and others. E.g. May repeat parts of what has been said, may not have heard properly or may clarify question to enhance understanding or point making to make self understood.
P disagreeing with or challenging others	Participants disagree with/express having a different opinion or challenge what is said by another participant or facilitator. May be presented as a question or statement.
P guessing and hypothesising	Participants guessing and hypothesising. For example, about an object's identity, age, material, function etc. or in wider discussion.
P providing explanations or reasoning	Participants explaining their reasoning behind a hypothesis or opinion.
P responding to F	Participants responding to Facilitators. Can also include units of conversation that do not fall under other codes E.g. "Oh right".
P sharing opinions and preferences	Participants sharing opinions and preferences. This may be spontaneous or in response to a question prompt or associated conversation. Preferences/reactions/expectations/concerns/likes/dislikes e.g. "I think…".
P sharing personal information & stories	Participants sharing information about own life or experiences/stories.
P sharing personal knowledge	Participants sharing personal knowledge.
P uncertainty, not knowing or forgetting	Participants expressing not knowing, being unsure or forgetting.

Code	Description
P – short phrase engagement or contribution	Participants using short phrases or words such as “amazing”. This may be how a quieter member of the group contributes.
P&F interactive learning	Back and forth conversation made of questions and answers between participants and facilitators on a particular topic to learn more (about an object or topic or reactions to these). May be to do with learning around particular facts. E.g. how iron is important in our diets.
Process of discovery and problem solving	Group engaging in back and forth discussion building on each other’s ideas. E.g. asking questions, debating, negotiating and problem solving to discover more about an object. Can include facilitators and doesn’t have to reach an answer or a “correct” answer.
Ps responding to each other	Direct communication between participants. E.g. commenting on what another has said, an acknowledgement or asking/answering questions.
Remembering - recapping what has been discussed	References to what others have previously said or summarising what has been discussed to help hold the thread or resume a previous conversation topic.
Definitions: P = Participant(s); F = Facilitator(s)	

Appendix 17: Initial theme development





*Process: Equal status in the group created by facilitators allowing participants to have agency to participate in a number of ways which leads to group cohesion and co-exploration. Objects as a vehicle for this process to take place.

Appendix 18: Excerpts from the reflective research diary

I'm feeling re-acquainted with and immersed in the data I have collected after spending the past few days watching the videos of the sessions and reading through the transcripts (feeling very thankful to the person who transcribed them for me) with the audio recordings, noting down my initial ideas and thoughts. I'm struck by the potential of objects to generate such a wide range of discussion and by the ability of a group of people with dementia to engage in this so fully. This makes me think about how theories of joint attention and levels of processing may fit in here. It feels good to be starting the process of analysis after all the work that went into collecting the data, but also daunting as qualitative analysis is not something I have done before. I'm feeling grateful for Braun and Clarke's guidance to help me structure my approach to analysing the data and the support of my supervisors. Watching the videos took me back to the object handling sessions and I'm reminded of how much I enjoyed them and what a pleasure it was to have been able to offer these sessions to people who told me they otherwise may not have left the house that day. I hope I do the data justice!

…

Speaking with colleagues and my supervisors has helped me to become more aware of my own positioning and potential biases in relation to the data. After working for a number of years in NHS older people's services where the focus of my interactions with clients was around their diagnosis of dementia, I am aware of my personal sense of investment in object handling groups as a meaningful intervention which not deficit focussed, but centred around having fun in an accessible and interesting community setting with others. A discussion with my supervisor has encouraged me to be open to the full spectrum of what may be in the data in terms of positive, negative or neutral content, quieting a potential bias based on my assumption that this intervention would be experienced as wholly positive by participants and beneficial. This was also helped by reflecting on the nature of dementia and the potential for a person's experience and engagement to fluctuate throughout sessions.

…

I have so many words and ideas scribbled in my notepad following immersing myself in the data and now I need to start generating some initial codes. I've been reading Braun and Clarke and Boyatzis to ensure I have a good understanding of what a code and a theme is and how they are different, so I know what is ahead. I have done some initial coding and felt very unsure about whether I was "doing it right", especially as my transcript feels different to the examples in the books which are often interviews. I have 6 people who are all part of the same conversation, often making short contributions at a time. I found it helpful to do a few pages of initial coding with a supervisor which has given me more confidence in my decision to code for both semantic and latent themes as this feels pertinent to my research questions and allows me to capture as much richness in the data as possible.

…

Coding takes so much time! I remember being told this back in one of our early lectures, but I am appreciating it more now. Especially when I'm at points going back to the video data to better understand parts of the transcript, such as to see what happens when facilitators change the topic or move things along. Does this appear to open up the proceeding conversation? Does this shut someone down? I don't want to overlook potentially important nuances in the data. I'm trying my best to be as systematic in my coding as possible and again find myself having frequent thoughts about whether I'm "doing it right". I stand by my decision that it was important to adopt an inductive approach given the unique focus of this study on a group of people with a dementia in a museum setting, however, I wonder if a deductive approach feels more reassuring in what to look for in the data. I feel better after speaking with several other trainees and finding I am not alone in this. I am trying to trust in the process, but it does feel tricky to at times when I wonder how I am going to bring all these codes together in a meaningful way through generating themes. 2 more sessions to code!

…

I'm halfway through coding and reflecting on how I'd felt disappointed not to have recruited as many participants as I had hoped. I can't believe how much data 4 participants and 2 facilitators has generated and I'm now glad to be able to explore the entirety of the sessions to gain a richer understanding of the data and participants than if I had many more sessions and was only able to analyse segments. I find it interesting to see how participants different personalities come through in the sessions [observations]. I'm also struck, as I was in the sessions, by the ability of the group to express different opinions and disagree with each other and that this seems to energise the group rather than shut things down. I'm aware of my own personal discomfort with disagreement in groups and that this may have led me to expect a potentially negative outcome from disagreements and challenges, especially as the participants had not known each other prior to the study. The participants appear to be comfortable in the group to express themselves and accepting of each other.

…

I met with a friend from the course today to talk through my codebook so far and examples of codes. I had done this with my supervisor at earlier points along the way and found it helpful.

I’m really glad I used NVivo as despite it taking a while to get used to, it makes it really easy to look at all the text that comes under each code and to collapse or remove things. I was pleased that my friend seemed to agree with the majority of codes. It was also helpful having them question me on others that may not have seemed clear in order to refine their definitions and to ask me how codes are different, helping me to collapse them. For example, how ‘using imagination’ was any different to ‘hypothesising’ as hypothesising also required participants to use their imagination. This was an important step in improving the reliability of my codes in line with my critical realist stance, and I now feel more confident to continuing coding.

…

I have finally finished coding! It was a long process and I have just about finished refining my final codebook. Now I am turning my efforts to generating themes that capture meaningful patterns in the data that address my research questions. I have had some ideas that I have noted down along the way, but with a large codebook I felt the need to get creative and more visual in my search. My living room floor has been covered in post-it notes with codes on them that I have been rearranging into potential themes and subthemes, which I have now managed to put into a tentative map on one piece of paper. The interaction between themes feels important as they appear to come together to form a narrative around what took place within the sessions. This will need some further work and refinement, particularly around the names I have given them and how to most meaningfully re-work the subthemes to capture as much of the data as possible. I don’t want to oversimplify the analysis and lose detail, yet I want my themes to be clear and concise.

…

I have been going over the data, codebook and tentative themes to revise them and produce a table with definitions and example codes as well as a re-worked thematic map. I met with two course friends to go through my final themes and subthemes, which again felt reassuring to find we were in agreement in how they reflect the codes. This also helped me to refine the names and definitions and to collapse a further two subthemes in order to complete my analysis. I find myself looking at my finished analysis taken back by all the hours of work, effort and thought that have gone into collecting and analysing this data set. I’m pleased with my analysis and feel I have learned a lot about this process which would be beneficial if I were to embark on a project like this again. Now to write it up!

Appendix 19: End of study summary for participants

Things in our lives: Exploring the use of museum and heritage objects

I am writing to you following your participation in a research study at [venue]. Below is a summary of the study and its findings.

Background

The number of people in the population living with a dementia is increasing. Dementia care guidance highlights the importance of promoting the quality of life of people living with a dementia through increasing access to engaging and meaningful activities. There is a growing evidence base for the potential of heritage settings (art galleries and museums) and arts-based interventions such as object handling, to have positive benefits for the wellbeing of people living with a dementia.

Method

This study explored how small group object handling sessions in a museum setting may help to increase wellbeing for people living in the community with a dementia. Four people with a diagnosis of dementia took part in three group object handling sessions led by two facilitators. Participants completed a short wellbeing questionnaire before and after each session. They were also asked some questions on each visit and wore wristbands that collected data on how their bodies responded, which may be analysed in a future study. During each session the groups handled and discussed a range of novel objects. Sessions were audio and video recorded and analysed to identify patterns and themes to better understand the potential processes that took place during the sessions that may have impacted on participants' wellbeing.

Results

Overall, the wellbeing scores suggested participant's subjective wellbeing may have been increased at the end of each session relative to their ratings at the start. Four key themes were identified that may have contributed to this:

Scaffolding

This theme described the contributions of the facilitators and the process of facilitation during the sessions. Three subthemes were identified: *guiding and pacing* (facilitators asking questions and encouraging exploration and discussion before providing information about the objects), *validating* (responding to and encouraging participant's contributions) and *sharing* (facilitators sharing their own opinions, humour and being open that they did not have all of the answers about the objects).

Agency

This theme described the contributions of participants within the sessions and was made up of three subthemes: *curiosity* (participants asking questions and making guesses and sharing hypotheses about objects), *connecting* (participants responding to and directing questions to others in the group), *voicing difference* (expressing different opinions and ideas) and *sharing* (not knowing what an object is, or something about it, sharing personal opinions, experiences and humour).

Exploring objects

This theme described the many different perspectives from which the objects were explored through discussion by both participants and facilitators. Three subthemes were found: *properties and features* (including discussion around the weight, material or smell of an object), *meaning-making* (including discussion around an object's age, origin, its possible identity or function and what it may represent) and *associations* (what objects reminded group members of, or related discussions that followed).

Group Collaboration

This theme reflected the process of the group coming together as a whole. Two subthemes were identified: *sharing responsibility* within the group discussion (for example, both facilitators and participants shared opinions, personal stories, humour, and recapped what had already been discussed) and the *process of discovery* (where group members built on each other's ideas, problem-solving to discover more about an object and learn new information).

A dynamic interaction between these themes and subthemes was described: the contributions of the facilitators may have helped to create conditions within the group that allowed participants to express themselves. This led to a collaboration between participants and facilitators in sharing responsibility for the group and building on each other's ideas to discover more about objects. The objects were explored in many different ways and provided a shared focus within the group through which these processes took place. Topics of conversation varied with different objects and no clear patterns of change over the three sessions were found. However, whilst not a part of the formal analysis, the researchers observed that these processes appeared to happen more quickly with each session.

Discussion

This study suggests group object handling sessions in a museum setting may have positive benefits for wellbeing for people living with a dementia. The study's findings provide an understanding of the processes through which these sessions may have an effect. There are limitations to this study, such as the number of participants being very small, and therefore any interpretations should be held tentatively. However, these findings offer ways to optimise sessions for people living with a dementia and have useful implications for future training and research in order to increase the accessibility of this intervention in line with public health programming.

Acknowledgements

I would like to thank everyone who contributed to the study: those who gave their time to participate, supported their loved ones to attend, and those who helped to organise and run the sessions. I hope you found the study to be an enjoyable and interesting experience. I have included a picture below of the display case the group curated in the final session. I wish you all the best.

Picture has been removed from the electronic copy.

Appendix 20: End of study summary for ethics panel

The following summary was sent to the Salomons research ethics panel.

Dear [chair of ethics panel],

Subjective wellbeing in people with dementia: Exploring the process of facilitated small group object handling sessions in a museum setting.

I am writing to you on completion of the above research study. This has now been written in the form of a thesis for submission in partial fulfilment of the requirements of Canterbury Christ Church University for the degree of Doctor of Clinical Psychology. Please find a summary below.

A separate summary has been written and sent to the participants of the study.

Yours sincerely,
Laura Dickens

Background

Dementia is a public health priority given its increasing prevalence in the population. Dementia care guidance highlights the importance of supporting people with dementia (PWD) to access engaging and meaningful activities to promote their quality of life. There is a growing evidence base for the efficacy of heritage settings and arts-based interventions, such as object handling (OH), in increasing wellbeing in PWD. This study extended previous research exploring the potential processes underlying this effect to small group OH sessions for PWD in a museum setting.

Method

A mixed-methods design was used comprising a pre-post measure of subjective wellbeing and an inductive thematic analysis to explore in-the-moment session content. Four participants living in the community with a mild dementia participated in three group object handling sessions led by two facilitators, in which novel objects were handled and discussed.

Results

The pre-post wellbeing scores suggested an overall increase in participant's self-reported wellbeing after object handling sessions when compared with their pre-session ratings. Whilst this is in line with previous research findings in PWD, without a larger sample size and the resulting statistical analysis, no further interpretation can be made.

A qualitative enquiry identified four key themes that may have contributed to participant wellbeing during the OH sessions:

Scaffolding

This theme described the contributions of the facilitators and the process of facilitation, comprising three subthemes: *guiding and pacing* (such as facilitators asking questions and encouraging exploration before providing information about the objects), *validating* (responding to and encouraging participant's contributions) and *sharing* (sharing opinions, humour and being open about not knowing all the answers about the objects).

Agency

This theme related to the contributions of participants and comprised three subthemes: *curiosity* (asking questions, guessing and hypothesising about objects), *connecting* (directing questions and comments to others in the group), *voicing difference* (expressing different opinions and ideas) and *sharing* (personal opinions and experiences, humour and not knowing the answers).

Exploring objects

This theme described the many different perspectives from which objects were explored through discussion, including both participants and facilitators. Three subthemes were found: *properties and features* (including discussion about an object's weight, material or smell), *meaning-making* (including discussion about the potential identity or function of an object, its age, origin or what it may represent) and *associations* (what objects reminded group members of, or related discussions that followed).

Group Collaboration

This theme related to the process of the group coming together as a whole. Two subthemes were identified: *sharing responsibility* for the group discussion (including sharing opinions, personal stories, humour and recapping what had been discussed) and the *process of discovery* (building on each other's ideas and problem-solving to discover more about an object and learn new information).

Tentative interpretations were made around the dynamic interactions between the identified themes and subthemes: the facilitators created conditions within the group, such as an equal status between participants and facilitators, that empowered participants to demonstrate agency in expressing themselves and led to group collaboration. Objects were explored from many different perspectives and provided a shared focus within the group through which these processes took place. No clear patterns across the 3 sessions were found and conversation topics varied with each object, however the researchers observed that these processes appeared to happen more quickly with each of the three sessions, although this was not part of the formal analysis.

Discussion

This study suggests group object handling sessions in a museum setting may have positive benefits for wellbeing for PWD and the findings contribute to an understanding of the processes within sessions that may underlie this effect. Limitations of the study, including the small sample size are discussed. The findings offer ways to optimise sessions for PWD and have useful implications for future training and research in order to increase the accessibility of this intervention in line with public health programming.

Appendix 21: Submission guidelines for journal

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