


REVIEW ARTICLE

# Systematic review of group-based creative arts interventions in support of informal care-givers of adults: a narrative synthesis

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## Abstract

Informal care-givers play an important role, with health-care systems relying on the billions of hours of care they provide. Care-givers experience high levels of psychological distress and isolation; however, the efficacy of what support is the best for care-givers is unclear. The primary aim of this systematic review is to determine the effect of group creative arts interventions on informal care-givers of adults. The secondary aim is to understand the impact of group type, the primary outcomes and how they are measured. Given the heterogeneous nature of the included studies, a narrative synthesis approach was taken. Database searches identified 2,587 studies, 25 of which met the full inclusion criteria. Studies included group creative arts interventions for either care-givers only ( $N = 8$ ) or for care-giver/cared-for dyads ( $N = 17$ ). The majority of the participants in the studies were older Caucasian females. Group creative arts interventions are beneficial for care-givers and for the person being cared for; however, benefits differ depending on whether the group is for care-givers only or for care-giver/cared-for dyads. Future research will benefit from care-givers being involved in the design of the creative arts intervention to provide input regarding group type and relevant outcome measures. Future research should consider targeting their intervention to care-givers with a low baseline score to increase the ability of the study to demonstrate a significant difference.

**Keywords:** care-givers; creative arts; wellbeing; outcome measures; older adults

## Introduction

Globally, informal care-givers have been estimated to provide over 82 billion hours of care each year (Wimo *et al.*, 2018). In Australia, for instance, the health-care system relies on 2.65 million informal or unpaid care-givers to support people with a

disability or older people (Australian Bureau of Statistics, 2018). Informal care-givers are usually family members or close friends of a person requiring support to remain living in their own home. Informal care-givers are unpaid, although some may receive a support payment. Their tasks can include providing assistance in daily activities such as washing, dressing, ambulation, shopping, food preparation and management of medications, as well as meeting the emotional and cognitive needs of the person for whom they are caring. Almost half of the respondents of a recent national care-giver survey indicated high levels of psychological distress and a third were highly socially isolated (Carers NSW, 2020). Currently, support being accessed by care-givers focuses on respite and online groups. However, demand for other supports, including face-to-face peer support, is high (Carers NSW, 2020).

A comprehensive meta-review (Thomas *et al.*, 2017) of all interventions primarily aimed at care-givers of adults recommended that a range of interventions be offered in order to cater for care-givers' diverse and complex needs. This recommendation was reinforced by feedback from care-giver advisors interviewed as part of the meta-review. Whilst there was a range of responses, only one of the 27 systematic reviews analysed in the meta-review included creative arts interventions (Lang and Lim, 2014). This may be indicative of the emerging research status of arts in health and the need for more research in creative arts interventions (Clift, 2012).

### **Arts and health**

Creative arts offer an engaging and motivating alternative to mainstream therapies across the health-care continuum (Office for the Arts, 2020). Not only do they provide opportunity for self-expression and skill growth, they also allow a person to find meaning and express their humanity through feelings, thoughts and a sense of beauty (Clift and Camic, 2016). The Australian National Arts and Health Framework states that 'arts and health refers broadly to the practice of applying creative, participatory or receptive arts interventions to health problems and health promoting settings' (Office for the Arts, 2020: 1).

Group creative arts interventions for care-givers can involve a wide range of modalities, such as singing, songwriting, art viewing, art making, expressive writing, dance and drama. They can be held in community centres, art galleries or churches. Some interventions are one-off and others can run for up to 20 weeks, or be ongoing.

### **Positive impact of group creative arts interventions for care-givers**

A recent systematic review of both individual and group creative arts interventions with active engagement for older care-givers reported that a key outcome from group interventions was development of social connections (Irons *et al.*, 2020). However, other systematic reviews have not looked specifically at group interventions, despite the potential for cost benefit and improvement of connection with others (Lang and Lim, 2014). Primary studies of group creative arts interventions have been carried out within specific creative arts therapies, most notably in music therapy (Potvin *et al.*, 2018) and art therapy (Lang and Lim, 2014). Creative arts modalities used in interventions can be delivered sequentially such

as art making followed by a drama workshop (Lefebvre *et al.*, 2020), or combined, e.g. drawing and writing to music (Booth, 2006; Grocke and Wigram, 2007). Whilst this heterogeneity works well in terms of responding to diverse needs of care-givers, it creates a challenge for researchers to understand optimal and generalisable outcomes (Dam *et al.*, 2016).

Group creative arts interventions can be designed for care-givers specifically, for the care-giver/cared-for dyad, or may also include other staff and volunteers. Group interventions designed specifically for care-givers and in which only care-givers participate allow them to have some 'time out' (Kaimal *et al.*, 2019) and to connect with others alike (Baker *et al.*, 2018); however, it is uncommon for a group intervention to be designed and delivered in this way (Dam *et al.*, 2016). Instead, it is more typical for group interventions to be designed primarily for the person being cared for, and for care-givers to attend in a support role. Northouse *et al.* (2010) found that care-givers derived more benefit from attending group support sessions for care-givers only as compared to group sessions for care-giver/cared-for dyads. However, out of the 29 studies included in their review, only two were delivered in this way.

### **Purpose and outcome measures**

This systematic review aims to determine what impact has been described in the literature from group-based creative arts interventions for informal care-givers of adults. Secondary aims are to determine (a) whether there is any difference if the care-giver attends the group with the person they are caring for, or only with other care-givers, and (b) which outcome measures are most effective in measuring the impact of group-based creative arts interventions on the informal care-givers.

## **Methods**

### **Protocol and registration**

This systematic review is registered with PROSPERO (registration number CRD42020218177) and can be accessed at <https://www.crd.york.ac.uk/PROSPERO>.

### **Eligibility criteria**

The Population Intervention Comparison Outcome framework was used to help define the research questions (Moher *et al.*, 2009). Studies were included if they involved informal care-givers of adults participating in group-based creative arts interventions, whether delivered in isolation, in sequence or in combination, where there was a measured outcome for care-givers.

Primary studies as well as feasibility studies were included so that all outcome measures might be included. Exclusion criteria comprised articles not in English and those published before 2010. Articles with a final quality assessment score of 50 per cent or less using the Crowe Critical Appraisal Tool (CCAT; Crowe, 2013), designed for a diverse range of research designs, were excluded. Articles were also excluded if they had a level of evidence rating of IV or below, as defined by the National Health and Medical Research Council (2009: 15).

### **Information sources**

Databases included CINAHL, MEDLINE, Embase, PsycINFO, Scopus, Web of Science and ProQuest. The first search was conducted on 1 July 2020, and a second and final search was conducted on 22 January 2021.

### **Search**

Two main categories formed the search strategy: informal care-givers of adults and creative arts interventions.

The following search terms were used to search all databases: caregiver\* or care giver\* or carer\* or care provider\* or informal care, daughter\* or son or sons or families or family or familial or kin or kinship or parent\* or relatives or spous\* or wife or wives or husband or partner or partners or grandchild\* or grandparent\* or neighbour\* or neighbor\* or friend or friends, support\* or care\* or caring; music\* or art or arts or artist\* or creative or imagery or expressive, therap\* or intervention\* or group\* or program\* or project\* or class\* or workshop\* (for an example of a complete search strategy, see Table 1).

### **Study selection**

The articles were screened independently and blindly by the first and second authors using Covidence (<https://www.covidence.org>), an online systematic review data management tool, to manage both title and abstract and full-text screening stages. Articles which resulted in a conflict were discussed as they arose in weekly online meetings. Where agreement was not reached (N = 8), the seventh author was invited to make the final decision.

### **Data extraction process**

Data extraction was carried out by the first and second authors independently and blindly, populating a customised template within Covidence. Data were then collated by the first author. The first and second authors discussed any discrepancies until consensus was reached.

### **Data items**

Data extracted included lead author contact details, participant information for both the informal care-giver and for the person being cared for, type of creative arts modality used in the intervention, length, frequency of sessions, total length of therapy time, study aim, methods, outcome measures used, effectiveness of the intervention, type of analysis, results and limitations.

### **Risk of bias in individual studies**

The risk of bias and assessment of the quality of the publications was completed using the validated CCAT form and user guide (v1.4) (Crowe, 2013). This tool is designed for use with qualitative, quantitative and mixed-methods articles (Crowe *et al.*, 2011). The first and fourth authors independently scored and

**Table 1.** Search strategy example

	Query	Limiters/expanders	Results
S1	(MH <sup>1</sup> ‘Caregivers’) OR (MH ‘Caregiver Burden’) OR (MH ‘Caregiver Support’) OR (MH ‘Caregiver Strain Index’)	Expanders: apply equivalent subjects  Search modes: Boolean/phrase	47,101
S2	TI <sup>2</sup> (caregiver* OR ‘care giver’* OR carer* OR ‘care provider’* OR ‘informal care’) OR AB <sup>3</sup> (caregiver* OR ‘care giver’* OR carer* OR ‘care provider’* OR ‘informal care’)	Expanders: apply equivalent subjects  Search modes: Boolean/phrase	106,647
S3	TI (((daughter* OR son OR sons OR families OR family OR familial OR kin OR kinship OR parent* OR relatives OR spous* OR wife OR wives OR husband OR partner OR partners OR grandchild* OR grandparent* OR neighbour* OR neighbor* OR friend OR friends) N2 <sup>4</sup> (support* OR care* OR caring))) OR AB (((daughter* OR son OR sons OR families OR family OR familial OR kin OR kinship OR parent* OR relatives OR spous* OR wife OR wives OR husband OR partner OR partners OR grandchild* OR grandparent* OR neighbour* OR neighbor* OR friend OR friends) N2 (support* OR care* OR caring)))	Expanders: apply equivalent subjects  Search modes: Boolean/phrase	65,916
S4	S1 OR S2 OR S3	Expanders: apply equivalent subjects  Search modes: Boolean/phrase	160,913
S5	(MH ‘Art Therapy’) OR (MH ‘Music Therapy’)	Expanders: apply equivalent subjects  Search modes: Boolean/phrase	9,797
S6	TI (((music* OR art OR arts OR artist* OR creative OR imagery OR expressive) N2 (therap* OR intervention* OR group* OR program* OR project* OR class* OR workshop*))) OR AB (((music* OR art OR arts OR artist* OR creative OR imagery OR expressive) N2 (therap* OR intervention* OR group* OR program* OR project* OR class* OR workshop*)))	Expanders: apply equivalent subjects  Search modes: Boolean/phrase	15,295
S7	TI ‘music drawing’ OR AB ‘music drawing’	Expanders: apply equivalent subjects  Search modes: Boolean/phrase	7
S8	S5 OR S6 OR S7	Expanders: apply equivalent subjects  Search modes: Boolean/phrase	19,450
S9	S4 AND S8	Expanders: apply equivalent subjects	950

(Continued)

Table 1. (Continued.)

Query		Limiters/expanders	Results
S10	antiretroviral	Search modes: Boolean/phrase	22,076
		Expanders: apply equivalent subjects	
S11	S9 NOT S10	Search modes: Boolean/phrase	664
		Expanders: apply equivalent subjects	
		Search modes: Boolean/phrase	

Notes: 1: medical subject heading. 2: title. 3: abstract. 4: near two

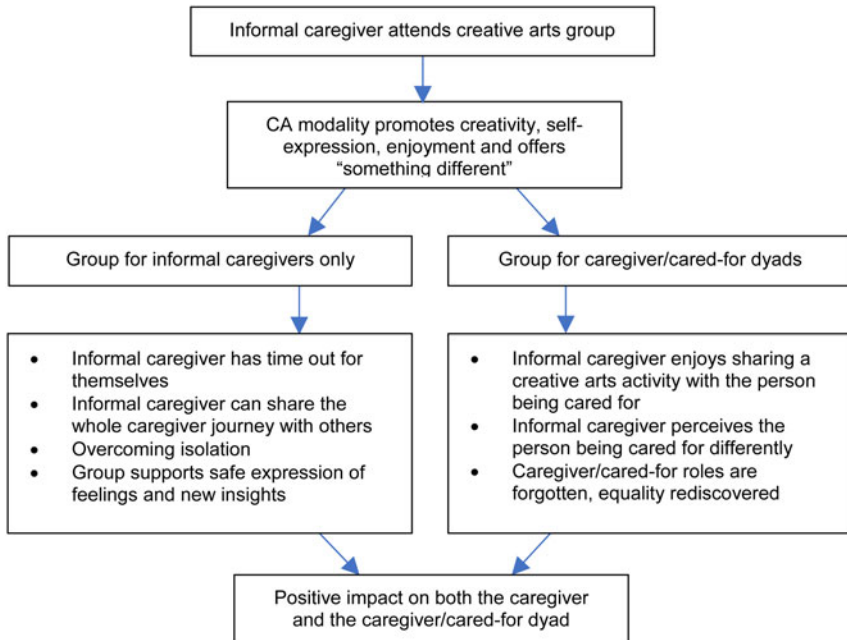


Figure 1. Theory of change.

made comments for each of the eight categories (preliminaries, introduction, design, sampling, data collection, ethical matters, results and discussion) in a modified Covidence template which replicated the CCAT form. Each category received its own score on a six-point scale from 0 to 5. The first author then compared the scores for each article. If the two total CCAT scores for each study differed by more than 10 percentage points, the scores were discussed until consensus was reached. Studies were also designated a level of evidence according to the

type of research question, as defined by the National Health and Medical Research Council (2009: 15). For the purposes of this systematic review, poor quality is defined as a final CCAT quality assessment score of 50 per cent or less or a National Health and Medical Research Council level of evidence of IV or below. Using this definition, six articles of poor methodological quality were excluded.

### **Synthesis of results**

Articles in the final list were imported into NVivo ([www.qsrinternational.com/nvivo](http://www.qsrinternational.com/nvivo)), a software program for qualitative data analysis. Narrative synthesis, an approach for synthesising findings from multiple studies, was chosen to describe the data due to the heterogeneous nature of the creative arts interventions, the broad research questions and the diversity in outcome measures (Popay *et al.*, 2006; Hanson-Abromeit and Sena Moore, 2014). Preliminary synthesis included textual description, tabulation and construction of a common rubric. Reported qualitative results were amalgamated by the first author using thematic analysis (Braun and Clarke, 2006).

Exploration of relationships between moderating variables was executed in Excel and NVivo and presented descriptively. A theory of change was developed as part of the narrative synthesis process (see Figure 1).

## **Results**

### **Study selection**

The database search resulted in 2,597 studies, with 25 articles being included (see Figure 2, a PRISMA flowchart adapted from Moher *et al.*, 2009). Studies were conducted predominantly in the United Kingdom (N = 10), Australia (N = 6) and the United States of America (N = 5). Other studies were conducted in Canada (N = 1), Ireland (N = 1), The Netherlands (N = 1) and Spain (N = 1). A summary of the characteristics of each study is presented in Table 2.

All studies stipulated a primary diagnosis of the person being cared for as an inclusion criterion. The majority specified the person being cared for must be a person with dementia (PWD) or have Alzheimer's disease or related dementia (N = 20). Other specified primary diagnoses were cancer (N = 3), Parkinson's disease (N = 1), or person with severe and enduring mental health problems (N = 1).

Three creative arts modalities were represented, with music (N = 14) and art (N = 10) making up the majority, and expressive writing represented once. Two studies used passive or receptive interventions only (Fancourt *et al.*, 2016; Hendriks *et al.*, 2019), that of art viewing. All other studies (N = 23) used active forms of creative arts interventions. Twelve studies included interventions run by trained creative arts therapists and 12 by facilitators not trained in creative arts therapies (not stated, N = 1). One-third of the studies had groups for informal care-givers only (N = 8) versus groups for the care-giver/cared-for dyad (N = 17).

A total of 496 informal care-giver participants were included in the studies (mean = 24, standard deviation = 23). The variation in number of participants may be understood when viewed through the lens of research design types. Three qualitative studies using thematic analysis of interview data had four

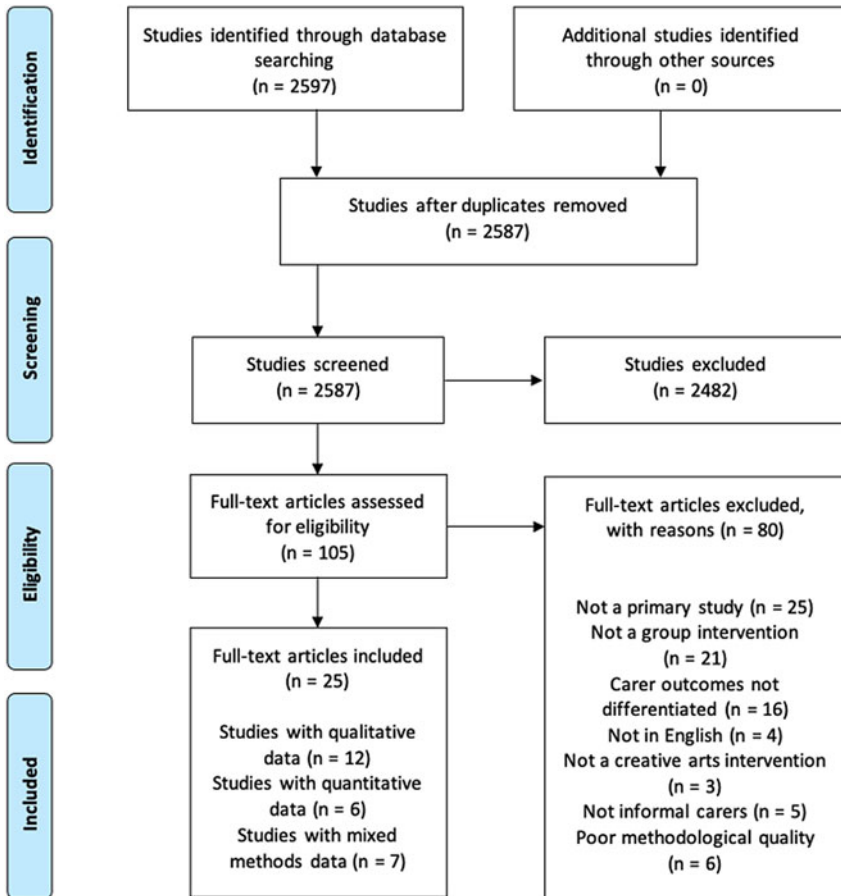


Figure 2. PRISMA flowchart adapted from Moher *et al.* (2009).

participants each (Pienaar and Reynolds, 2015; Baker and Yeates, 2018; Lee *et al.*, 2020). In contrast, two multi-site single-arm studies (Fancourt *et al.*, 2016; Hendriks *et al.*, 2019) recruited 72 and 85 informal care-giver participants, respectively. Of those studies with gender reported in participant demographics (N = 21), 72.5 per cent of informal care-givers were female (N = 340) and 27.5 per cent were male (N = 129).

The total number of participants in each intervention group differed, with fewer than ten participants per intervention group in seven studies (Pienaar and Reynolds, 2015; Johnson *et al.*, 2017; Baker and Yeates, 2018; Baker *et al.*, 2018; Clark *et al.*, 2020; García-Valverde *et al.*, 2020; Leung *et al.*, 2019), 10–20 participants per intervention group in seven studies (Roberts *et al.*, 2011; Camic *et al.*, 2014, 2016; Wharton *et al.*, 2019; Mondro *et al.*, 2020; Hendriks *et al.*, 2019; Lee *et al.*, 2020) and more than 20 participants per intervention group in six studies (Osman *et al.*, 2016; Clark *et al.*, 2018; Mittelman *et al.*, 2018; Tamplin *et al.*, 2018, 2020; Jicha *et al.*, 2019). The total number of participants per intervention



**Table 2.** Preliminary synthesis of data in tabulated format

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Baker <i>et al.</i> (2018) Australia	CA modality: group songwriting Group for informal care-givers only Session facilitated by trained CA therapist: yes Duration: 6 × 1-hour weekly sessions	To test the feasibility of implementing a group songwriting programme with FCGs of people living with dementia	N (F:M) = 14 (9:5) Care-giver description: mean age = 72.29, SD = 6.72 years. The relationship of the care-giver to recipient varied from spouse, to sibling, to adult child Primary diagnosis of person being cared for: PWD	Mixed methods Feasibility, songwriting group <i>versus</i> control group Exploratory pilot and feasibility study Outcome measures: pre and post self-report scales selected for depression and dyad relationship quality, completion rates of measures and dropout and focus group interviews	CCAT score = 76 Researchers not blind. Participants self-selected to condition
Baker and Yeates (2018) Australia	CA modality: group songwriting Group for informal care-givers only Session facilitated by trained CA therapist: yes Duration: 5 weeks (focus group after the conclusion of the songwriting session and interviews)	To explore care-givers' experiences of participating in a creative group songwriting process	N (F:M) = 4 (2:2) Care-giver description: one male spouse, one female spouse, one adult female daughter and one adult male son of PWD. Primary diagnosis of person being cared for: PWD	Qualitative Pilot study Outcome measures: short focus group and individual interviews	CCAT score = 76 Small participant numbers. Researchers not blind. No control group

(Continued)

**Table 2.** (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Burnside <i>et al.</i> (2017) USA	CA modality: museum tour and art-making sessions Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: no Duration: one or more of seven gallery tours (90 minutes) and three art-making classes (120 minutes) of six sessions each	To explore the impact of a museum-based experiential arts programme, here:now, developed for persons with dementia and their care partners	N (F:M) = 21 (not stated) Care-giver description: the majority of care partners were spouses of persons with dementia (52%). Adult children (all daughters), paid care partners and other family members accounted for the remainder. One African American dyad and one Asian dyad participated, the rest were White Primary diagnosis of person being cared for: PWD	Qualitative Cohort study Outcome measures: qualitative semi-structured telephone interviews	CCAT score = 64 Participants self-selected to the programme and had art experience. No control group
Camic <i>et al.</i> (2014) UK	CA modality: art viewing and discussion followed by art making Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: no Duration: 8 × 2-hour weekly sessions (one hour art viewing and one hour art making)	To assess the feasibility of the intervention across two different types of art galleries	N (F:M) = 12 (not stated) Care-giver description: mean age = 78.3, SD = 8.8 years (17 White-British, 4 White-Europeans, 2 British-Asian, 1 Black-British). One PWD (and her accompanying care-giver) dropped out due to another health-related concern. Primary diagnosis of person being cared for: PWD	Mixed methods Cohort study Outcome measures: ZBI, Bristol Activities of Daily Living Scale (BADLS), and semi-structured interviews and field notes	CCAT score = 73 Recruitment not clearly described. Small sample size. No control group

(Continued)

Table 2. (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Camic <i>et al.</i> (2016) UK	CA modality: art gallery viewing and art making Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: no Duration: 8 × 2-hour weekly sessions	To develop a theoretical understanding of how the process of viewing and making art in the social and physical context of an art gallery environment impacts PWD and accompanying care-givers	N (F:M) = 12 (not stated) Care-giver description: 17 White-British, 4 White-Europeans, 2 British-Asian, 1 Black-British; 15 women. Primary diagnosis of person being cared for: PWD (early stage)	Qualitative Cohort study Outcome measures: semi-structured interviews, observational field notes and semi-structured interviews (30–60 minutes) with the programme facilitators	CCAT score = 61 Participants self-selected to participate. No control group
Clark <i>et al.</i> (2018) <sup>1</sup> Australia	CA modality: therapeutic group singing Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: yes Duration: 20 × 2-hour weekly sessions	To build on the findings from previous research by undertaking a thematic analysis of interviews	N (F:M) = 9 (5:4) Care-giver description: eight dyads were in a spousal/partner relationship and one PWD was being cared for by her daughter. Primary diagnosis of person being cared for: PWD	Qualitative Feasibility study Outcome measures: semi-structured interviews	CCAT score = 81 Researchers delivered intervention and interviews

(Continued)

**Table 2.** (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Clark <i>et al.</i> (2020) Australia	CA modality: group songwriting Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: yes Duration: 6 × 1-hour weekly sessions	To examine the acceptability of a group therapeutic songwriting intervention for PWD/FCG dyads and test the sensitivity of outcomes	N (F:M) = 14 (9:5) Care-giver description: mean age = 67, SD = 10.1 years; 11 spouses, two daughters, one son. Four dyads withdrew. Most participants were born in Australia (N = 15), and others were born in Lebanon (N = 2), Italy (N = 2) and Malaysia (N = 1). Primary diagnosis of person being cared for: PWD	Mixed methods Single-group quasi-experimental pre-post design Outcome measures: Assessment of Quality of Life-8 Dimensions (AQoL-8D), PHQ-9, ZBI and semi-structured interviews	CCAT score = 91 No control group
Fancourt <i>et al.</i> (2016) UK	CA modality: singing in a choir Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: no Duration: one 70-minute session	To compare changes across time in three separate populations affected by cancer: current care-givers, bereaved care-givers and patients, and to assess whether responses from the three groups differed from one another in order to explore whether singing was of specific value for any particular group	N (F:M) = 72 (58:14) Care-giver description: current care-givers of someone with cancer (N = 72), bereaved care-givers (N = 66) and cancer patients (N = 55). Primary diagnosis of person being cared for: cancer	Quantitative Preliminary multi-centre single-arm study Outcome measures: WEMWBS, HADS, Connor-Davidson Resilience Scale (CD-RISC), visual analogue scales measuring mood and biological measures	CCAT score = 74 No control group. Single-session intervention only

(Continued)

Table 2. (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Fancourt <i>et al.</i> (2019) UK	CA modality: singing in a choir Group for informal care-givers only Session facilitated by trained CA therapist: no Duration: 12 × 90-minute sessions (60 minutes singing and 30 minutes socialising)	This study explored whether weekly group singing can reduce anxiety and depression, and improve wellbeing in cancer care-givers over a 6-month period	N (F:M) = 62 (48:14) Care-giver description: adults caring for a spouse, relative or close friend with cancer Primary diagnosis of person being cared for: cancer	Quantitative Multi-site non-randomised longitudinal controlled study Outcome measures: HADS, WEMWBS short form and demographic data	CCAT score = 78 Participants self-selected to intervention control
García-Valverde <i>et al.</i> (2020) Spain	CA modality: group songwriting Group for informal care-givers only Session facilitated by trained CA therapist: yes Duration: 12 × 60-minute weekly sessions	To examine the effect of group therapeutic songwriting on the QOL of FCGs of PWD and to analyse the effect size of the intervention in the reduction of FCGs' anxiety and depression, and in the improvement of their self-esteem	N (F:M) = 21 (17:4) Care-giver description: mean age = 65, SD = 13.89 years; 10 spouses, 10 sons/daughters and 1 sibling. Primary diagnosis of person being cared for: PWD	Quantitative Non-randomised, quasi-experimental design with repeated measures Outcome measures: Spanish version of the Short-Form Health Survey (SF-36v2), two component summaries of the SF-36 (Physical and Mental Health), Beck Depression Inventory Second Edition (BDI-II), State-Trait Anxiety Inventory (STAI) and ROS	CCAT score = 68 No control group

(Continued)

**Table 2.** (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Hendriks <i>et al.</i> (2019) The Netherlands	CA modality: visual art programme (no art-making component) Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: no Duration: one 90-minute session	To contribute to optimisation of the 'Unforgettable' programme for PWD and care-givers	N (F:M) = 85 (58:27) Care-giver description: participants included couples consisting of people living at home and their informal care-givers, community-dwelling PWD and their care-givers and individuals from residential care settings accompanied by formal care-givers. Primary diagnosis of person being cared for: PWD	Mixed methods Multi-site single-group design Outcome measures: Smiley Face Assessment Scale (SFAS), take-home questionnaires including demographic data and the Positive Experience Scale	CCAT score = 61 Single-session intervention only. Participants were self-selected and had previous experience with art
Jicha <i>et al.</i> (2019) USA	CA modality: visual arts activity Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: no Duration: 8 × 90-minute weekly sessions	We hypothesised that participants with Alzheimer's disease or related dementia randomised to the visual arts education activities would improve on measures of self-esteem, QOL and activities of daily living, and that care-givers would improve on measures of self-esteem, QOL and care-giver burden	N (F:M) = 12 (9:3) Care-giver description: mean age = 64.6, SD = 14.8 years. Primary diagnosis of person being cared for: PWD	Quantitative Randomised control trial Outcome measures: ROS, the QOL-AD test instrument and the 22-item ZBI	CCAT score = 71 Recruitment and ethics not clearly stated

(Continued)

Table 2. (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Johnson <i>et al.</i> (2017) UK	CA modality: museum visit – object handling, social activity and art viewing Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: no Duration: one 90-minute session (45 minutes, 25-minute break, 45 minutes)	To investigate the impact of three museum-based activities on the subjective wellbeing of PWD and their care-givers	N (F:M) = 30 (26:4) Care-giver description: mean age = 66, SD = 9.95 years Primary diagnosis of person being cared for: PWD	Quantitative Quasi-experimental study with a mixed 2 × 4 repeated-measures crossover design Outcome measures: visual analogue scales and evaluation questionnaire	CCAT score = 74 Single-session intervention only
Lee <i>et al.</i> (2020) Ireland	CA modality: group singing Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: yes Duration: 6 × 1-hour weekly sessions	To determine how a community-based group singing intervention impacts the wellbeing of people with early stage dementia and their FCGs	N (F:M) = 4 (3:1) Care-giver description: ages 2 × 70–79, 1 × 30–39, 1 × 60–69. Primary diagnosis of person being cared for: PWD (early stage)	Qualitative Cohort study Outcome measures: semi-structured interviews	CCAT score = 81 No control group, small sample size

(Continued)

**Table 2.** (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Leung <i>et al.</i> (2019) Canada	CA modality: expressive writing and reading Group for informal care-givers only Session facilitated by trained CA therapist: yes Duration: 4 × 90-minute weekly sessions. Total duration 20 weeks (participants interviewed after four sessions)	To evaluate care-giver experiences with expressive reading and writing	N (F:M) = 9 (not stated) Care-giver description: mean age = 63.67, SD = 13.18 years; spouse (4), parent (2), other family (1), friend (1) and other (1). Primary diagnosis of person being cared for: cancer	Qualitative Single-arm pilot study Outcome measures: qualitative interviews	CCAT score = 70 Participants self-selected to participate. No control group
Mittelman <i>et al.</i> (2018) USA	CA modality: group singing Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: yes Duration: 13 × 2-hour weekly sessions	To fine-tune the intervention so that it would be enjoyable and appropriate to both the PWD and the care-giver, and to obtain initial qualitative and quantitative data on the potential benefits of the intervention	N (F:M) = 11 (6:5) Care-giver description: mean age = 71.7, SD = 8.3 years; nine spouse/partner care-givers, one adult child care-giver and one close friend. All participants were Caucasian Primary diagnosis of person being cared for: PWD	Mixed methods Pilot study Outcome measures: demographic questions, Communication subscale of the Family Assessment Measure, ROS, MOS Social Support Survey, SF-8 measure of Health Related Quality of Life, Geriatric Depression Scale (15-item version), focus groups and take-home questionnaires	CCAT score = 56 Sample size too small for definitive statistical analysis

(Continued)



Table 2. (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Mondro <i>et al.</i> (2020) USA	CA modality: art making Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: yes Duration: 8 × 90-minute weekly sessions	To describe the process of designing and implementing a structured art experience for people living with memory loss and their co-residing care-giver; and to summarise feedback provided by care-givers at the conclusion of the programme	N (F:M) = 28 (20:8) Care-giver description: co-residing care-giver; 80 per cent of the care-givers who participated were White, followed by 6.7% Black, 3.3% multi-racial and 3.3% Asian. Primary diagnosis of person being cared for: PWD	Qualitative Feasibility study Outcome measures: questionnaire with open-ended questions	CCAT score = 65 No control group, small sample size
Osman <i>et al.</i> (2016) UK	CA modality: group singing Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: no Duration: at least two weekly sessions	To explore the experiences of PWD and their care-givers attending a group singing activity	N (F:M) = 10 (8:2) Care-giver description: three mother–daughter couples and seven husband–wife pairs. Primary diagnosis of person being cared for: PWD	Qualitative Cohort study Outcome measures: semi-structured interviews	CCAT score = 65 No control group, small sample size

(Continued)

Table 2. (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Pienaar and Reynolds (2015) UK	CA modality: four sessions of art-making in the care-givers' group and one visit to an art gallery Group for informal care-givers only Session facilitated by trained CA therapist: no Duration: 4 × 90-minute art making with just care-givers plus one art gallery with person being cared for	To explore the meanings of a creative arts leisure intervention for care-givers of family members with dementia	N (F:M) = 4 (3:1) Care-giver description: ages ranging from 50–79 years approximately; four spouse care-givers and one daughter care-giver Primary diagnosis of person being cared for: PWD	Qualitative Cohort study Outcome measures: semi-structured interviews	CCAT score = 74 No control group, small sample size
Roberts <i>et al.</i> (2011) UK	CA modality: art viewing and art making in a public gallery Group for informal care-givers only Session facilitated by trained CA therapist: yes Duration: one 90-minute session	To understand the psychological and social aspects of how art viewing, in a non-clinical environment, might be used as a helpful activity to support people who care for family members with mental health problems	N (F:M) = 8 (6:2) Care-giver description: participants (FCGs) ranged in age from 30 to 60 years (two were co-facilitators). Ethnicity and marital status were not identified. The family members for whom they cared were either children or spouses, or in two cases, both. Primary diagnosis of person being cared for: severe and enduring mental health problems	Qualitative Pilot cohort study Outcome measures: semi-structured interviews, and podcasts in the public domain at the gallery and on a website	CCAT score = 68 No control group, small sample size

(Continued)

Table 2. (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Skingley <i>et al.</i> (2021) UK	CA modality: singing and other activities Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: no Duration: at least 1 year × 60-minute weekly sessions	To explore care-giver perspectives of a creative programme for PWD and their care-givers on the relationship within the care-giver/cared-for dyad	N (F:M) = 16 (12:4) Care-giver description: ages ranged from 59 to 86 years; 13 care-givers were caring for spouses, two were caring for friends and one caring for a mother Primary diagnosis of person being cared for: PWD	Qualitative Cohort study Outcome measures: focus groups	CCAT score = 68 Participants self-selected to control
Tamplin <i>et al.</i> (2018) <sup>1</sup> Australia	CA modality: group singing Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: yes Duration: 20 × 2-hour weekly sessions	To determine the feasibility of delivering and measuring the effects of a therapeutic group singing and home-based music programme on the primary outcome of relationship quality and secondary wellbeing outcomes for PWD and their FCGs	N (F:M) = 12 (6:6) Care-giver description: mean age = 73.9, SD = 10.1 years Primary diagnosis of person being cared for: PWD	Mixed methods Pilot feasibility study. single group pre-post design Outcome measures: semi-structured interviews, self-report measures for the primary outcome of relationship quality, PHQ-9 and Satisfaction With Life Scale (SWLS)	CCAT score = 84 Using facilitators to also assess and interview well justified

(Continued)

**Table 2.** (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Tamplin <i>et al.</i> (2020) Australia	CA modality: group singing Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: yes Duration: 120-minute sessions weekly or monthly	To analyse the effects of ParkinSong group singing sessions on Parkinson's communication and wellbeing outcomes for people with Parkinson's disease and care-givers over 12 months	N (F:M) = 44 (30:14) Care-giver description: care-givers were mostly spouses (N = 42) and two were adult children. Primary diagnosis of person being cared for: Parkinson's disease	Quantitative Four-arm controlled clinical trial Outcome measures: Quality of Caregiver Patient Relationship (QCPR) scale, Depression, Anxiety and Stress Scale (DASS) and Euroqol-5 Dimensions (EQ-5D)	CCAT score = 76 Participants not randomised
Unadkat <i>et al.</i> (2017) UK	CA modality: group singing Group for care-giver and person being cared for dyad Session facilitated by trained CA therapist: not stated Duration: varied from 8 weeks to ongoing mostly weekly sessions	To better understand how group singing benefits PWD and their partners	N (F:M) = 17 (9:8) Care-giver description: mean age = 70.3, range = 61–89 years. Primary diagnosis of person being cared for: PWD	Qualitative Cohort study Outcome measures: semi-structured interviews	CCAT score = 74 Self-selected to control

(Continued)

Table 2. (Continued.)

Study and country	Intervention	Aim	Participants	Research design and outcome measures	Total CCAT score (%) and limitations
Wharton <i>et al.</i> (2019) USA	CA modality: photojournalism programme Group for informal care-givers only Session facilitated by trained CA therapist: no Duration: 4 × 2.5–3-hour sessions	To reduce holistically care-giver burden and depression and provide a non-verbal outlet for participants to portray their lives as Alzheimer's disease care-givers	N (F:M) = 10 (7:3) Care-giver description: mean age = 63.4 years. Four African Americans. Participants' relationship included mother and son, husband and wife, mother and daughter, and sisters. Care-givers reported caring for their family member for an average of 6.2 years, and six persons reported working outside the home. Primary diagnosis of person being cared for: PWD	Mixed methods Pilot cohort study Outcome measures: Patient-Reported Outcomes Measurement Information System (PROMIS) Short Form–Version 1.0 Depression 8b, 12-item ZBI, observations and field notes, and post-programme survey	CCAT score = 63 Some post-intervention data not collected. Qualitative data not from the perspective of the participants, instead from facilitators only

Notes: 1. Studies based on the same therapeutic group singing intervention. CA: creative arts. FCG: family care-giver. F:M: female:male. HADS: Hospital Anxiety and Depression Scale. PHQ-9: Patient Health Questionnaire-9 for Depression. PWD: person/people with dementia. QOL: quality of life. ROS: Rosenberg Self-esteem Scale. SD: standard deviation. WEMWBS: Warwick–Edinburgh Mental Wellbeing Scale. UK: United Kingdom. USA: United States of America. ZBI: Zarit Burden Interview.

**Table 3.** Biological and psychosocial outcome categories and statistical significance

Biological and psychosocial outcome categories	Not statistically significant	Approaching statistical significance ( $p \leq 0.10$ )	Statistically significant ( $p \leq 0.05$ )
Biological markers of immune system stress levels			4
Activities of daily living	2		
Anxiety	6 (trait anxiety), 12		5 <sup>1</sup> , 6 (state anxiety)
Care-giver burden	2, 3		8, 13
Communication	10		
Depression	1, 3, 5, 10, 11	13	6, 12
Flourishing	11		
Mood			4, 7
Positive aspect of care-giving	1, 11		
Quality of life	2, 3, 6, 8, 10, 12		
Relationship quality	1, 3, 11	12	
Satisfaction with life	11		
Self-esteem	8	10	6
Social support	10		
Stress		12	
Wellbeing			5 <sup>1</sup> , 9

Notes: 1: Baker *et al.* (2018), 2: Camic *et al.* (2014), 3: Clark *et al.* (2020), 4: Fancourt *et al.* (2016), 5: Fancourt *et al.* (2019), 6: García-Valverde *et al.* (2020), 7: Hendriks *et al.* (2019), 8: Jicha *et al.* (2019), 9: Johnson *et al.* (2017), 10: Mittelman *et al.* (2018), 11: Tamplin *et al.* (2018), 12: Tamplin *et al.* (2020), 13: Wharton *et al.* (2019), 5<sup>1</sup>: Fancourt *et al.* (2019) reported significant improvement for anxiety and wellbeing only after excluding participants with good baseline scores.

group was not reported in five studies (Fancourt *et al.*, 2016, 2019; Burnside *et al.*, 2017; Unadkat *et al.*, 2017; Skingley *et al.*, 2021).

### **Risk of bias across studies**

A number of studies ( $N = 6$ ) shared a similar risk of bias, that of the participant self-selecting to the intervention group, thereby creating a risk of positive bias in the results (Camic *et al.*, 2016; Burnside *et al.*, 2017; Baker *et al.*, 2018; Tamplin *et al.*, 2020; Hendriks *et al.*, 2019; Leung *et al.*, 2019). In addition, the intervention and the outcome measures were delivered by the same researcher in several studies (Osman *et al.*, 2016; Baker *et al.*, 2018; Tamplin *et al.*, 2018), or were not declared. Four studies measured outcomes after only one session (Roberts *et al.*, 2011; Fancourt *et al.*, 2016; Johnson *et al.*, 2017; Hendriks *et al.*, 2019).

Risk of bias due to small participant numbers was present in those studies using thematic analyses (Roberts *et al.*, 2011; Pienaar and Reynolds, 2015; Baker *et al.*, 2018; Clark *et al.*, 2018; Lee *et al.*, 2020). Four studies included a control arm in

the research design (Baker *et al.*, 2018; Fancourt *et al.*, 2019; Jicha *et al.*, 2019; Tamplin *et al.*, 2020). Tamplin *et al.* (2018) and Clark *et al.* (2018) are two different studies based on the same therapeutic group singing intervention. When the same set of data was coded from both studies during thematic analysis, the data were only included once to prevent distortion. A summary of CCAT scores by category is available in the online supplementary material.

### **Quantitative measures**

Quantitative data were recorded in 13 studies. The majority of the data comprised 26 discrete psychological and psychosocial measures of one or more of the following: depression, anxiety, stress, burden, self-esteem, social support, mood, quality of life, resilience, satisfaction with life, positive experience, wellbeing, dyad relationship, communication and activities of daily living. Study authors provided information regarding the reliability and validity for the quantitative outcome measures. The Zarit Burden Interview (Zarit *et al.*, 1980) and the Quality of the Caregiver–Patient Relationship scale (Spruytte *et al.*, 2002) were most prevalent, being used four times each, with the Rosenberg Self-esteem Scale (Rosenberg, 1965) used three times. Fancourt *et al.* (2016) assessed cortisol and cytokines from saliva assays. Attendance, retention and survey data were used to assess feasibility in seven studies (Camic *et al.*, 2014; Baker *et al.*, 2018; Clark *et al.*, 2018, 2020; Mittelman *et al.*, 2018; Tamplin *et al.*, 2018; Leung *et al.*, 2019).

### **Quantitative outcomes**

The numerous and varied pre–post outcome measures were grouped into categories and the statistical significance of each outcome presented by category (Table 3). All effects approaching or reaching statistical significance were positive (*i.e.* an improvement in the post measurement relative to the pre measurement), and none were negative.

One recent definition of acceptability defines it as appropriateness of a health-care intervention (Sekhon *et al.*, 2017). Attendance and retention were used as quantitative outcome measures of acceptability in seven studies (Baker *et al.*, 2018; Clark *et al.*, 2018, 2020; Mittelman *et al.*, 2018; Wharton *et al.*, 2019; Tamplin *et al.*, 2020; Leung *et al.*, 2019). Attendance was found to be high in Baker *et al.* (2018) and Clark *et al.* (2020) (91.7 and 88%, respectively), and retention was also high (71%) in Clark *et al.* (2020). In one study (Tamplin *et al.*, 2018) nine out of 12 participants of a 20-week singing group attended all sessions and completed all assessments and an interview, whereas in another study (Leung *et al.*, 2019) only nine out of 18 participants completed a minimum of four sessions and an interview. Tamplin *et al.* (2018) found that attendance was impacted by the health of the person being cared for, which might be expected over the longer intervention duration of 20 weeks. Care-giver guilt was identified by Pienaar and Reynolds (2015) as impacting attendance rates of the care-givers-only intervention. 2019 reported low participation rates, mostly due to scheduling conflicts.

### **Qualitative measures**

Qualitative data were recorded in 19 studies using interviews (N = 13), focus groups (N = 4), open-ended questionnaires (N = 3) and facilitator field notes (N = 2).

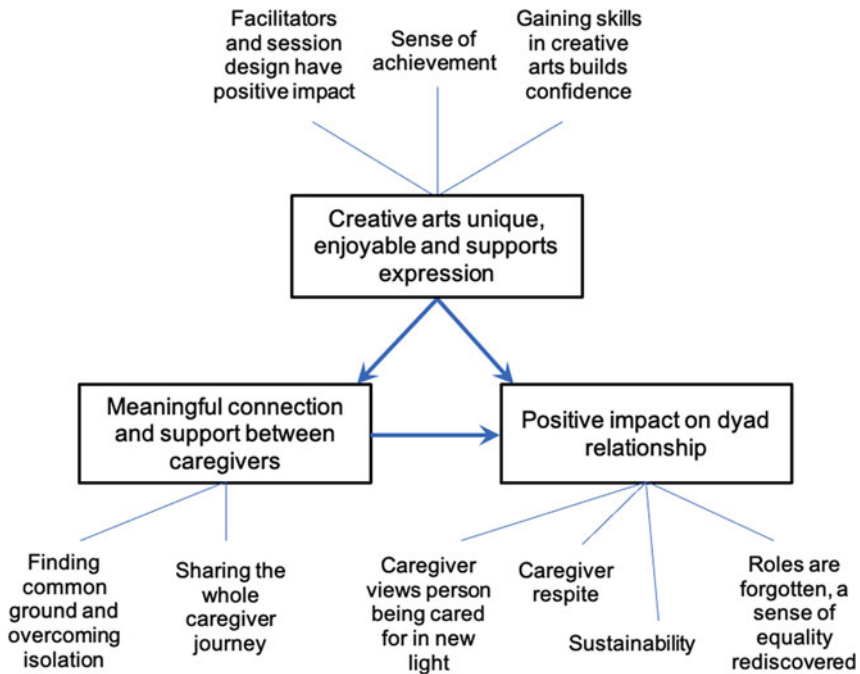


Figure 3. Thematic map of primary and secondary themes.

### Qualitative outcomes

Thematic analysis (Braun and Clarke, 2006) of qualitative outcomes from the literature included in this systematic review was used to create and sort 142 codes into three primary themes and nine secondary themes. A thematic map was developed to represent the relationships between the primary and secondary themes (Figure 3). Barriers were also identified, as described below.

#### Theme 1: Creative arts unique, enjoyable and supports expression

Sixty-two codes from 18 studies described the unique approach of creative arts modalities, the sense of achievement gained and the role of the facilitator:

Participants described other carer support groups as focusing more on either information sharing or on current day-to-day challenges and issues. This differed from the songwriting group, which allowed FCGs [family care-givers] to share their whole carer journey and personal thoughts, feelings and experiences around being a caregiver. (Baker *et al.*, 2018)

##### Theme 1.1: Gaining skills in creative arts builds confidence

Care-givers enjoyed learning new creative arts and care-giving skills and this led to feelings of confidence:



...participants identified the development of caregiving skills as a major impact of the experience. (Mondro *et al.*, 2020: 1650)  
We're learning lots of things ... Singing in different ways aren't we. We're learning to use the instruments and that's something new isn't it. (Clark *et al.*, 2018: 5)  
All four carers experienced a sense of 'having a voice and being heard' through the songwriting experience. Byron, Natalie and Sean noted how their confidence to express their thoughts and feelings increased over time. (Baker and Yeates, 2018: 14)

### *Theme 1.2: Sense of achievement*

The product of the creative arts intervention gave care-givers a sense of achievement:

Knowing that we'd completed it and, ah, hearing it, that was really the best part for me, I think. Knowing that we'd actually accomplished it. (Clark *et al.*, 2020: 11)  
I had done something I have never done before and I was pleased with it. So I suppose that made me feel good ... I'm so proud of that bag. (Pienaar and Reynolds, 2015: 4)

### *Theme 1.3: Facilitators and session design had positive impact*

From ten studies, both the positive role of facilitators (N = 8) and effective session design (N = 5) were acknowledged:

All the instructors and helpers were very pleasant and upbeat that is very much needed, for both caregivers and family members. (Mondro *et al.*, 2020: 1652)  
Provision of an expert brought a unique understanding that participants felt they could not have obtained by viewing and reading about art through books or television. The first-hand experience of learning through the curator and art therapist, and the insights this brought, were identified as reasons that would make it more likely to seek out further learning through these sources, or by returning to galleries on their own or with friends or family. (Roberts *et al.*, 2011: 153)

## ***Theme 2: Meaningful connection and support between informal care-givers***

Being able to connect socially and emotionally with other care-givers was a substantial outcome with 32 codes being generated from 12 studies. This connection occurred in both group types, but care-givers were able to share with each other more deeply in groups for care-givers only:

Lotte commented on the value of being able to participate in a group with other FCGs of PWD and how this afforded her opportunities to share her problems, receive empathy and feel less alone. (Baker *et al.*, 2018: 6)

### *Theme 2.1: Finding common ground and overcoming isolation*

Informal care-givers found commonality despite their differences, overcoming isolation and feeling less stigma related to the role of care-giver:

Importantly, participants learned that others felt the same way they did, which validated their emotions. One participant took comfort in knowing that like her, other caregivers felt guilty about being angry. (Leung *et al.*, 2019: 4)

### *Theme 2.2: Sharing the whole care-giver journey*

Care-givers in the groups with other care-givers were able to share the whole of the care-giver journey with each other, which helped those in the early stages of the journey feel more prepared:

As a result of the dialogues, Sean and Natalie indicated they gained insight into the carer journey. For Sean, this was particularly important as he was in the early stages of the carer journey. Participation in songwriting enabled him to anticipate the journey ahead and reflect on the present situation. (Baker and Yeates, 2018: 13)

### *Theme 3: Positive impact on dyad relationship*

There was a positive effect for the dyad relationship during the session and had an ongoing impact. Forty-eight codes were generated from 16 studies:

When I turn round and see you (PWD) smiling as you're singing and there's definitely, I mean it's pure pleasure for me but it's nice for us to look at each other while we're singing ... it's like we understand what we're both experiencing you know, so you don't need to say it, it's just there ... and that's lovely isn't it, really lovely. (Osman *et al.*, 2016: 1332)

### *Theme 3.1: Care-giver viewed person being cared for in new light*

Doing a creative arts activity together gave the care-giver an opportunity to see the person they care for from a new perspective and to recognise their creative skills and abilities:

Renewed appreciation of his innate creative view and experience. Awareness of his inner confidence challenge peeking out at the world occasionally. (Mondro *et al.*, 2020: 1649)

Carers talked about the pre-dementia person they cared for in almost universally positive terms, describing them as able and strong ... Such language tends to suggest a positive relationship in the past based on a reciprocity that results from an assumption of equality, or even conferring a higher status to the other person ('my rock'). (Skingley *et al.*, 2021: 7)

### *Theme 3.2: Roles are forgotten, a sense of equality rediscovered*

Some participants were able to forget the roles of being care-giver and the person being cared for and were able to spend the time in the group as equals:

This is one of the great sadnesses and I get quite emotional about this, there is so much we can't share anymore and this, I should say that this, the Singing for the Brain is one thing that has benefited me because it's one thing that we can do together for an hour or two and get equal pleasure from and equal meaning. (Osman *et al.*, 2016: 1331)

**Theme 3.3: Care-giver respite**

Care-givers appreciated some 'time out' from caring, both as a break from the person being cared for (in groups for care-givers only) and as a joint respite with the person being cared for (in groups for dyads). This break in turn had a positive impact on the dyad relationship:

One caregiver said that she enjoyed her relationship with her mother more, because she was relaxed when she was there. She didn't feel as though she was a caregiver. So it was respite time for her. (Camic *et al.*, 2016: 1037)

I think that through the whole process we could see the benefits of actually looking at our own needs, and er, and also how important that is for the person you are worried for, caring for, because they are going to benefit if your needs are met. (Roberts *et al.*, 2011: 154)

**Theme 3.4: Sustainability**

Care-givers described using creative arts at home with the person they cared for and others continued to socialise with each other. Concerns were also raised about how creative arts activities might continue to be accessed once the research intervention had concluded:

...learning took place within the Carers Create sessions which were then applied by carers at home. In most cases, this took the form of activities used instrumentally to manage aspects of care, meaning that carers and others benefited too: I find the singing really calms him down. Like, getting him here, we weren't going to get off that table and so we have a little song, hold my hands and then he'll start to sing it and I think that relaxes him and he forgets. (Skingley *et al.*, 2021: 10)  
Everybody's talking about when's it going to finish. And they're not just talking about it – they're really concerned about it. (Clark *et al.*, 2018: 7)

**Barriers**

Two studies identified barriers related to the creative arts modality used in the intervention. One care-giver felt the expressive writing activity was 'too heavy and emotionally exhausting for participants' (Leung *et al.*, 2019) and a care-giver of a person with enduring and severe mental health found the modern art they were viewing upsetting as it was suggestive of psychosis (Roberts *et al.*, 2011). In two other studies care-givers said there was not enough time to complete the activity (Pienaar and Reynolds, 2015) or to get to know one another better (Lee *et al.*, 2020). The burden of caring also created a barrier, with the effort of getting to the art gallery overriding benefits (Camic *et al.*, 2016).

**Facilitator training and therapeutic depth**

Whilst exploring the issue of facilitator training is not an aim of this review, it was noted that 12 studies included interventions run by certified creative arts therapists and 12 by facilitators not trained in creative arts therapies. Of the eight qualitative and mixed-methods studies coded for 'the role of the facilitator has a positive impact', six of them had facilitators that were certified creative arts therapists

(Roberts *et al.*, 2011; Clark *et al.* 2018, 2020; Mittelman *et al.*, 2018; Mondro *et al.*, 2020; Lee *et al.*, 2020). The two remaining studies coded for ‘the role of the facilitator has a positive impact’ comprised an intervention run by an art tutor and a person trained in working with PWD (Pienaar and Reynolds, 2015), and a study of different singing groups in which the facilitator level of training was not reported (Unadkat *et al.*, 2017).

Seven of the 25 interventions provided a deeper therapeutic experience for care-givers. Six of them were facilitated by trained creative arts therapists (Roberts *et al.*, 2011; Baker and Yeates, 2018; Baker *et al.*, 2018; Clark *et al.*, 2020; García-Valverde *et al.*, 2020; Leung *et al.*, 2019). The creative arts modalities used were songwriting (N = 4), expressive writing (N = 1), art viewing (N = 1) and photojournalism (N = 1). Of the seven studies identified as more deeply therapeutic, six included group interventions for care-givers only. Four studies collected quantitative data and six collected qualitative data. There did not appear to be any relationship between the quantitative outcomes and the moderating variable of therapeutic depth. Of the six studies coded as ‘Sharing the whole care-giver journey’, 83 per cent of them were identified as having greater therapeutic depth. Of the eight studies coded as ‘Finding common ground and reducing isolation’, 63 per cent of the codes were from these more deeply therapeutic interventions.

## Discussion

The current systematic review aimed to determine what impact of group creative arts interventions on care-givers of adults has been described in the literature. Secondary aims were to determine impact of group type, and which outcome measures are most effective in measuring impact. Other variables which appeared to influence outcomes were the role of the facilitator and the therapeutic depth of the intervention.

The majority of the participants in the studies were older Caucasian females; consequently, the applicability of the findings is limited and may be more relevant to that demographic. The percentage of female care-givers (72.5 per cent) is close to the figure of the 2018 Alzheimer’s Disease International report that indicated 71 per cent of informal care hours are provided by females (Wimo *et al.*, 2018). It is recommended that future research of creative arts interventions for care-givers includes other ethnic/cultural groups and genders.

### **Groups for care-givers only versus groups for dyads**

Care-givers benefited from participation in groups for both care-giver only or care-giver/cared-for dyad; however, the nature of the benefits differed. Qualitative data indicated that the groups with only care-givers allowed for discussion about the whole care-giver journey and participants felt a deeper connection with and support for each other. The theme ‘meaningful connection and support between care-givers’ was coded 21 times from studies in which the group was for care-givers only, *versus* 11 times from studies in which the group was for the care-giver/cared-for dyad. In contrast to this, the theme ‘positive impact on dyad relationship’ was coded nine times from studies in which the group was for care-givers only, and 35 times from studies in which the group was for the care-giver/cared-for dyad.

This contrast in care-giver benefits from the two group types is reflected in the theory of change (Figure 1). The expected benefits from participation in the two group types should be taken into consideration when designing research and selecting outcome measures. There did not appear to be any relationship between the quantitative outcomes and the moderating variable of group type (care-givers only *versus* care-giver/cared-for dyad). There also did not appear to be any relationship between the quantitative outcomes and the moderating variable of number of participants per group.

### **Outcome measures**

Outcome measures used in existing primary research studies of creative arts interventions are heterogeneous, from qualitative, quantitative to mixed methods, with different measures used within each of these categories. Future planned research in this topic will benefit from clarity around which outcome measures are most effective in measuring the impact of interventions on informal care-givers of adults.

Qualitative methodologies showed a stronger positive effect than quantitative ones. This was also noted in findings of a similar systematic review of creative arts interventions for older care-givers of people with neurological conditions (Irons *et al.*, 2020). Overall, quantitative outcomes were encouraging; however, they lacked strength due to small participant numbers and high participant baseline scores. Several authors rationalised findings of no significance as being due to good participant baseline scores that were maintained over the course of the intervention (Fancourt *et al.*, 2016, 2019; Mittelman *et al.*, 2018; Tamplin *et al.*, 2018; Clark *et al.*, 2020). In particular, quantitative measures of depression, quality of life and relationship quality struggled to gain significance due to high baseline scores. There was strong alignment between the aims and outcome measures across the studies, so it may be that aims of future studies are more representative of expected benefits. Future researchers using quantitative measures should consider recruiting participants with a low baseline score for their intervention or excluding those participants with high baseline scores from the data analysis if the sample size is large enough (Fancourt *et al.*, 2019).

Researchers might also consider choosing to use quantitative outcomes which are more likely to elucidate actual change by looking to qualitative results. For example, if the group being run is for care-givers only, quantitative outcome measures may show more change for social connectedness and isolation. If the group is for the care-giver/cared-for dyad, it may be more feasible to measure for change in care-giver perception of the person they care for. Likewise, Baker *et al.* (2018) found that qualitative data suggested that when measuring wellbeing with quantitative measures, coping might be a more relevant measure for care-givers than relationship quality. For some of the studies, small sample sizes prevented promising results from reaching statistical significance. If quantitative data are to be collected, it is advised that sample sizes are large enough for results to be meaningful (Chow *et al.*, 2007). A larger sample size in Fancourt *et al.* (2016) allowed for outcomes of biological measures to show statistical significance after only one session of singing. A follow-up controlled study looking at multiple sessions could be highly informative. It would also be beneficial to measure long-term benefits of creative arts interventions for informal carers of adults.

### Potential role of co-design

Participation rates were low for Baker *et al.* (2018); however, retention and attendance was high, suggesting that if the scheduled time worked for the participants and they attended the first session, they remained engaged. These findings highlight the need for more co-designing with care-givers so that there is greater acceptability. This was also a key recommendation by Irons *et al.* (2020) in their recent systematic review. Two studies in this review incorporated co-design in their intervention with care-givers (Pienaar and Reynolds, 2015; Fancourt *et al.*, 2019); however, only Fancourt *et al.* (2019) used co-design to inform the choice of outcome measures. This research recommends that future researchers build a co-design model into their research, with more explicit consideration of care-giver accessibility, care-giver expectation of benefits and which outcome measures may be most relevant. Possible approaches to co-designing with care-givers could include surveys, focus groups and semi-structured interviews.

### Facilitator training and therapeutic depth

The arts and health definition chosen for this review reflects the diversity of creative arts interventions offered to informal care-givers. This diversity extends to the level of training of the facilitator running the intervention. A review of creative arts interventions for depressed adults found that interventions facilitated by certified creative arts therapists were 'more significant or positive' (Dunphy *et al.*, 2019: 20).

Some of the interventions were designed to provide a deeper therapeutic experience for the care-giver, incorporating intentional exploration of the emotions and experiences of the care-giver journey. In contrast, other interventions were less deeply therapeutic for the care-giver, such as group singing with warm-ups followed by song singing and a shared social time, or when the therapeutic aim was focused on the person being cared for, such as the therapeutic singing group for people with Parkinson's disease (Tamplin *et al.*, 2020). This distinction is not to diminish one in favour of the other but to differentiate the personalised depth of therapeutic interaction employed in each approach.

The photojournalism study had more deeply therapeutic impact than was perhaps expected, as the stated aim was to 'provide a nonverbal outlet for participants to portray their lives' (Wharton *et al.*, 2019: 215). However, viewing of photographs taken by the participants gave rise to spontaneous discussion about emotional issues and challenging aspects of the care-giver role.

If the aim of future researchers is specifically to support care-givers caring for adults, a more deeply therapeutic group intervention for care-givers only should be considered when designing the research. It is also recommended that if the intervention or the resulting product might cause distress for care-givers, that the intervention is run by a trained creative arts facilitator, so that care-givers are safe and supported throughout the therapeutic experience.

### Limitations

This systematic review is limited to English-language publications. Future research might consider looking at work published in other languages and across other cultures and social groups. The broad arts in health definition was chosen to reflect the

diversity of interventions being offered in the community. However, taking this approach may have made the included studies even more heterogeneous and challenging to synthesise meaningfully. Future systematic reviews might consider limiting their criteria to a specific creative arts intervention. The inclusion criteria of *care-givers of adults* does not consider that care-giver journeys may differ depending on the primary diagnosis of the person being cared for, such as PWD, stroke or mental illness. It is possible that the data from the studies of care-givers of PWD (N = 20) may have obscured the outcomes of care-givers of adults with other primary diagnoses (N = 5). The relationship between the carer and cared for, be it partner, child, sibling or other, was also not considered in this systematic review, and could be an important variable to consider.

## Conclusions

This review contributes to the important and growing field of research dedicated to the care-giver experience. It provides a deeper understanding of the impact current group creative arts interventions have on informal care-givers. Qualitative data showed positive benefits for care-givers from the group intervention format. Quantitative data were promising. However, low sample sizes limited the power of the studies to identify statistically significant changes being detected. Based on the findings of this review, group creative arts interventions for informal care-givers of adults are effective to reduce the isolation of care-givers, increase connections between care-givers and improve the care-giver/cared-for dyad relationship.

The findings of this systematic review indicate two oversights in previous designs of creative arts therapies. First, the positive impacts of the type of therapy being offered should be taken into consideration when planning delivery of group creative arts interventions for care-givers. Second, future creative arts interventions will benefit from co-design and co-production. Co-design has the potential to improve accessibility and ensure relevant aims, methods and outcome measures. Therefore, this review recommends the use of co-design as a future research method for investigating group creative arts interventions in support of informal care-givers of adults.

This review contributes to the important and growing field of research that is dedicated to the care-giver experience. It provides a deeper understanding of the impact current group creative arts interventions have on informal care-givers of adults and makes recommendations for improving the care-giver experience.

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