Self-report instruments measuring aspects of self for people living with dementia: A systematic literature review of psychosocial interventions

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Abstract

Objective: A positive sense of self may be a key domain of psychological well-being for people living with dementia and therefore a legitimate target for psychosocial interventions in dementia care. Determining the effectiveness of such interventions often requires valid self-report instruments. This review aimed to investigate what aspects of self have been measured using self-report instruments in evaluating psychosocial interventions for people living with dementia and to explore the effectiveness of these interventions in terms of positive outcomes related to aspects of self.

Method: A systematic search of the literature using five electronic databases and one register (CENTRAL) was conducted. A narrative synthesis and methodological quality assessment was completed for the included studies.

Results: A total of 24 studies were included in the review. Seven aspects of self were measured using a range of self-report instruments, many of which have not been validated for dementia. Aspects of self were; self-esteem, self-efficacy, self-compassion, self-growth, self-acceptance, self-management, and self-identity. Studies included a variety of interventions; however, the effectiveness of these interventions for these aspects of self was mixed.

Conclusion: There is some evidence that psychosocial interventions improve specific aspects of self in dementia but further research to improve this evidence base is needed. Future research should also investigate and confirm the validity and reliability of existing self-report instruments that aim to measure aspects of self in dementia. Limitations and implications of the review are discussed.

Introduction

Feeling uncertain about maintaining one's sense of self and identity is a key concern for people living with dementia (Caddell & Clare, 2011a; Steeman et al., 2007). Exposure to negative narratives surrounding the condition in terms of progressive 'loss of self' (Davis, 2004), competence and self-esteem (Nguyen & Li, 2020) can feed into this and contribute to experiences of stigma (Nguyen & Li, 2020).

Construction of a negative 'loss of self' narrative can be understood within Sabat and Harre's (1992) theory of self in dementia which proposes that a person holds three 'selves'; (1) one's point of view and personal identity, (2) the attributes one holds along with beliefs about these, and (3) how one presents themselves to the world (Sabat, 2001). According to this theory, people living with dementia are positioned by others as helpless and confused and their behaviour is then interpreted by others to confirm this (Sabat & Harre, 1992). This can lead to others perceiving a diminished self in people living with dementia even when self remains intact for the person with dementia. Therefore, the preservation of self in dementia is heavily influenced by a complex interplay between interpersonal, social, psychological, and embodied factors (Surr, 2006).

Alternate multi-dimensional theories of self have also been applied to dementia (see Caddell & Clare, 2011b) such as Neisser's (1988) Five Factor Model of Self, comprising ecological, interpersonal, extended, private, and conceptual selves. More recently, Bomilcar et al. (2021) proposed seven interacting domains of self in dementia; embodied, agentic, implicit, critical, surrogate, extended, and emergent self. Nonetheless, there remains no agreed definition of self in dementia, and no agreement as to whether it is a unitary construct or consists of several different 'selves', self domains, or self-evaluations (Caddell & Clare, 2010, 2013a; Klein & Gangi, 2010; McConnell, 2011).

The lack of an agreed definition or model is evident in the range of different qualitative and quantitative methods available to measure and understand aspects of self (Caddell & Clare, 2010). Quantitative measures may be particularly useful in exploring how aspects of self change over time (Caddell & Clare, 2010) and in response to psychosocial interventions in dementia care (Moniz-Cook et al., 2008; Schölzel-Dorenbos et al., 2007). However, a review by Caddell and Clare (2011b) found that for interventions aiming to support self and identity in dementia, very few studies used standardised self-report measures relating to aspects of self and instead relied on observational methods or well-being measures.

The use of observational, or proxy-based, measures risks bias (Schölzel-Dorenbos et al., 2007) and is influenced by the proxies' own experiences (Logsdon et al., 2002; Sands et al., 2004). e.g., people diagnosed with dementia self-report higher quality of life than carers completing proxy measures (e.g., Griffiths et al., 2020; Hounsome et al., 2011; Logsdon et al., 2002; Moyle et al., 2012; Sands et al., 2004; Sheehan et al., 2012). Subsequently, there has been a growing interest in the use of self-report outcome measures, reflecting the move to person-centred care and recognition of the varied and unique experiences of dementia (Kitwood, 1997, 2019; Kitwood & Bredin, 1992).

A previous scoping review of well-being self-report measures identified six self-related measures and proposed that a 'positive sense of self' was a key domain of psychological well-being for people living with dementia (Clarke et al., 2020). In addition, self-report measures of self-efficacy and self-identity have been identified as self-related positive psychology outcome measures in dementia (Stoner et al., 2019). A positive sense of self can be dynamic and maintained whilst living with dementia (Caddell & Clare, 2010; Strikwerda-Brown et al., 2019) and may affect coping with the challenges that follow a dementia diagnosis (Caddell & Clare, 2011b). Therefore, aspects of self that may be

quantifiable, such as self-esteem and self-efficacy, can be measured when evaluating psychosocial interventions aiming to improve well-being in dementia (Lamont et al., 2019). Whilst Clarke et al. (2020) and Stoner et al. (2019) did not specifically focus their reviews on measures of disparate aspects of self, their findings suggest that since Caddell and Clare's (2011b) review a larger pool of self-report measures relating to aspects of self are being used with people living with dementia.

The aim of the current review was therefore to extend previous reviews (Caddell & Clare, 2011b; Clarke et al., 2020; Stoner et al., 2019) to develop a clearer understanding of what aspects of self have, to date, been measured within evaluations of psychosocial interventions for people living with dementia and how effective these interventions have been in relation to these aspects of self.

The specific questions underpinning this review were:

1. What aspects of self have been measured using self-report instruments to evaluate psychosocial interventions for people living with dementia?

2. What is the effectiveness of psychosocial interventions in demonstrating positive outcomes related to aspects of self?

This review aimed to identify what aspects of self have been measured in psychosocial interventions for dementia, and so adopted the position that there are multiple specific domains of self (e.g., Bomilcar et al., 2021) rather than a single unitary self.

Methods

Search strategy

A systematic review of the literature was conducted in January 2023. The following electronic databases were searched via the platform EBSCOHost: Academic Search Premier, PsycINFO, PsycARTICLES, MEDLINE and CINAHL Complete to cover psychology, health, and medicine. The Cochrane Central Register of Controlled Trials (CENTRAL) was also searched to increase the likelihood of identifying all relevant literature relating to randomised control trials (RCTs). Preliminary searches prior to the database review helped to identify key search terms such as aspects of self that had been highlighted or discussed in existing dementia research.

The following search terms were used: (dement a or alzheimera) AND (TI (interventiona or treata or programa or counsela or therapa or activita or groupa or supporta or workshop or course)) AND ("sense of self" or "aspect of self" or selfhood or self-esteem or self-efficacy or self-compassion or self-identity or self-stigma or self-concept or self-worth or self-awarea or self-agency or self-acceptance or self-confidence or self-trust or self-image or self-respect or self-recognition or self-knowledge or self-determination or self-critica or self-control).

Truncations (a) and the operators (OR/AND) were used to broaden the search. To increase the frequency of relevant articles the following search limiters were applied on the EBSCOHost search: academic journals, peer reviewed and English language. A date limiter of 1992–2023 was also used as this was when Sabat and Harre (1992) published their theory of self in dementia.

Article screening

The search resulted in 1,251 studies after duplicates were removed. A total of 1,201 papers were rejected following review of title and abstract as these were not relevant to the review. Twenty-four of the remaining 50 papers were identified as meeting the required criteria (see Table 1) and were included for review. References and citation searches using Google Scholar were conducted for the 24 studies. Three further studies were identified; however, following screening these were excluded. Figure 1 shows the PRISMA (Page et al., 2021) flow diagram outlining the article selection process.

Following the data extraction process for the 24 included studies, the terms 'self-management' and 'self-growth' were also identified. An additional search using these terms was conducted to identify relevant papers that may have been missed (see Supplemental file 1). Seven full papers were screened; however, all were excluded.

Table 1.

Inclusion and exclusion criteria for the review

|	Inclusion Criteria	Exclusion Criteria
Intervention	The study evaluated a psychosocial intervention, in which activities/tasks/education were delivered.	The intervention was solely focussed on physical health or pharmacological.
Participants	To remain inclusive, participants were people with a diagnosis of dementia (any subtype), or probable dementia based on clear assessment criteria.	Studies that excluded people with a dementia diagnosis or where outcomes for participants with dementia were not clearly reported or separated from other participant groups (e.g., caregivers) as only people with dementia were under consideration in this review.

Outcomes	An aspect of self was measured pre and post intervention using a self-report instrument.	Studies that did not use a self-report instrument to measure self (e.g., reported only qualitative data) as it was not within the scope of this review to synthesise qualitative data.
	Studies that measured an aspect of self using a domain from a broader well-being instrument were included as long as the data relating to the self domain was reported separately from the scale as a whole.	Measure of self was not completed both pre and post intervention as it would not be possible to evaluate the effectiveness of the intervention.
	The measure of self or well-being had an explicit standardised approach or was freely available in order to verify the scale. Measures translated from English were included as long as the original instrument could be verified.	Measure of self was not self-reported by people with dementia (i.e. proxy or observational).
		Measure only investigated a task specific aspect of self, which may be different from general aspects of self (Shelton, 1990; Siefer et al., 2021; Marsh et al., 2019). For example, general self-efficacy may be more closely related to self compared to task specific self-efficacy which is heavily based on previous experiences of the task (Shelton, 1990). As the current review examined aspects of self across contexts, task-specific measures of self were excluded.
Publication	The paper was published in a peer reviewed journal to ensure quality.	The paper was not available in the English language, as the researchers would be unable to understand the analysis.
		Grey literature, in order to ensure quality.

| Design | Any primary research study design, including small n or $n=1$ studies were included in order to provide different levels of evidence and a balanced representation of the existing literature. | Reviews or discussion papers, as this review included only original studies/primary findings. |

Figure 1. *PRISMA (Page et al., 2021) flow diagram of article selection process*
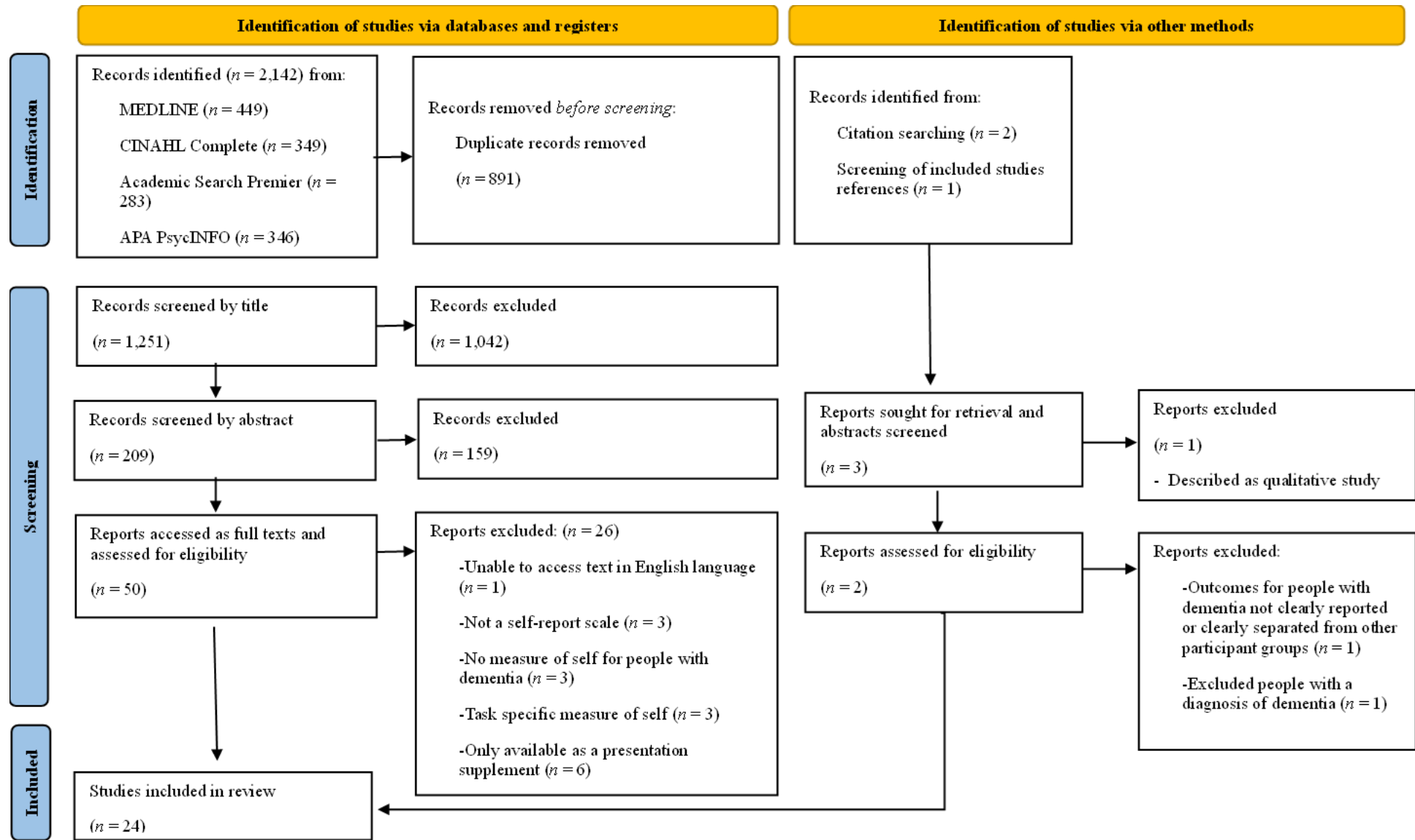
Quality assessment

A quality assessment of included studies was conducted using the Mixed Methods Appraisal Tool (MMAT, Hong et al., 2018), which is outlined in Supplemental file 2. The assessment criteria for 'quantitative descriptive studies' (4.1–4.5) were removed as these were outside the scope of this review. Qualitative data was excluded from this review; however, for mixed method design studies the qualitative quality assessment items were completed to fulfil the overall mixed method assessment criteria. Quality assessment items were scored using the possible responses; yes, no or can't tell. The overall percentage score of 'yes' criteria is presented alongside descriptive summaries. Therefore, studies may score 20, 40, 60, 80 or 100% (Hong et al., 2020). Percentage scores for mixed methods studies were determined by the percentage of 'yes' ratings in the lowest scoring component (Hong et al., 2020). Studies were rated 'yes' for the mixed methods criteria 5.5 (adherence to quality criteria for each component) if four or five out of the five assessment criteria for both the quantitative and qualitative components were rated 'yes'. Regarding complete outcome data and attrition (criteria 2.3), this review used a cut off of 20% for acceptable withdrawal rates (Van Tulder et al., 2003) and 80% for acceptable complete outcome data (Thomas et al., 2004). Studies were not excluded from this review based on quality scores or screening questions, but methodological quality assessment was integrated into the synthesis of findings.

The MMAT advises a minimum of two independent reviewers (Hong et al., 2018), therefore inter-rater reliability was assessed by an independent reviewer who quality assessed five (20.8%) of the included studies; one from each percentage score band. Out of the 45 ratings possible from the five studies, four discrepancies were identified. The discrepancies were discussed before the ratings were mutually agreed.

Data extraction and analysis

Due to the heterogeneity of the included studies (in terms of interventions and outcomes) a meta-analysis was not suitable and therefore a narrative synthesis was used to answer the research questions. Following the narrative synthesis guidance of Popay et al. (2006), a data extraction form was created (Supplemental file 3). A preliminary synthesis of the data was conducted to identify patterns across the studies outcomes and designs, followed by an exploration of relationships between the studies and an assessment of the studies strengths and limitations. For mixed method studies, only the quantitative self-report components completed by people with dementia were synthesised. The term 'participants' used in this review therefore refers only to participants in the studies who had a diagnosis of dementia.

Results

Overview of included studies

Table 2 summarises key characteristics and findings of the 24 included studies, as relevant to the research question. Included studies took place in the UK (n = 8), USA (n = 3), France (n = 3), Spain (n = 2), Netherlands (n = 2), Hong Kong (n = 1), Germany (n = 1), South Korea (n = 1), Australia (n = 1), Canada (n = 1), and one multi-national study took place in the UK, Italy, and Poland.

The majority of studies were RCTs (n = 11), followed by mixed-methods (n = 9), non-randomised repeated measures (n = 8), case series (n = 2), quasi-experimental (n = 2) and one n = 1 design. Evaluated psycho-social interventions varied considerably in their focus and content, encompassing psycho-educational, cognitive, creative/arts and social approaches. Whilst all studies formally assessed an aspect of self as an outcome, only nine explicitly targeted an aspect of self in the evaluated intervention (see Table 2).

The total number of included participants across all studies was 1,893 and the majority of interventions were delivered in a group format. Subtypes of dementia included were Alzheimer's dementia, Vascular dementia, Mixed dementia, Parkinson's dementia, Lewy body dementia, and Frontotemporal dementia. Most studies (n = 13) included a range of these subtypes but two included only individuals with Alzheimer's dementia (Gonzalez et al., 2015; Lee et al., 2008) and four did not report subtypes (Collins et al., 2022; Fitzsimmons & Buettner, 2003; Sprange et al., 2015; Werheid et al., 2021). Six studies included individuals with 'probable dementia'.

Most studies (n = 11) included mainly participants in the early/mild stages of dementia. Eight studies included participants in the mild to moderate stages (Brooker et al., 2018; Clare et al., 2019; Collins et al., 2022; Cooke et al., 2010; Craig et al., 2018; Dodd et al., 2022; Richards et al., 2019; Werheid et al., 2021), one study included moderate to severe stages (Platel et al., 2021) and three included a range of stages of dementia (Dröes et al., 2019; Hindle et al., 2018; Pérez-Sáez et al., 2020). Foloppe et al., (2018) single participant was described as being in the moderate stage of dementia.

Two studies explicitly stated that the measure of self was a primary outcome of the intervention (Quinn et al., 2016; Richards et al., 2019) and six studies reported on an aspect of self as a secondary outcome (Berk et al., 2019; Clare et al., 2019; Hindle et al., 2018; Marshall et al., 2015; Mountain et al., 2022; Pongan et al., 2017). The remaining studies did not differentiate between primary or secondary outcomes in relation to the chosen measures.

Quality of included studies

Supplemental file 4 shows study quality ratings. Two studies did not have clear research questions or aims rendering the research purpose unclear (Richards et al., 2019; Werheid et al., 2021). The majority of studies were RCTs, the 'gold standard' of research

designs (Rennie, 1996; Sibbald & Roland, 1998) although the quality of the studies varied, with only Clare et al. (2019) and Hindle et al. (2018) meeting all quality criteria for RCTs.

Common limitations for RCTs and non-randomised studies were high attrition rates and incomplete data, which can lead to a loss of statistical power and invalid conclusions (Kang, 2013). Lack of consideration of confounding factors (nine studies) may have limited internal validity. External validity may have been limited due to participants not matching target populations (five studies) and generalisability may have been limited in three RCTs due to incomparable control and intervention groups at baseline. A relative strength regarding internal validity was that nine RCTs blinded outcome assessors to intervention groups which reduces the risk of detection bias.

Mixed method studies were relatively of lower quality, often owing to lack of clarity around the rationale for their chosen methodological approach. The quantitative components of these studies were mostly of lower quality compared to qualitative components, although Mountain et al. (2022) and Quinn et al. (2016) met all criteria for both components. Werheid et al. (2021) and Fitzsimmons and Buettner (2003) were both lower quality studies due to not meeting any qualitative quality criteria; however, their quantitative components, which were synthesised in this review, were of higher quality.

Table 2.

Summary of included studies characteristics

Author (publication year) & location	Aims	Participants (*n*)	Design & measure completion	Intervention	Measure of self (construct evaluated)	Key findings regarding self	Quality score
Berk et al. (2019) Netherlands	To explore the feasibility and effectiveness of an adapted Mindfulness Based Stress Reduction (MBSR) programme.	Seven people with early-stage Alzheimer's (4), Vascular (2) or Frontotemporal (1) dementia. Mean age 71.46, two females, five males.	Mixed methods pilot study Measures completed two weeks before and after the programme.	Eight weekly (2.5 hour) adjusted MBSR sessions covering topics such as acceptance, stress, and meditation. Daily homework tasks and a four-hour silent day.	SCS-SF (self-compassion)	Reduced self-compassion with a large effect size.	60
Brooker et al. (2018) Italy, Poland, and the UK	To transfer Meeting Centre Support Programmes (MCSP) to Italy, Poland, and the UK to evaluate the impact on social, behavioural, and emotional functioning.	159 people (89 females, 70 males) with mild to moderately severe dementia (85 in MCSP, 74 in usual care - control) of any subtype (sample demographic not reported). MCSP mean age 78.4 and control 78.5.	Quantitative non-randomised Measures completed within one month of starting the programme and repeated at six months.	MCSP included tailored post-diagnostic psychosocial interventions offered three days per week (UK/Poland) and 3.5-2 days per week (Italy).	DQoL (self-esteem) Polish and Italian versions back translated	Significant improvement in self-esteem for MCSP with a medium effect size.	60

Burgener et al. (2008)	To evaluate the feasibility and effects of a multimodal intervention on cognitive, physical, and behavioural outcomes.	42 people (24 intervention, 19 control) in early to mid-stages of dementia (20 females, 23 males) including a range of subtypes (sample demographic not reported). Intervention mean age 77.9 and control 76.0.	RCT Measures completed at baseline, 20 and 40 weeks.	40 weeks of Tai Chi exercises (1 hour 3 times per week), group and individual Cognitive Behavioural Therapy (90 minutes biweekly), and a support group (90 minutes biweekly). Control group received attention-control education programs and were offered the intervention after 20 weeks.	RSES (self-esteem)	Significant difference in self-esteem between the intervention and control group at 20-weeks. Increase in self-esteem post intervention not significant and stabilised from 20 to 40 weeks.	40
USA							
Clare et al. (2019)	To determine whether individual goal-oriented cognitive rehabilitation (CR) improves everyday functioning.	474 (226 females, 248 males) people with mild to moderate Alzheimer's (284), Vascular (74) or Mixed (116) dementia randomised to CR (238) or treatment as usual (TAU; 236). Mean age 78.56.	Multi-centre, single-blind RCT Measures completed at 3- and 9-months post randomisation.	Ten weekly one hour CR sessions that took a problem-solving approach to goals, followed by four one-hour maintenance sessions. TAU involved medication monitoring and	GSES (self-efficacy)	No significant differences in self-efficacy found.	100
England and Wales							

				psychosocial support.			
Collins et al. (2022)* Canada	To explore the feasibility of Occupational Therapist delivered Cognitive Stimulation Therapy (CST) on the impact on self-efficacy and hope.	10 people (4 females, 6 males) with mild to moderate dementia (sample demographic not reported). Mean age 79.7.	Mixed methods Outcome measures completed before after the programme.	CST mirrored the 'Making a Difference' manual (Spector et al., 2006) delivered twice weekly for 14 one-hour group sessions.	GSES (self-efficacy)	Self-efficacy increased in five participants. GSES scores ranged from 21–37 pre intervention and 24–40 post intervention.	40
Cooke et al. (2010) Australia	To investigate the effect of a live music program on quality of life and depression.	47 people (33 females, 14 males) in early to mid-stages of dementia or probable dementia. Age range 75-94.	Cross over RCT Measures completed at baseline, mid-point, and post intervention.	Music group (intervention) involved song singing and the reading (control) group involved short stories, quizzes and local news for three mornings weekly over eight weeks.	DQoL (self-esteem)	Significant improvement in self-esteem over time, regardless of arm, specifically from mid-point to post intervention.	60
Craig et al. (2018) UK	To develop a Compassion Focused Therapy (CFT) intervention for people with dementia and depression	Seven people (6 females, 1 male) with Alzheimer's (5), Vascular (1) or Mixed (1) dementia at mild to moderate cognitive impairment. Age range 53-88.	Mixed methods case series Measures completed pre, mid-point and	CFT intervention involved topics such as developing self-compassion and managing difficult feelings over 10 sessions.	SCS-SF (self-compassion)	All participants showed improvements in self-compassion. Except for participant five, all completed the	20

	and/or anxiety, and to assess its feasibility, acceptability, and utility.		post intervention.			intervention in the moderate or high self-compassion range.	
Dodd et al. (2022) UK	To develop an intervention based on nostalgia and assess whether couples could engage in nostalgic conversations.	Six people with Alzheimer's (3), Vascular (2) or Mixed (1) dementia at mild to moderate cognitive impairment level. Age range 72-84.	Mixed methods case series Measures completed at baseline and five week follow up.	Five-week nostalgic conversations intervention involved support from coaches via alternative weekly home visits and phone calls and the use of a workbook.	RSES (self-esteem) PWB (self-growth)	Self-esteem: Reliable change index showed improvement for one participant Clinically significant improvement found for two participants. Self-growth: Reliable change index showed improvements for four participants and one deteriorated. Clinically significant improvement shown for one participant.	20
Dröes et al. (2019)* Netherlands	To evaluate the effectiveness of individualized Meeting Centers	29 Meeting Centers: 16 experimental iMCSP, 13 regular MCSP	The aspects of the study relating to people living	DemenTalent: people with dementia worked as volunteers in various	RSES (self-esteem)	No differences were found in self-esteem between the groups.	20

	Support Program (iMCSP) compared to regular MCSP and no day care support.	282 people living with various subtypes of dementia across a range of stages of dementia: DemenTalent (39, mean age 76.54), Regular MCSP (54, mean age 80.67), no support (189, mean age 79.87)	with dementia used an explorative RCT. Measures completed at 0 and 6 months.	settings aligning with their interests. Regular MCSP control: a day club offering a range of recreational and creative activities.	DQOL (self-esteem)		
Fitzsimmons & Buettner (2003)* USA	To evaluate an experiential college course for older adults with early-stage dementia.	Ten people (five females, two males) newly diagnosed with dementia signed up to participate (subtypes not reported), Mean age 77.9.	Mixed methods Measures completed in the first and final session.	Educational health promotion course involved experts providing information about dementia and healthy behaviours weekly for 10 weeks.	RSES (self-esteem) GSES (self-efficacy)	Self-esteem improved from a pre-test mean of 18.4 to a post-test of 22.0. Self-efficacy remained relatively stable from a pre-test mean of 33.17 to a post-test of 33.0.	0
Foloppe et al. (2018) France	To investigate whether it was possible to increase autonomy in cooking	One participant (female, age 79) diagnosed with probable dementia at a moderate impairment.	Single n design Outcomes assessed at baseline, one day, one	Four cooking tasks completed (one hour) for four days involving virtual cooking tasks on a computer	French-Canadian RSES (self-esteem)	One day post-intervention self-esteem showed no change compared to baseline. Self-esteem scores	80

	activities using interventions based on errorless learning, vanishing cue, and virtual reality techniques.			month and six months post intervention.	(intervention) and a real condition (cooking tasks in a real kitchen).		decreased at the one and six month follow up.	
Gonzalez et al. (2015)* Spain	To examine the benefits of an integrative reminiscence programme in reducing depressive symptoms, increasing self-esteem and psychological well-being dimensions.	42 people with mild Alzheimer's dementia (23 reminiscence, 19 control). Mean age 80.24, 31% men, 69% women.	Quasi-experimental design Measures completed two weeks pre intervention and immediately after.	Reminiscence programme involved different topics focussed on life stages over 10, weekly, 60-minute sessions. Control group received usual day care whilst awaiting the intervention programme.	RSES (self-esteem) PWB (self-growth and self-acceptance)	Self-esteem: no significant time-group interaction and no significant differences between the groups at pre-intervention or over time. Time-group interaction was significant for self-acceptance (significantly increased) and self-growth post intervention.	80
Hindle et al. (2018) Wales	To examine the appropriateness and feasibility of cognitive rehabilitation (CR) for people	29 people (10 CR, 10 relaxation group, 9 TAU) living with Parkinson's dementia (25) or Lewy body dementia (4). Mean	Single blind RCT Measures completed at baseline, two-	Eight, weekly, one-hour sessions of either CR (involving compensatory and restorative cognitive strategies),	GSES (self-efficacy)	Significant difference between CR and RT at the two month follow up.	100

	with dementias associated with Parkinson's.	age 76.34, females (6) and males (23)	and six-months post randomisation.	relaxation therapy (RT; involving muscle relaxation and breathing exercises) or TAU.		No significant differences between CR or RT for self-efficacy at the six month follow up.	
Lee et al. (2008) South Korea	To evaluate the effects of a Life Review Programme (LRP) specific to Korean culture on emotional well-being.	17 older adults (65+) with mild Alzheimer's dementia (6 females and 4 males in Facility A, demographics not reported for Facility B).	Quasi-experimental Measures completed the week before, after and six months post intervention.	Four-week LRP for one hour twice weekly covering different activities representing life stages.	Korean translated RSES (self-esteem)	No significant effects on self-esteem overall, however found a significant increase post intervention followed by a significant decline at the six month follow up.	60
Marshall et al. (2015) UK	To report a pilot study in which recently diagnosed participants were randomised to either a 10-week intervention or waiting-list control.	58 people (28 intervention, 30 control) diagnosed with Alzheimer's (45), Vascular (7) Mixed (4) or Lewy body (2) dementia in the prior 18 months (33 females, 25 males). Intervention group mean age 74.6 and control group 76.6.	RCT (study was mixed methods, however qualitative component reported in a separate paper) Measures completed 2-4 weeks before intervention, up to 2 weeks	'Living well with dementia' group (intervention) incorporated elements of psychotherapy and psychoeducation for 10, weekly, 75-minute sessions.	RSES (self-esteem)	Self-esteem improved at the two week and 10 week follow up post intervention. Alongside quality of life, self-esteem showed the largest change for the intervention group compared to the control group.	60

				following intervention and at a 10 week follow up.				
Mountain et al. (2022)* England	To determine the clinical and cost-effectiveness of an intervention to promote self-management, independence, and self-efficacy.	480 people (201 females, 279 males) with mild dementia of varying subtypes randomised to intervention (241) or usual care (239). Mean age of 77.	Mixed methods RCT Measures completed at baseline, eight- and 12-months post randomisation.	'Journeying through dementia' intervention involved topics such as keeping well, understanding dementia, and keeping connections over 12 weekly groups (two hours) and four one-to-one sessions.	GSES (self-efficacy) SMAS (self-management)	At the 8-month assessment, differences were in favour of the intervention group for self-efficacy and self-management, however the differences between the groups were not significant.	60
Pérez-Sáez et al. (2020)* Spain	To assess the impact of a pottery workshop in relation to feelings of well-being, mood state and self-esteem.	30 people with varying subtypes and stages of dementia (22 females, 8 males). Mean age 79.97.	Quantitative non-randomised Measures completed in the first and final workshop.	Pottery workshop was held between 10am-2pm for 10, weekly, 45-minute sessions.	Spanish translated RSES (self-esteem)	Self-esteem significantly increased regardless of degree of cognitive impairment.	80

Platel et al. (2021)* France	To examine the impact of repeated musical reminiscence workshops on recall of autobiographical memories and sense of identity.	20 people with probable Alzheimer's dementia with major cognitive impairment. Mean age 84.2. 20 matched controls	Quantitative non-randomised Measures completed on day one and 12 of the intervention.	Groups of musical reminiscence workshops using three popular songs as cues to promote autobiographical memory retrieval.	The IMAGE Test and the I-AM Test (self-identity)	No significant differences found in evaluations for the I-AM Test. IMAGE Test: No significant differences between mean global profiles for either group. Only three participants in the dementia group significantly modified the distribution of their answers.	60
Pongan et al. (2017)* France	To determine the efficacy of choral singing versus painting sessions on chronic pain, mood, quality of life, and cognition.	59 people (39 females, 20 males) with mild probable Alzheimer's dementia. Mean age in singing group (31) was 78.8, and in painting group (28) was 80.2.	Multi-centre RCT Measures completed at baseline, 12 and 16 week follow ups.	12 weekly, two hour groups involving either singing songs or painting based on themes.	RSES (self-esteem)	Self-esteem improved over time in both groups but did not reach statistical significance.	40
Quinn et al. (2016)* Wales	To evaluate the feasibility of a self-management intervention.	24 people (intervention 13, TAU 11) with early-stage Alzheimer's, Vascular or Mixed dementia	Mixed method single blind RCT	The self-management group involved eight, weekly, 90-minute group sessions	GSES (self-efficacy)	Small positive effect on self-efficacy found post intervention. Improvements in	80

		(sample subtype demographics not reported). Intervention mean age 75.2, females (3) and males (10). TAU mean age 76.1, females (3) and males (8).	Measures completed at baseline, three- and six-months post randomisation.	including psychoeducation, problem-solving and mindfulness.		self-efficacy found at three and six months compared to TAU.
Richards et al. (2019) USA	Unclear aims but reported on a Visual Arts Education (VAE) programme.	27 people (15 VAE, 12 control) with mild to moderate 'Alzheimer's and related dementia' (sample demographic not reported). VAE mean age was 74.8, females (7) and males (8). Control mean age was 74.0, females (6) and males (6).	RCT Measures collected at baseline, after the programme and at a six month follow up.	VAE group ran once per week (1.5 hours) for two months involving hat decoration, embossing, painting, ceramics, and photography. Control condition involved 1.5-hour weekly painting sessions for 8 weeks.	RSES (self-esteem)	The improvement in self-esteem for the VAE group over time was not significant. Significant difference in self-esteem between the groups regardless of level of cognitive ability.	40
Sprange et al. (2015) UK	To examine the feasibility of a future population-based larger trial of a community based self-	10 people with mild dementia (5 females, 5 males). Sample subtype demographics not reported.	Mixed methods Measures completed at baseline and post intervention.	'Journeying through Dementia' involved topics such as keeping well memory and endings over 12-weeks for 2-hour weekly groups	GSES (self-efficacy)	Mean self-efficacy decreased slightly at post intervention follow up (25 from 27).	40

	management intervention.				and four one-to-one sessions.		
Werheid et al. (2021) Germany	Unclear study aims however reported on the adaption and translation of a Cognitive Stimulation Therapy (CST) manual into German following the FMAP model.	13 people (7 females, 6 males) with mild to moderate dementia (outpatient 6, residential 7). Subtypes not reported. Outpatient mean age 66.8 and residential 86.3.	Mixed methods pilot with parallel groups Outcomes were assessed pre and post intervention.	CST group ran twice a week for 7 weeks (14 sessions).	GSES (self-efficacy)	Self-efficacy scores significantly increased post CST.	0
Young et al. (2014) Hong Kong	To evaluate the positive effects of a support group.	Randomised 39 people (20 intervention, 19 control) with mild dementia (26) or probable dementia (13). Mean age 80.3, 17 females, 22 males.	Single blind RCT Measures completed pre and post intervention.	Weekly 90-minute support group for 10 sessions involved psychoeducation, coping skills, and emotional support. Control group received standardised educational written material about dementia.	Chinese RSES (self-esteem) Chinese GSES (self-efficacy)	No significant change in self-esteem or self-efficacy for either group.	60

*Studies where interventions appeared to explicitly target an aspect of self within the study aims or research questions

Aspects of self and their measurement

Table 3 shows the instruments used for each aspect of self in the included studies.

Table 3.

Aspects of self measured within the included studies

Aspect of self	Measure	Used in studies in the review
Self-esteem	Dementia Quality of Life Instrument (DQoL; Brod et al., 1999)	Brooker et al. (2018) Cooke et al. (2010) Dröes et al. (2019)
	Rosenberg Self-esteem Scale (RSES; Rosenberg, 1965)	Burgener et al. (2008) Dodd et al. (2022) Dröes et al. (2019) Fitzsimmons & Buettner (2003) Gonzalez et al. (2015) Marshall et al. (2015) Pongan et al. (2017) Richards et al. (2019)
	French-Canadian Rosenberg Self-esteem Scale (Vallières & Vallerand, 1990)	Foloppe et al. (2018)
	Korean translated Rosenberg Self-esteem Scale (Jeon, 1974 as cited in Lee et al., 2008)	Lee et al. (2008)
	Spanish translated Rosenberg Self-esteem Scale (Martín-Albo et al., 2007)	Pérez-Sáez et al. (2020)
	Chinese version Rosenberg Self-esteem Scale (Leung & Wong, 2008)	Young et al. (2014)
Self-efficacy	Generalised self-efficacy scale (GSES; Schwarzer & Jerusalem, 1995)	Clare et al. (2019) Collins et al. (2022) Fitzsimmons & Buettner (2003) Hindle et al. (2018)

		Mountain et al. (2022)
		Quinn et al. (2016)
		Sprange et al. (2015)
		Werheid et al. (2021)
	Chinese version General Self-efficacy Scale (Schwarzer et al., 1997)	Young et al. (2014)
Self-compassion	Self-compassion scale short form (SCS-SF; Raes et al., 2011)	Berk et al. (2019) Craig et al. (2018)
Self-growth	Personal Growth subscale of the Psychological Well-being scale (PWB; Ryff, 1989)	Dodd et al. (2022) Gonzalez et al. (2015)
Self-acceptance	Self-acceptance subscale of the Psychological Well-Being scales (PWB; Ryff, 1989)	Gonzalez et al. (2015)
Self-management	Self-management ability scale (SMAS; Schuurmans et al., 2005)	Mountain et al. (2022)
Self-identity	The IMAGE Test (Eustache et al., 2013)	Platel et al. (2021)
	The I-AM Test (Eustache et al., 2013)	Platel et al. (2021)

Note. Descriptive summary of the rating scale for each measure outlined in Supplementary file 5

Only the DQoL (Brod et al., 1999) has been validated specifically for people living with dementia; however, acceptable internal consistency reliability was found for the RSES (Rosenberg, 1965) in dementia (Burgener et al., 2008) and initial evidence supports the validity and reliability of the IMAGE test (Eustache et al., 2013).

Of the studies included in the review, only three reported on internal consistency reliability of the measures in their respective studies; the RSES (Rosenberg, 1965)

demonstrated α = 0.89 to α = 0.92 across three assessment points (Burgener et al., 2008) and the Korean RSES (Jeon, 1974 as cited in Lee et al., 2008) demonstrated α = 0.62 (Lee et al., 2008). Cooke et al. (2010) reported Cronbach's alpha for the DQoL (Brod et al., 1999) subscales was between 0.62-0.87 but did not report on the exact reliability of the self-esteem subscale separately.

Intervention effectiveness

Outcomes of psychosocial interventions in relation to aspects of self are described below, according to intervention type and grouped by construct.

Self-esteem

Multicomponent Psychoeducational and Social Interventions. Two studies reported an increase in self-esteem following a psychoeducational group (Fitzsimmons & Buettner, 2003) and a psychoeducational psychotherapy group (Marshall et al., 2015) in contrast to one RCT which reported no significant changes in self-esteem following a support group (Young et al., 2014). The participants in all three studies were mostly people diagnosed with dementia in the year (Marshall et al., 2015) or three years (Young et al., 2014) prior to the intervention. Fitzsimmons and Buettner (2003) stated only that participants were 'newly diagnosed' and did not conduct statistical analysis, therefore limiting the extent the studies can be compared. However, one key difference was that these studies used different language versions of the RSES within different countries. Therefore, the measures' translation or possible cultural differences in self-esteem and/or effectiveness of the interventions may have impacted the findings.

Meeting Centre Support Programme's (MCSP) which provide personalised post diagnostic support were evaluated in two studies (Brooker et al., 2018; Dröes et al., 2019). Significant increases in self-esteem after six months were reported by Brooker et al. (2018).

Updating MCSP to include supporting people with dementia to work as volunteers in the community did not show any significant differences in self-esteem when compared to the regular MCSP or those receiving no day services (Dröes et al., 2019). However, findings may have been impacted by demographic differences between the groups such as participants in the volunteering group being younger, more often male and living independently. Furthermore, both studies (Brooker et al., 2018; Dröes et al., 2019) had high attrition rates, possibly impacting non-response bias, and due to the flexible nature of the programmes, participant attendance levels varied.

Reminiscence Interventions. Reminiscence groups using quasi-experimental designs did not demonstrate clear evidence for improving self-esteem; Gonzalez et al. (2015) found no significant improvement in self-esteem and Lee et al. (2008) found the initial significant improvements in self-esteem were not maintained long term at the six month follow up. Participant representativeness is unclear in Lee et al. (2008), who did not fully report on participant demographics, limiting external validity. On the other hand, reminiscence interventions may be more effective when delivered individually, according to the findings of Dodd et al. (2022). However, the evidence in this area is weak due to small sample size, therefore limiting generalisability.

Mindfulness and Third Wave Therapeutic Interventions. Group Tai Chi alongside Cognitive Behavioural Therapy demonstrated a slight improvement in self-esteem 20 weeks post intervention, which stabilised at 40 week follow up (Burgener et al., 2008). However, intervention and control groups showed significant differences in self-esteem at 20 weeks due to a decrease in self-esteem for the control group; in addition, the randomisation procedure was unclear in this study. Considering the progressive nature of dementia, stabilisation (opposed to decline) was perceived as a positive outcome (Burgener et al., 2008), and could

suggest that the intervention helped to protect against decline in self-esteem, albeit non-response bias may be an issue due to attrition (>20%).

Creative Interventions. Three RCT's (Cooke et al., 2010; Pongan et al., 2017; Richards et al., 2019) and one non-randomised design (Pérez-Sáez et al., 2020) reported increases in self-esteem following creative interventions. Pottery workshops (Pérez-Sáez et al., 2020) and visual arts activities such as painting, ceramics, and photography (Richards et al., 2019) may be beneficial for self-esteem regardless of cognitive impairment or stage of dementia. However, the increase in self-esteem was not significant (Richards et al., 2019) and the findings of Pérez-Sáez et al. (2020) should be interpreted with caution due to the exclusion of eight participant data sets as a result of incomplete responses or participants receiving 'excessive help' to complete the questionnaire.

Participant attendance may impact the benefits of creative interventions as Cooke et al. (2010) found that only participants who attended over 50% of the music or reading groups demonstrated significant increases in self-esteem. However, approximately half of the participants attended over 50% of sessions, indicating adherence to the intervention was an issue. On the other hand, Pongan et al. (2017) did not find a significant increase in self-esteem for participants with at least 50% attendance but did find that the painting group showed a greater increase in mean self-esteem scores across time. However, the lack of a non-intervention control group as a comparison and insufficient explanation of randomisation procedure is a limitation.

Technologies. Foloppe et al. (2018) investigated the use of virtual reality-based training on autonomy in cooking activities and found no benefits to self-esteem for a 79-year-old woman with probable Alzheimer's dementia. However, generalisability of these findings is limited by the n = 1 design.

Self-efficacy

Multicomponent psychoeducational and social interventions. Five studies conducting interventions which included social and educational components measured self-efficacy as an outcome (Fitzsimmons & Buettner., 2003; Mountain et al., 2022; Quinn et al., 2016; Sprange et al., 2015; Young et al., 2014), two of which investigated the 'Journeying Through Dementia' self-management programme (Mountain et al., 2022; Sprange et al., 2015). Only one study found improvements in self-efficacy, however, with small effect sizes at three- and six-months post intervention compared to treatment as usual (Quinn et al., 2016). Although this study scored highly in quality assessment, statistical analysis of the data was not possible due to lack of power (Quinn et al., 2016), limiting conclusions. Mostly self-efficacy remained stable or showed no significant improvement following the interventions (Fitzsimmons & Buettner., 2003; Mountain et al., 2022; Sprange et al., 2015; Young et al., 2014).

Cognitive interventions. Cognitive interventions showed some evidence for improving self-efficacy, specifically Cognitive Stimulation Therapy, (CST; Collins et al., 2022; Werheid et al., 2021) which may be influenced by participants recognising a stabilisation in their cognitive abilities (Werheid et al., 2021). However, studies had small sample sizes and Collins et al. (2022) did not conduct statistical analysis, rendering evidence for this assertion relatively weak.

Two RCTs evaluated Cognitive Rehabilitation (CR) interventions and found no significant changes in self-efficacy (Clare et al., 2019; Hindle et al., 2018). Whilst Hindle et al. (2018) did find a significant difference in self-efficacy between the CR and relaxation control group at two months post-intervention, there was no significant difference between

the groups at the six month follow up or with the TAU group at any time point. Both studies were rated as high quality due to meeting all quality assessment criteria.

Self-compassion

Mindfulness and third wave therapeutic interventions. Two studies showed contrasting findings for self-compassion following a mindfulness-based intervention (Berk et al., 2019) and a Compassion Focussed Therapy (CFT) intervention (Craig et al., 2018). Both studies were limited due to no statistical analysis. Although Berk et al. (2019) found a reduction in self-compassion post intervention, 71% of participants received help completing the self-compassion measure and therefore the findings should be interpreted with caution. Furthermore, generalisability was low for the self-compassion improvements found by Craig et al. (2018) due to the case series design.

Self-acceptance and self-growth

Reminiscence interventions. Two reminiscence interventions showed positive outcomes in relation to self-growth when delivered in group (Gonzalez et al., 2015) or couples format (Dodd et al., 2022). However, Dodd et al.'s (2022) case series design limits generalisability. Gonzalez et al. (2015) also found a significant time and group interaction for self-acceptance but due to lack of a follow up it was unclear whether the significant increase in self-acceptance post intervention was maintained longer term (Gonzalez et al., 2015).

Self-identity

Reminiscence intervention. Only one study (Platel et al., 2021) measured changes in self-identity, in the context of an evaluation of a musical reminiscence programme using songs to promote autobiographical memory retrieval. Participant inclusion and exclusion criteria was unclear; therefore, sample representativeness was uncertain, limiting external validity. Overall, no significant differences were detected using either the IMAGE test or I-

AM test (Eustache et al., 2013), suggesting that musical reminiscence did not affect self-identity.

Self-management

Multicomponent intervention. Mountain et al. (2022) was the only study to measure self-management in their intervention, which comprised self-management elements and engagement in meaningful activity, even though an additional two studies were described as 'self-management' interventions (Quinn et al., 2016; Sprange et al., 2015). Reflecting findings for self-efficacy, at eight months post intervention, self-management outcomes were in favour of the intervention group compared to the control but differences between the groups were not significant and self-management remained stable pre and post intervention (Mountain et al., 2022).

Discussion

The aims of this review were to (1) explore what aspects of self have been measured in the context of evaluations of psychosocial interventions for people living with dementia and (2) to evaluate the effectiveness of existing interventions in achieving positive outcomes for aspects of self in dementia. The included studies demonstrated considerable heterogeneity in relation to study design, country, and intervention type and study outcomes were also therefore heterogeneous. Nevertheless, this review offers a constructive synthesis of the relationships and patterns between these studies based on aspects of self and various psychosocial interventions.

Aspects and measures of self

An increase in the use of self-report instruments to measure aspects of self in interventions was evident due to the majority of studies included in this review being published following that of Caddell and Clare (2011b). Whilst current conceptualisations

highlight the existence of multiple domains of self in dementia (Bomilcar et al., 2021; Neisser; 1988), this review highlights how the majority of included studies have measured self-esteem or self-efficacy. One reason for this may be that at present there are limited validated self-report instruments that allow assessment of different aspects of self for people living with dementia. This is also reflected in the wider literature outside the scope of this review, for example; self-stigma scales have tentatively demonstrated validity in dementia (Bhatt et al., 2021; Burgener & Berger, 2008), and the Tennessee Self-Concept Scale (TSCS-II; Fitts & Warren, 1996) and Self-Identity in Dementia Questionnaire (SID-Q; Cohen-Mansfield et al., 2000) have been used with people with dementia in non-intervention studies (e.g., Addis & Tippett, 2004; Caddell & Clare, 2013b). However, all of these measures have limited psychometric validity regarding use in dementia. This highlights the need for future research to investigate and confirm the validity of a range of self-related measures for people living with dementia.

There may be accessibility issues for some measures, such as the SCS-SF (Raes et al., 2011) and the Spanish RSES (Martín-Albo et al., 2007), considering the additional support that some participants required to complete the scales in different studies. Further concerns regarding validity and possible bias against non-western cultures are indicated by translation issues of the RSES (Rosenberg, 1965) into Chinese (Leung & Wong, 2008) and the Korean RSES (Jeon, 1974 as cited in Lee et al., 2008), which shows limited validity with older adults (Lee, 2022). This may be due to differences in how self-esteem is self-evaluated in individualistic or collectivist cultures (Cai et al., 2007; Schmitt & Allik, 2005). Given these issues, the use of measures of self that lack demonstrated validity with people with dementia is concerning if they are being used as evidence to determine effectiveness of psychosocial interventions across cultures.

Effectiveness of interventions

The effectiveness of interventions on aspects of self varied in relation to the type of intervention and aspect of self which was measured. Multicomponent interventions that incorporate psychoeducational elements, followed by reminiscence interventions, were the most frequent interventions conducted and tested. Of note, included studies varied in the extent to which interventions explicitly targeted an aspect of self. There was no discernible pattern as to whether such interventions led to better or different outcomes for people with dementia, suggesting that positive outcomes can be achieved using different therapeutic approaches. However, only interventions that explicitly targeted an aspect of self within the study aims or research questions were considered as having targeted an aspect of self. It was not within the scope of this review to explore the conceptual underpinnings of interventions, therefore, interventions that may have strong conceptual ties with an aspect of self, such as self-compassion within CFT, but did not target an aspect of self within the study aims/research questions were not defined as explicitly targeting an aspect of self. Future intervention research should consider whether accordance between the conceptual underpinnings of a psycho-social intervention and targeted aspects of self influences outcomes for people with dementia (see Clarke et al., 2020).

Whilst CST showed consistent evidence for improving self-efficacy, which may be influenced by a perceived improvement in memory and cognitive abilities (Hall et al., 2013), other psychosocial interventions did not have significant positive outcomes in relation to self-efficacy or self-management in dementia. The wider chronic disease literature, suggests that such mixed findings in relation to self-efficacy outcomes following interventions such as self-management programmes, may be influenced by barriers such as feeling overwhelmed by the amount of information presented about a condition in a short period of time (Farley, 2020). Considering this, interventions which include elements of psychoeducation may not

demonstrate positive outcomes regarding self-efficacy for people with dementia if these elements are experienced as overwhelming and not sufficiently adapted.

Findings overall appear stronger for self-esteem though also mixed. Creative interventions demonstrated the most consistent improvements in self-esteem across differing stages of dementia, reflective of the wider literature showing that art therapy programmes improve self-esteem for older adults (Ching-Teng et al., 2019; Kim, 2013). Improvements seen for self-esteem may relate to the increased sense of control, mastery and accomplishment that follow creative interventions, alongside providing an opportunity for self-exploration (Ching-Teng et al., 2019; Kim, 2013; Richards et al., 2019). A sense of accomplishment relating to the possible perceived improvements in cognitive abilities (Hall et al., 2013) may also explain the improvements in self-efficacy following CST.

Group interventions appeared to demonstrate more positive outcomes for aspects of self compared to interventions delivered to participants individually. This supports previous research that has identified social connectedness as a key facilitator of self-efficacy during interventions for people with chronic diseases (Farley, 2020), as well as suggestions that for people with dementia, social connections are a key factor for improving experiences of self within interventions (Baird & Thompson, 2018). Group interventions provide opportunities for people with dementia to share experiences, information, and understandings of dementia to help others, and these can directly improve self-esteem (Mason et al., 2005). However, it is important to note that the majority of included studies in the current review were group interventions and direct comparisons with one-to-one interventions were limited. Future research may seek to further explore the differences in outcomes for aspects of self between group versus individual interventions.

Differences in intervention outcomes according to demographic characteristics were not necessarily a focus of included studies but may be a possible explanation for the varied findings. For example, differences in the proportion of male and female participants may have impacted the contrasting findings regarding the impact of mindfulness/CFT on self-compassion as previous research suggests that masculine stereotypes are associated with lower self-compassion (Reilly et al., 2014). On the other hand, amongst older adults, self-compassion may be greater in males compared to females (Bratt & Fagerström, 2020). An alternate explanation may be that CFT interventions support all three self-compassion components (Neff, 2003), self-kindness, common humanity, and mindfulness, whereas mindfulness-based interventions only align with the mindfulness component. This raises questions as to what specific components of interventions may positively impact aspects of self in dementia. Future research should examine what other factors (e.g., attendance rates, social connections, dementia subtypes and level of cognitive impairment) may be associated with differential outcomes for aspects of self specifically for people living with dementia.

Limitations

Whilst a range of databases and search terms were used in this review, as well as the additional search for terms that arose post-data extraction, it is possible that other measures of self were missed due to complexities surrounding definitions of self. For example, Clarke et al. (2020) included 'dignity' as a measure of 'positive sense of self' but was not considered as an aspect of self in this review. Excluding specific task focussed measures of self and only including peer reviewed studies may have further limited the present review. Similarly, only studies in the English language were included; therefore, this review may not capture all relevant evidence. Whilst two independent reviewers were involved in the quality rating process, only one reviewer was involved in abstract/title screening and data extraction; therefore, the increased risk of researcher bias should be acknowledged. Lastly, heterogeneity

of included studies resulted in challenges synthesising and comparing findings. However, the MMAT (Hong et al., 2018) allowed the quality of these studies to be evaluated effectively and the range of methodological designs may be considered a strength in providing converging levels and sources of evidence.

Implications and recommendations

The issues raised regarding the validity of the measures of self for dementia included in this review have important implications for how these instruments are used in research and clinical settings with people living with dementia. Clinicians and researchers should take caution when interpreting unvalidated measures of self for people living with dementia and further research is needed to investigate the psychometric properties of these measures in dementia. Future research should explore potential differences in outcomes for aspects of self following psychosocial interventions in relation to demographic variables such as gender, culture, stage, and subtype of dementia. Due to the heterogeneity of the studies, it was not possible to draw conclusions regarding the effectiveness of interventions on the different aspects of self. Future psychosocial interventions that are conceptually grounded and measure corresponding self-reported outcomes relating to aspects of self using high quality methodological designs, such as RCTs, are needed and will help to add to the quality and expansion of the existing evidence base in this area.

Conclusions

Research with people living with dementia is increasingly considering the effectiveness of psychosocial interventions at providing positive outcomes related to aspects of self. However, the effectiveness of these interventions appears mixed and the paucity of validated measures of self in dementia is a major limitation. This review highlights the need

for further research in order to improve the evidence base supporting the use of self-report measures of aspects of self in dementia.

Declarations of conflicting interests

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