

Original

A PILOT STUDY ON THE IMPACT OF A POTTERY WORKSHOP ON THE WELL-BEING OF PEOPLE WITH DEMENTIA

Dementia

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ABSTRACT

Objective: This study seeks to assess the impact of a pottery workshop as a creative arts programme and discover the extent to which people with dementia taking part in an artistic and creative activity engage with it, experience a feeling of well-being, and improve their mood state. In addition, the study will seek to answer the question of whether taking part in a programme of creative activities improves the self-esteem of people with dementia.

Method: The research used an uncontrolled, repeated measures design.

Thirty users of the National Reference Centre for Alzheimer’s and Dementia care (CREA) in Salamanca (Spain) in a moderate to advanced stage of dementia (Global Deterioration Scale 4, GDS 5, or GDS 6) were divided into five intervention groups that received ten 45-minute sessions in which they were helped by facilitators to make different ceramic pieces.

The participants were assessed before and after the intervention with a self-esteem scale, and they rated their mood before and after the sessions on a graphic scale. During the art sessions, two observers recorded the presence of multiple indicators of well-being.

Results: The intervention was found to have a significant impact on mood and self-esteem that was independent of the participants’ GDS.

Regarding the tool used to observe well-being, the participants scored highly in the domains of sustained attention, pleasure, self-esteem and normalcy, with low scores in negative affect and sadness.

Conclusions: Pottery may be a highly suitable activity for people with dementia, as they may enjoy both the activity and the creative process, with it triggering a positive mood during the sessions, providing psychological well-being and reinforcing their self-esteem.

Key words

Dementia, non-pharmacological therapies, creative arts, pottery, well-being.

INTRODUCTION

Current estimates suggest that 46.8 million people throughout the world are living with dementia, and this figure is expected to double every 20 years until it reaches 131.5 million in 2050 (Prince, Wimo, Guerchet, Ali, Wu, & Prina, 2015). The absence of an effective pharmacological treatment that stops or delays the progression of the disease has shifted the focus of interest onto non-pharmacological therapies as a way of supplementing the pharmacological treatment that may improve the quality of life (QOL) of people with dementia.

There are numerous definitions of the concept of QOL, but here we will be using the term as understood by Lawton (1994, 1997a, 1997b; Lawton & Rubinstein, 2000), whereby the QOL of people with dementia is determined by four components: 1) behavioural competence (the ability to carry out everyday and leisure activities, for example), 2) environmental qualities, 3) QOL perceived by each individual, and 4) general psychological well-being (affective state, happiness, morale, life satisfaction, and self-esteem). According to Lawton (1983) ‘‘negative affect was more strongly related to inner aspects of the person while positive affect was more strongly related to external, interactive

aspects of the person's world'' (p. 65). In this regard, it is generally assumed that taking part in meaningful activities correlates with QOL in people with dementia, as it has been shown to improve QOL, slow down cognitive decline, and promote self-esteem in people with dementia (Marshall & Hutchinson, 2001), provides physical, mental and emotional stimulation and generates a feeling of achievement and belonging (Phinney, Chaudhury, & O'Connor, 2007). Nevertheless, people with dementia often lack the necessary skills, the sense of capability and the initiative to take part in activities of this nature, while on many occasions these activities are simply not available, even though care services are required to provide opportunities for stimulation through recreational and leisure activities that match their users' needs, preferences and capabilities. It is therefore important to identify those non-pharmacological therapies that provide people with dementia with an opportunity to take part in meaningful activities that may have a positive impact on their QOL, promote social interaction, stimulate mental skills, and increase their awareness of the outside world and their involvement in it, which in turn is considered to heighten the participants' dignity and self-esteem. Creative and artistic activities are among those of a meaningful nature that may have a positive impact on well-being and QOL (Basting & Killick, 2003; Sauer, Fopma-Loy, Kinney, & Lokon, 2016). There are numerous experiences that demonstrate that both people with an artistic background and those without it may take part in these kinds of activities (for a review of this anecdotic evidence, see Chancellor, Duncan, & Chatterjee, 2014).

Few studies to date have explored the effects that art therapy and creative arts programmes involving participatory visual arts have for people with dementia, and most of them are qualitative or single-case studies (for reviews see Beard, 2011; Chancellor,

Duncan, & Chatterjee, 2014; Windle, Gregory, Howson-Griffiths, Newman, O'Brien, & Goulding, 2017). These studies suggest that creative arts can be effective in eliciting high involvement and sustained attention to activities (Humphrey et al., 2017; Ullán et al., 2013), providing pleasure (Peisah, Lawrence, & Reutens, 2011), improving mood (Kahn-Denis, 1997) and alleviating behavioural and psychological symptoms of dementia such as anxiety, agitation, and depression (Kim, Kim, & Nomura, 2016; Safar & Press, 2011; Stewart, 2004; Tucknott-Cohen & Ehresman, 2016; Wald, 1993) or apathy (Hattori, Hattori, Hokao, Mizushima, & Mase, 2011). Other benefits include an improvement in self-esteem (Kinney & Rentz, 2005) and communication (Stallings, 2010; Ullán et al., 2013), an increase in mental agility, physical competence, calmness, and sociability (Rusted, Sheppard, & Waller, 2006), as well as improvements in verbal fluency and memory (Eekelaar, Camic, & Springham, 2012; Camic, Tischler, & Pearman, 2013; MacPherson, Bird, Anderson, Davis, & Blair, 2009).

Regarding the effect of creative arts programmes on the well-being and QOL of people with dementia, a highlight is Memories in the Making® (Jenny & Oropeza, 1993), a visual arts programme designed for people with mild to moderate dementia. An initial study (Rentz, 2002) reported that during the art sessions people with dementia demonstrated high engagement and sustained attention, as well as multiple verbal and behavioural manifestations of well-being and positive affect (pleasure, self-esteem). A subsequent study (Kinney & Rentz, 2005) compared Memories in the Making® with traditional activities using the investigator developed *Greater Cincinnati Chapter Well-Being Observational Tool*®, derived from Lawton's conceptualization of well-being. During the art sessions the participants showed higher scores in several domains of well-

being, such as interest, sustained attention, pleasure, and self-esteem than during traditional activities. A subsequent study has revealed that participating in the programme improved several aspects of well-being in people with dementia (Gross, Danilova, Vandehey, & Diekhoff, 2015). A recent study (Sauer et al., 2016) has used a modified version of the *Greater Cincinnati Chapter Well-Being Observational Tool*© to show that another creative arts programme (Opening Minds through Art) generates higher well-being (i.e. social interest, engagement, and pleasure) than traditional art and crafts activities.

One conclusion that may be drawn from these studies (Allan & Killick, 2000; Beard, 2011; MacPherson et al., 2009; Rusted et al., 2006) is that arts programmes and activities may have positive effects for people with dementia during therapy sessions, although these benefits do not seem to extend “far beyond the temporal boundaries of the art sessions” (Gross et al., 2015, p. 41).

At the National Reference Centre for Alzheimer’s and Dementia care (CREA), we have organised several different pottery workshops as a creative arts activity for people with dementia, which have been positive experiences for both users and therapists alike. Studies on the matter have reported that activities involving pottery may be as appropriate as any other form of art and lead to improvements in self-esteem and levels of anxiety and depression among elderly people (Doric-Henry, 1997) and patients with mental disorders (De Morais et al., 2014; Nan & Ho, 2017) or dementia (Elkis-Abuhoff, Goldblatt, Gaydos, & Corrato, 2008; Jones, Warren, & McElroy, 2006). The use of clay, pottery or ceramics may have specific benefits derived from the process of handling, manipulating, and sculpting, as some literature suggests (Abramowitz, 2013; Doric-Henry, 1997; Genoe & Liechty, 2017). Given our positive experience in the organisation of pottery workshop for

people with dementia, we have conducted a study designed to assess the effects of a pottery workshop as a creative arts activity, and discover the extent to which the people with dementia involved engage with it, experience a feeling of well-being and a positive affect, as well as an improvement in their mood state. In addition, the study seeks to answer the question of whether taking part in a ceramics workshop improves self-esteem among people with dementia, as various studies have reported with other art activities (Kinney & Rentz, 2005; Rentz, 2002; Wald, 1993). We expect the pottery sessions to generate high engagement among the participants, and that these will exhibit numerous indicators of well-being (interest, sustained attention, pleasure, self-esteem, and normalcy) derived from Lawton's conceptualisation of well-being in people with dementia. In addition, we expect those attending the pottery workshop to improve their mood states after each session, and by the end of the programme to show an improvement in their self-esteem.

METHOD

Participants

The study sample involved 30 users of the day centre or residential units of the National Reference Centre for Alzheimer's and Dementia care (henceforth CREA) in Salamanca (Spain), which belongs to the Spanish Institute for the Elderly and Social Services (IMSERSO, in its Spanish acronym) under the auspices of the Spanish Government. CREA is a centre that specialises in research, analysis, knowledge, assessment and training in Alzheimer's disease (AD) and other dementias, as well as provides care and attention for people with dementia and their families. CREA has a multi-professional intervention team

specifically trained to attend to people with dementia that is responsible for drawing up an individual action plan for each user of the centre.

The criteria for inclusion in the study were to have been diagnosed with AD or other dementias and have been a user of the centre for at least four weeks prior to the launch of the study. The criteria for exclusion were as follows: bed-ridden patients and those with serious sensorial deficits or the inability to interact with staff, the presence of psychological and behavioural symptoms that interfered with the development of activity, and refusal by the participant or their legal guardian to take part in the study.

Finally, 40 users were divided into five intervention groups made up of 6-10 people depending on their degree of cognitive impairment and their care resource at CREA. However, during the training sessions it was clear that in those groups with more than six participants no more than 3 of them could be observed simultaneously by each observer, so only six participants in each group were randomly chosen for the research (3 for each observer), resulting in a total of 30 participants. Thus, despite 40 people participate in the art sessions, only 30 of them were included in the research.

Thus, the sample consisted of 30 users (six from each intervention group) from the day care centre ($n = 18$) and the residential units ($n = 12$) at CREA, 22 women and eight men with ages ranging between 57 and 93 ($M = 79.97$, $SD = 8.27$), with AD and/or vascular dementia and, in fewer cases, other dementias. The stage of dementia of the participants were GDS 4 ($n = 12$), GDS 5 ($n = 12$), and GDS 6 ($n = 6$), and their mean score in the MMSE was 14.3 ($SD = 7.79$), although the participants ranged from those with serious cognitive impairment to those with only a mild condition (range 0-29) (see Table 1).

Table 1

Sociodemographic and clinical specifications

	Overall Sample
N	30
Age	79.97 (8.27)
Sex M/F	8/22
MMSE	14.30 (7.79)
Diagnosis	
AD	19
VaD	5
Mixed dementia (AD/VaD)	3
LBD	2
PD	1

Note. AD: Alzheimer's disease; VaD: Vascular dementia; LBD: Lewy Body Dementia; PD: Parkinson dementia.

The ethics committee of CREA approved this research. Before embarking upon the intervention, informed consent was obtained from each participant's legal guardian or closest family member after they had been provided with written information on the study. This information included the protocol of the research (duration, nature and number of sessions), the treatment of data pursuant to current legislation, the voluntary nature of participating in the study, and the right to withdraw consent for taking part in the study at any time, without this having any ramifications on the care and attention that users and caregivers normally receive at CREA. Throughout the study, the therapists carefully monitored the participants to look for any indication that they did not wish to take part in the sessions.

Procedure

The study used a repeated measures design with no control group.

The intervention was held between October and December 2014, and involved ten 45-minute sessions at a rate of one per week. The sessions were held between 10 a.m. and

2 p.m. in an area specifically designed for the activity and separate from the residential units and day centre.

The sessions were supervised by two professionals with experience in organising art workshops for people with disabilities or dementias, who acted as facilitators by providing the participants with help and instructions. During the sessions, and with the facilitators' help, the participants performed the proposed activities, which involved making several pottery pieces that the facilitators subsequently fired in their workshop and returned to the participants at the next session.

The sessions were also attended by an auxiliary nurse that the participants knew, and by two observers (psychologists) that recorded the variables of interest.

Materials

The observation recordings and evaluations were made during the sessions by two psychologists that were given instructions and the necessary material.

The following were the variables of interest:

- *Rosenberg Self-Esteem Scale* (Rosenberg, 1965): The Rosenberg Self-Esteem Scale comprises 10 questions, which are scored on a Likert-type scale: (1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Agree*, 4 = *Strongly agree*). The minimum score is 10 and the maximum is 40. The Spanish language version by Martín-Albo, Núñez, Navarro, & Grijalvo (2007) was used. It was administered before the first workshop session and again following the last session through an interview with the participant. Responses were facilitated by offering the participants a visual reminder of the four possible responses (*Strongly disagree – Disagree – Agree – Strongly agree*) on a DIN A4 paper and help from

the interviewer (psychologist) when needed by rewording the problematic items using basic words and shorter sentences.

- *Smiley-Face Assessment Scale*: a self-report instrument for measuring mood using a picture response system with five faces with emotional expressions accompanied by a descriptive text ranging from *Very sad* (coded with a value of 1) to *Very happy* (value 5) (see Figure 1). This instrument has been used in the assessment of the *Meet me at MoMA* project, an art education initiative for people with dementia and their caregivers (Mittelman & Epstein, 2009; Rosenberg, 2009). The observers administered the scale at the beginning and end of each session, asking the participants to indicate on a DIN A4 paper which one of the faces best reflected their current mood.

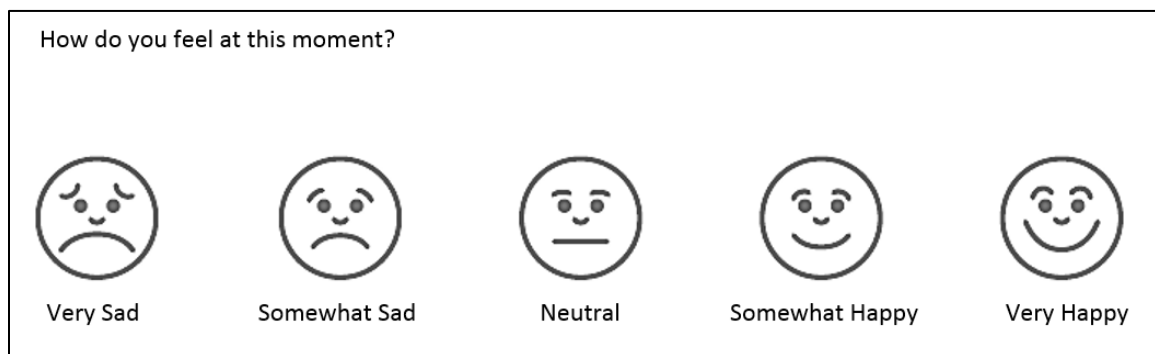


Figure 1. Mood assessment scale (Smiley-Face Assessment Scale).

- *Greater Cincinnati Chapter Well-Being Observation Tool*[®] (Kinney & Rentz, 2005): this tool rates well-being during the sessions through seven domains (*interest, sustained attention, pleasure, negative affect, sadness, self-esteem and normalcy*). These domains are measured through indicators (two indicators for pleasure and sadness, and three for all the others) (see Table 2). The scale comprises 19 items that have been scored through the direct observation of the people with dementia at ten-minute intervals

depending on the extent to which they manifest each indicator, using a Likert-type scale: (0 = *Never*, 1 = *Rarely*, 2 = *Sometimes*, 3 = *Often*, 4 = *Always*). This instrument was originally designed to assess the effectiveness of the *Memories in the Making*® programme on well-being (Rentz, 2002), and has been used in the subsequent studies that have evaluated it (Gross et al., 2015; Kinney & Rentz, 2005). According to its authors, the *Greater Cincinnati Chapter Well-Being Observation Tool*® uses behavioural descriptions to operationally describe six domains of well-being taken from Lawton's conceptualisation of well-being in people with dementia. Furthermore, Kinney and Rentz (2005) add a seventh domain, *normalcy*, prompted by the work by Gwyther (1997). A psychometric assessment of the instrument (Gross et al., 2015) has shown acceptable inter-rater reliability ($r \geq 0.70$) for three of the seven domains (*interest*, *pleasure* and *self-esteem*). The inter-rater reliability for the overall scale was slightly lower than 0.70 ($r = 0.63$), a value that is generally assumed to indicate acceptable levels of inter-rater agreement. There is no Spanish translation, so one of the authors (EPS) translated the original version. During each workshop session, each evaluator simultaneously observed three previously assigned participants and recorded three consecutive ten-minute periods for each one of them, whereby the two observers provided three records of six participants in the session. Prior to the start of the session, the evaluators together with the first author (EPS) were instructed in the use of the instruments for approximately 60 minutes, which included a discussion on the meaning of the different indicators of well-being and the use of the assessment scale, as well as the application of the instrument in a session prior to the programme with different participants to those included in this study. The ten-minute periods of observation was chosen following Kinney & Rentz (2005). Given that the art sessions lasted 45

minutes, the three ten-minute periods of observation covered almost the entire session and occurred 5 minutes after the beginning of the session, in the middle and 10 minutes before the end of the session, with short breaks for the observers in between observation intervals.

Table 2

Domains of well-being and associated indicators used in the Greater Cincinnati Chapter Well-Being Observation Tool©

Domain of well-being	Indicators
1. Interest	<p>a. The participant shows interest in other participants.</p> <p>b. Without prompting, the participant offers support for a peer's participation in an activity by making eye contact, smiling, looking toward the person, or acknowledging the person verbally, one or all of these.</p> <p>c. The participant acknowledges support from peers by eye contact, smile, verbalization, extending their hand, one or all of these.</p>
2. Sustained attention	<p>a. During the activity, the participant has sustained attention without being prompted to do so.</p> <p>b. The participant requires verbal prompting or cueing to sustain the project or activity. (NB. This scale requires inverting the score)</p> <p>c. The participant initiates and engages in conversation with peers or the facilitator and then returns to the activity and refocuses.</p>
3. Pleasure	<p>a. The participant has relaxed body language, smiles, and laughs.</p> <p>b. The participant verbalizes a sense of pleasure with phrases such as: "this feels good," "this is relaxing," or in the verbal expression of unintelligible phrases such as "oohh", "aaah", accompanied with smiles, crinkling of eyes, or relaxed facial expression.</p>
4. Negative affect	<p>a. The participant is angry during the activity</p> <p>b. The participant is agitated during the activity.</p> <p>c. The participant verbalizes feeling anxious ("I feel nervous", "I am jumpy", "I feel funny today").</p>
5. Sadness	<p>a. The participant is sad during the activity.</p> <p>b. The participant verbalizes feeling sad at some point in the activity.</p>
6. Self-esteem	<p>a. The participant nonverbally expresses pride in participating and completing a project by smiling, nodding happily, tearfulness, clapping.</p> <p>b. The participant verbally expresses satisfaction after completing a successful activity.</p> <p>c. The participant verbally expresses pride through expressions of reminiscence.</p>
7. Normalcy	<p>a. The participant verbally expresses feeling good about being in a group activity, which may be expressed as "I feel normal again", "I don't feel so alone", or other positive statements</p> <p>b. The participant nonverbally expresses social normalcy evidenced by one or all of the following: interest in others, sustained attention to the task, relaxed</p>

body language; if there is an affective reaction, that reaction does not escalate or persevere.

c. The participant, when joining or leaving the activity, chats openly with another, shakes hands, pats back, says or nods good-bye.

- The time that participants remain in the session: the time each participant remained in the pottery workshop session was registered, even if they did not engage with the activities. When a participant left the group and later returned, the time was recorded up to the moment they left or the workshop ended, and the total time noted was the aggregate of each period in which they took part.

- Demographic and clinical variables of the participants: age, sex, diagnosis, Global Deterioration Scale stage (Reisberg, Ferris, de León, & Crook, 1982) and Mini-Mental State Examination - MMSE (Folstein, Folstein, & Mchugh, 1975; Lobo, Saz, & Marcos, 2002).

Data analysis

The registers of mood (Smiley-Face Assessment Scale) gathered before and after each session, as well as the records of the time spent in each session, were averaged out for each participant for the statistical analyses. In the case of the Greater Cincinnati Chapter Well-Being Observation Tool© (after inverting item 2b in the domain sustained attention) an initial mean was obtained per session for each indicator (averaging up to three completed registers), and the score was calculated per session in each domain by averaging the score for their indicators; finally, all the sessions were averaged out to obtain an overall mean for each domain of well-being.

In order to verify the effect of the intervention on mood (*Smiley-Face Assessment Scale*) a 2x3 mixed repeated measures ANOVA was conducted, with the moment of

assessment as within-subject factor with two levels (pre vs. post) and the GDS as between-subject factor with three levels (GDS 4, 5 and 6). In the case of self-esteem, since not enough participants with GDS 6 were available for the analysis, a 2x2 mixed repeated measures ANOVAs were conducted, with the moment of assessment as within-subject factor with two levels (pre vs. post) and the GDS as between-subject factor with two levels (GDS 4 and GDS 5-6). The differences between GDS levels in the domains of *Greater Cincinnati Chapter Well-Being Observation Tool*[®] were assessed through a one-factor ANOVA. The level of significance was set at $p < 0.05$ for all the analyses. The statistical analyses were performed using IBM SPSS Statistics 22.0 software.

RESULTS

Session attendance

The participants selected for observation attended on average 95% of the pottery workshop sessions (range 7-10 sessions), taking part in the activity for an average of 391 minutes out of a maximum of 440 minutes (range 83-440 minutes); in other words, for an average of 93% of the overall time (range 20-100%). The attendance of the selected participants was therefore very high.

Mood (Smiley-Face Assessment Scale)

The pottery workshop sessions had a very positive effect on mood, as this improved from a pre-session mean of 3.74 (SD = 0.74) to a post-session mean of 4.46 (SD = 0.50) (see Table 3). The repeated measures ANOVA showed a significant effect of the moment of assessment (pre- vs. post-session), $F(1, 27) = 98.368$, $p < .001$, $\eta^2 = .785$. The pairwise comparisons (Bonferroni adjustment) showed that mood improved after the sessions for

participants with GDS 4 ($p < .001$), GDS 5 ($p < .001$) and GDS 6 ($p < .001$). Although the effect of the GDS was not significant, $F(2, 27) = .390$, $p = .681$, $\eta^2 = .028$, it was indeed so for the interaction moment of assessment x GDS, $F(1, 27) = 7.953$, $p = .002$, $\eta^2 = .371$, as participants with GDS 6 experienced a greater improvement in their mood state than participants with GDS 4 or 5.

Table 3

Means and standard deviations for Smiley-Faces for the overall sample and for each level of GDS

	Overall sample		GDS 4 (n = 12)		GDS 5 (n = 12)		GDS 6 (n = 6)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Smiley-Faces pre	3.74	0.74	3.82	0.64	3.91	0.75	3.24	0.82
Smiley-Faces post	4.46	0.50	4.41	0.47	4.45	0.60	4.60	0.36

Self-esteem (Rosenberg Self-Esteem Scale)

One of the participants was unable to complete the Rosenberg Self-Esteem Scale due to a severe language disorder. Thus, the Rosenberg Self-Esteem Scale was completed by 29 participants before and after the intervention. However, seven of the participants (those with the greater cognitive impairment and GDS 6) needed excessive help to complete the questionnaire, so the quality of the data obtained must be treated with caution and were therefore excluded from the analysis resulting in a total of 22 subjects with enough confidence in its scores. Following the intervention there was a significant increase in the self-esteem measured via the Rosenberg scale, rising from a pre-intervention mean of 31.36 ($SD = 3.685$) to a post-intervention mean of 34.68 ($SD = 3.428$) (see Table 4). The ANOVA showed a significant effect of the moment of assessment (pre- vs. post-session), $F(1, 20)$

= 25.328, $p < .001$, $\eta^2 = .559$. The pairwise comparison revealed that self-esteem improved after the ten intervention sessions for all the participants regardless of their degree of impairment: GDS 4 ($p = .007$), GDS 5-6 ($p < .001$). Finally, the interaction moment of assessment x GDS was not significant, $F(1, 20) = 0.575$, $p = .457$, $\eta^2 = .028$.

Table 4

Means and standard deviations for the Rosenberg Self-Esteem Scale for the overall sample and for each level of GDS

	Overall sample		GDS 4 (n = 11)		GDS 5-6 (n = 11)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Rosenberg pre	31.36	3.68	31.64	3.58	31.09	3.94
Rosenberg post	34.68	3.43	34.45	3.67	34.91	3.30

Well-being (Greater Cincinnati Chapter Well-Being Observation Tool[©])

Regarding the *Greater Cincinnati Chapter Well-Being Observation Tool*[©], it was found that during the pottery workshop sessions the participants recorded high scores in the domains of sustained attention, pleasure, self-esteem and normalcy, and low scores in negative affect and sadness (see Table 5).

Table 5

Means and standard deviations for the overall sample and by GDS for the domains of well-being measured with the Greater Cincinnati Chapter Well-Being Observation Tool[©]. Results of the one-factor ANOVA

Domain of well-being	Overall sample (n = 30)	GDS 4 (n = 12)	GDS 5 (n = 12)	GDS 6 (n = 6)	F _(2,27) /		
					Welch's F ₍₂₎	p	$\eta p^2/\omega^2$
Interest	0.99 (0.55)	0.99 (0.51)	1.08 (0.60)	0.78 (0.58)	0.573	.571	.041
Sustained attention^a	2.66 (0.86)	2.91 (0.62)	2.81 (0.63)	1.85 (1.26)	1.777	.212	.167
Pleasure^a	1.82 (0.71)	1.77 (0.24)	2.08 (0.82)	1.40 (0.97)	1.195	.343	.063
Negative affect^a	0.09 (0.37)	0.01 (0.02)	0.02 (0.04)	0.38 (0.80)	1.040	.387	.099
Sadness	0.05 (0.15)	0.04 (0.06)	0.05 (0.10)	0.10 (0.20)	0.733	.490	.052
Self-esteem	1.42 (0.54)	1.51 (0.41)	1.44 (0.49)	1.20 (0.83)	0.643	.534	.045
Normalcy^a	1.73 (0.45)	1.83 (0.27)	1.80 (0.36)	1.41 (0.77)	0.808	.470	.066

^a The assumption of homogeneity of variance is not fulfilled, and so Welch's t-test is used as a statistic with its corresponding effect size ω^2 .

The means for the different domains of well-being for each group of participants show that those participants with GDS 6 recorded higher scores in the negative domains (*negative affect* and *sadness*) and lower ones in the positive domains (*interest*, *pleasure*, *self-esteem* and *normalcy*) than their peers with GDS 4 or 5. Nevertheless, the one-factor ANOVA did not reveal a significant effect of GDS for any of the domains of well-being (see Table 5).

In addition, seven repeated measures ANOVAs were conducted to verify whether there were any changes in the domains of well-being as the sessions progressed. The sample was reduced (n = 19) for these analyses because the repeated measures ANOVA considers only those cases for which there are data for the ten sessions of the programme. Thus, the results of these analyses should be interpreted with caution due to sample size. The results reveal that the sessions had a significant effect on the domains of well-being

interest, sustained attention, self-esteem and normalcy (see Table 6). The sessions did not have a significant effect on *pleasure, negative affect and sadness*.

In the case of the domain *interest*, if we follow its evolution over the course of the sessions (see figure 2) it appears to gradually increase slightly during the first sessions and peak during the intermediate sessions, and then diminish in the final sessions. The pairwise comparisons (Bonferroni adjustment) showed that *interest* significantly diminished during the last 3 sessions since it revealed significant differences between sessions 4 and 8 ($p = .015$), as well as between session 5 and sessions 8, 9 and 10 ($p \leq .005$).

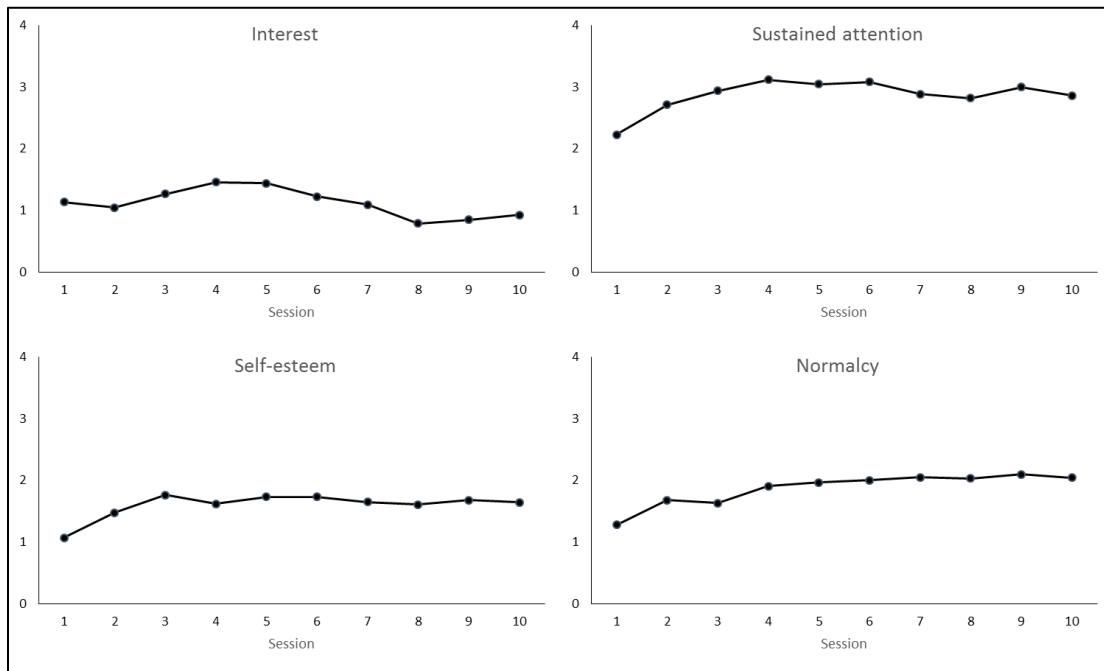


Figure 2. Evolution throughout the sessions of the domains of well-being interest, sustained attention, self-esteem and normalcy.

Table 6

Results of the repeated measures ANOVA (inter-subjects factor Session with 10 levels). Application of the Greenhouse-Geisser correction for violation of the assumption of sphericity

Domain of well-being	$\chi^2(44)$	p	ϵ	F	df	p	ηp^2
Interest	69.597	.012	.581	4.380	5.228, 94.097	.001	.196
Sustained attention	95.881	.000	.483	7.030	4.346, 78.237	.000	.281
Pleasure	86.624	.000	.473	1.317	4.259, 76.653	.270	.068
Negative affect	-	-	.257	.923	9, 162	.418	.049
Sadness	-	-	.305	1.043	9, 162	.377	.055
Self-esteem	89.196	.000	.360	3.603	3.241, 58.340	.016	.167
Normalcy	111.826	.000	.390	15.276	3.507, 63.117	.000	.459

The domain of well-being *sustained attention* appears to increase after the first session, and then remain at high levels as of the third session (see Figure 2). The pairwise comparisons showed that the manifestations of *sustained attention* were lower in session 1 than in sessions 4, 5, 6, and 8 ($p \leq .027$).

In the case of the domain of well-being *self-esteem*, it too appears to increase sharply after the first session and then level off as of the third session with intermediate scores (see Figure 2), although in this case the pairwise comparisons did not record significant differences.

Finally, the manifestations of the indicators of the domain of well-being *normalcy* increase after the first three sessions and reached middling scores as of the fourth session (see Figure 2). The pairwise comparisons showed that session 1 was significantly different to sessions 2, 4, 5, 6, 7, 8, 9, and 10 ($p \leq .041$), in addition session 2 also showed significant differences with sessions 4, 9, and 10 ($p \leq .020$).

Discussion

This paper has presented the results of a study in which 30 people with dementia took part in a pottery workshop organised as a creative arts activity. These results indicate that attending the workshop had a positive effect on the participants' self-esteem, mood and well-being.

The results of this study show that participating in a pottery workshop led to an increase in the participants' self-esteem regardless of their stage of dementia. The effect that creative arts programmes and art therapy have on self-esteem has been reported by previous studies both with interventions focused on viewing art (Flatt, Liptak, Oakley, Gogan, Varner, & Lingler, 2015; Mittelman & Epstein, 2009) and interventions which also included creating art (Kinney & Rentz, 2005; Rentz, 2002; Ullán et al., 2013; Wald, 1993) as in our intervention.

In most cases self-esteem has been measured qualitatively (Kinney & Rentz, 2005; Rentz, 2002) or has been a recurring topic in focus groups of participants in art sessions and his caregivers (Flatt et al., 2015; Ullán et al., 2013). This study has used a standardised scale to measure self-esteem, as in the study by Mittelman & Epstein (2009), although in this case we have obtained a significant effect, whereas Mittelman & Epstein only reports a tendency to improve self-esteem among people with dementia. We could speculate if creating art, as in our study, could have a stronger effect on self-esteem than viewing art, as in Mittelman & Epstein (2009). In the study by Flatt et al. (2015), self-esteem was one of the topics identified by people with dementia and their caregivers in the focus groups organised, with comments that may be grouped into three categories: feelings of normalcy, feelings of autonomy, mastery or control, and feeling special. In our case, we may assume that the increase in self-esteem may be due both to the feeling of normalcy (produced by taking

part in a significant activity) and the participants' feeling of autonomy and mastery (pride at producing ceramic pieces that they thought were beyond their reach). This assumption is supported by the high scores recorded in the domain of well-being *normalcy* in the *Greater Cincinnati Chapter Well-Being Observation Tool*® over the course of the sessions.

Furthermore, we have noted that the pottery workshop sessions thoroughly engaged the participants, as reflected in the domain *sustained attention* in the *Greater Cincinnati Chapter Well-Being Observation Tool*® and in the high attendance at the sessions and the length of time the participants spent in them. During the pottery workshop sessions, the participants manifested a positive affect and well-being that was reflected in the high scores in the domains *pleasure*, *self-esteem* and *normalcy*, as well as in the low scores for the domains *negative affect* and *sadness*. These results for the *Greater Cincinnati Chapter Well-Being Observation Tool*® confirm the facilitators' and therapists' impressions during the pottery workshop sessions, as the participants used numerous expressions and gestures of enjoyment during the performance of the tasks in all the work groups. The participants enthusiastically followed their instructions on the pieces they had made, and carried out the task with great care. Likewise, when they were returned the pieces they had made in the previous session they were impressed by the outcome and used numerous manifestations and verbalisations that indicated positive self-esteem and a sense of pride at having been able to complete the pieces successfully, as also captured by the *Greater Cincinnati Chapter Well-Being Observation Tool*®. Likewise, during the sessions, and as also reflected in the indicators of the *Greater Cincinnati Chapter Well-Being Observation Tool*®, there were few expressions of negative affect and sadness. Any behaviour suggesting irritability, sadness and agitation that may have been present prior to the start

of the workshop was apparently reduced over the course of the intervention, although this was not explicitly recorded. Regarding the *Greater Cincinnati Chapter Well-Being Observation Tool*[®], all the participants, regardless of their degree of impairment, frequently exhibited similar levels in the indicators of well-being during the sessions. These results suggest that this type of intervention may be effective for increasing the well-being of people with dementia regardless of their degree of cognitive impairment. However, despite not having found any significant difference, those participants with GDS 6 recorded higher scores in the negative domains and lower ones in the positive domains of well-being, possibly reflecting the loss of behavioural competence and the negative impact on affective state and life satisfaction that we can assume is associated with the progression of dementia.

The assessments of well-being conducted over the ten sessions of the programme suggest that taking part in a creative arts activity may improve several aspects of well-being (such as interest and sustained attention, and especially self-esteem and a sense of normalcy) over a period of several weeks. In fact, the results appear to indicate that the maximum impact on these variables may be achieved after only three workshop sessions. These results partially coincide with those reported by Gross et al. (2015), who showed how the scores in several of the domains of well-being (*interest, sustained attention, pleasure, self-esteem* and *normalcy*) improved from the initial sessions of the programme to the intermediate ones. Nevertheless, as Gross et al. (2015) report, this effect might not reflect real changes in the participants' performance, but instead the evaluators' habituation to the behaviours that people with dementia may manifest.

Finally, we have found that the participants' mood improved after each pottery workshop session, which again reinforces the notion that creative activities may be useful

for improving the well-being of people with dementia. This effect was also noted for participants regardless of their degree of affliction, although the evidence in this case indicates that people with a lower basal mood state may benefit more, as was the case for participants with GDS 6.

As with most of the studies on creative arts interventions (Beard, 2012; de Medeiros & Basting, 2014) this study has some limitations and methodological weaknesses, with the first and foremost being the reduced sample size and heterogeneity, whereby we cannot extrapolate the findings to the general population. Another major limitation of the study involves the absence of a control group or activity that enables us to confirm that the observed effects are the results of the intervention involving the pottery workshop and not non-specific effects stemming from involvement in group activities. A third limitation was the unavailability of blind evaluators for the study, as this would reduce the biases caused by their expectations toward the intervention that may have affected our study. A fourth limitation is that our study does not allow to know how long the positive effects of the art sessions lasted, as no monitoring assessment was conducted. Nevertheless, the fact that the benefits of an intervention are short-lived should not stop us from applying it, given that, as Peisah et al. (2011) note, it will be worthwhile if it can provide well-being through engagement in a meaningful activity, even if only on a temporary basis. Finally, it should be noted that the pottery workshop sessions were supervised by professional ceramists with limited experience in interventions with people with dementia, so no specific therapeutic targets were set. We should therefore look upon the intervention more as a leisure activity than as a therapy, as suggested by Killick and Allan (1999b).

Despite the limitations, we believe our study offers support to the growing literature that indicates that art activities may offer benefits for people with dementia, making creative arts programmes a potentially effective psychosocial intervention that can realistically and easily be implemented in diverse care scenarios (Peisah et al., 2011). Our findings indicate that a pottery workshop may be an effective way of improving the well-being, mood and self-esteem of people with dementia irrespective of their limitations and degree of impairment. Future research should further explore the impact of the degree of impairment on the manifestations of well-being during art sessions and study the duration and persistence of the positive effects of creative arts programmes such as the one presented here.

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References

- Abramowitz, K. (2013). The Unstructured Use of Clay in Art Therapy with Older Adults. *Canadian Art Therapy Association Journal, 26*(1), 1-12.
doi:10.1080/08322473.2013.11415574
- Allan, K., & Killick, J. (2000). Undiminished possibility: The arts in dementia care. *Journal of Dementia Care, 8*, 16-18.
- Basting, A. D., & Killick, J. (2003). *The arts and dementia care: A resource guide*.
Brooklyn, NY: National Center for Creative Aging.
- Beard, R. L. (2011). Art therapies and dementia care: A systematic review. *Dementia, 11*(5), 633-656. doi:10.1177/1471301211421090
- Camic, P. M., Tischler, V., & Pearman, C. H. (2013). Viewing and making art together: a multi-session art-gallery-based intervention for people with dementia and their carers. *Aging & Mental Health, 18*(2), 161-168.
doi:10.1080/13607863.2013.818101
- Chancellor, B., Duncan, A., & Chatterjee, A. (2014). Art Therapy for Alzheimer's disease and other dementias. *Journal of Alzheimer's Disease, 39*(1), 1-11.
doi:10.3233/JAD-131295
- Chatterjee, A. (2006). The neuropsychology of visual art: Conferring capacity. *International Review of Neurobiology, 74*, 39-49. doi:10.1016/s0074-7742(06)74003-x

- De Medeiros, K., & Basting, A. (2014). "Shall I Compare Thee to a Dose of Donepezil?": Cultural Arts Interventions in Dementia Care Research. *The Gerontologist*, 54(3), 344–353. doi:10.1093/geront/gnt055
- de Morais, A. H., Dalécio, M. A. N., Vizmann, S., Bueno, V. L. R. d. C., Roecker, S., Salvagioni, D. A. J., & Eler, G. J. (2014). Effect on scores of depression and anxiety in psychiatric patients after clay work in a day hospital. *The Arts in Psychotherapy*, 41(2), 205-210. doi:10.1016/j.aip.2014.02.002
- Doric-Henry, L. (1997). Pottery as art therapy with elderly nursing home residents. *Art Therapy*, 14(3), 163-171. doi:10.1080/07421656.1987.10759277
- Eekelaar, C., Camic, P. M., & Springham, N. (2012). Art galleries, episodic memory and verbal fluency in dementia: An exploratory study. *Psychology of Aesthetics, Creativity, and the Arts*, 6(3), 262-272. doi:10.1037/a0027499
- Elkis-Abuhoff, D., Goldblatt, R. B., Gaydos, M., & Corrato, S. (2008). Effects of clay manipulation on somatic dysfunction and emotional distress in patients with Parkinson's disease. *Art Therapy*, 25(3), 122-128. doi:10.1080/07421656.2008.10129596
- Flatt, J. D., Liptak, A., Oakley, M. A., Gogan, J., Varner, T., & Lingler, J. H. (2015). Subjective experiences of an art museum engagement activity for persons with early Alzheimer's disease and their family caregivers. *American Journal of Alzheimer's Disease and Other Dementias*, 30(4), 380-389. doi:10.1177/1533317514549953

- Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). "Mini-mental state": a practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*, 12(3), 189-198. doi:10.1016/0022-3956(75)90026-6
- Genoe, M. R., & Liechty, T. (2016). Meanings of participation in a leisure arts pottery programme. *World Leisure Journal*, 59(2), 91-104.
doi:10.1080/16078055.2016.1212733
- Gross, S. M., Danilova, D., Vandehey, M. A., & Diekhoff, G. M. (2015). Creativity and dementia: Does artistic activity affect well-being beyond the art class? *Dementia*, 14(1), 27-46. doi:10.1177/1471301213488899
- Gwyther, L. (1997). The perspective of the person with Alzheimer disease: Which outcomes matter in early to middle stages of dementia? *Alzheimer Disease & Associated Disorders*, 11, 18-24.
- Hattori, H., Hattori, C., Hokao, C., Mizushima, K., & Mase, T. (2011). Controlled study on the cognitive and psychological effect of coloring and drawing in mild Alzheimer's disease patients. *Geriatrics & Gerontology International*, 11(4), 431-437. doi:10.1111/j.1447-0594.2011.00698.x
- Humphrey, J., Montemuro, M., Coker, E., Kilgour-Walsh, L., Moros, K., Murray, C., & Stanners, S. (2017). Artful Moments: A framework for successful engagement in an arts-based programme for persons in the middle to late stages of dementia. *Dementia*, 1471301217744025. doi:10.1177/1471301217744025

- Jenny, S., & Oropeza, M. (1993). *Memories in the making: A program of creative art expression for Alzheimer patients*. Irvine, CA: Alzheimer's Association of Orange County.
- Jones, F., Warren, A., & McElroy, S. (2006). Home-Based Art Therapy for Older Adults with Mental Health Needs: Views of Clients and Caregivers. *Art Therapy, 23*(2), 52-58. doi:10.1080/07421656.2006.10129640
- Kahn-Denis, K. B. (1997). Art therapy with geriatric dementia clients. *Art Therapy: Journal of the American Art Therapy Association, 14*(3), 194-199.
doi:10.1080/07421656.1987.10759281
- Killick, J., & Allan, K. (1999b). The arts in dementia care: Tapping a rich resource. *Journal of Dementia Care, 7*, 35-38.
- Kim, H. K., Kim, K. M., & Nomura, S. (2016). The effect of group art therapy on older Korean adults with neurocognitive disorders. *The Arts in Psychotherapy, 47*, 48-54. doi:10.1016/j.aip.2015.11.002
- Kinney, J. M., & Rentz, C. A. (2005). Observed well-being among individuals with dementia: Memories in the Making, an art program, versus other structured activity. *American Journal of Alzheimer's Disease and Other Dementias, 20*(4), 220-227. doi:10.1177/153331750502000406
- Lawton, M. (1983). The varieties of wellbeing. *Experimental Aging Research, 9*(2), 65-72.
doi:10.1080/03610738308258427
- Lawton, M. (1994). Quality of life in Alzheimer's disease. *Alzheimer Disease & Associated Disorders, 8*(Suppl 3), 138-150. doi:10.1097/00002093-199404000-00015

- Lawton, M. (1997a). Assessing quality of life in Alzheimer disease research. *Alzheimer Disease & Associated Disorders*, 11(6), 91-99.
- Lawton, M. (1997b). Measures of quality of life and subjective well-being. *Generations*, 21, 45-47.
- Lawton, M., & Rubinstein, R. (2000). *Interventions in Dementia Care: Toward Improving Quality of Life*. New York: Springer Publishing Company.
- Lobo, A., Saz, P., & Marcos, G. (2002). *MMSE: Examen Cognoscitivo Mini-Mental*. Madrid: TEA.
- MacPherson, A., Bird, M., Anderson, K., Davis, T., & Blair, A. (2009). An art gallery access programme for people with dementia: "You do it for the moment". *Aging & Mental Health*, 13(5), 744-752. doi:10.1080/13607860902918207
- Marshall, M. J., & Hutchinson, S. A. (2001). A critique of research on the use of activities with persons with Alzheimer's disease: A systematic literature review. *Journal of Advanced Nursing*, 35, 488-496. doi:10.1046/j.1365-2648.2001.01887.x
- Martín-Albo, J., Núñez, J. L., Navarro, J. G., & Grijalvo, F. (2007). The Rosenberg Self-Esteem Scale: Translation and validation in university samples. *The Spanish Journal of Psychology*, 10(2), 458-467. doi:10.1017/s1138741600006727
- Mittelman, M., & Epstein, C. (2009). Research results. In F. Rosenberg, A. Parsa, L. Humble, & C. McGee (Eds.), *The MoMA Alzheimer's project: Making art accesible to people with dementia*. New York, NY: The Museum of Modern Art.

- Nan, J. K. M., & Ho, R. T. H. (2017). Effects of clay art therapy on adults outpatients with major depressive disorder: A randomized controlled trial. *Journal of Affective Disorders, 217*, 237-245. doi:10.1016/j.jad.2017.04.013
- Peisah, C., Lawrence, G., & Reutens, S. (2011). Creative solutions for severe dementia with BPSD: A case of art therapy used in an inpatient and residential care setting. *International Psychogeriatrics, 23*(6), 1011-1013.
doi:10.1017/s1041610211000457
- Phinney, A., Chaudhury, H., & O'Connor, D. L. (2007). Doing as much as I can do: The meaning of activity for people with dementia. *Aging & Mental Health, 11*(4), 384-393. doi:10.1080/13607860601086470
- Prince, M., Wimo, A., Guerchet, M., Ali, G. C., Wu, Y. T., & Prina, M. (2015). *World Alzheimer Report 2015. The global impact of dementia. An analysis of prevalence, incidence, cost & trends*. London: Alzheimer's Disease International.
- Reisberg, B., Ferris, S. H., de León, M. J., & Crook, T. (1982). The global deterioration scale for assessment of primary degenerative dementia. *American Journal of Psychiatry, 139*(9), 1136-1139. doi:10.1176/ajp.139.9.1136
- Rentz, C. A. (2002). Memories in the making: Outcome-based evaluation of an art program for individuals with dementing illnesses. *American Journal of Alzheimer's Disease and Other Dementias, 17*(3), 175-181.
doi:10.1177/153331750201700310

Rosenberg, F. (2009). The MoMA Alzheimer's Project: Programming and resources for making art accessible to people with Alzheimer's disease and their caregivers.

Arts Health, 1(1), 93-97. doi:10.1080/17533010802528108

Rosenberg, N. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rusted, J., Sheppard, L., & Waller, D. (2006). A multi-centre randomized control group trial on the use of art therapy for older people with dementia. *Group Analysis*,

39(4), 517-536. doi:10.1177/0533316406071447

Safar, L. T., & Press, D. Z. (2011). Art and the brain: Effects of dementia on art production in art therapy. *Art Therapy*, 28(3), 96-103.

doi:10.1080/07421656.2011.599734

Sauer, P. E., Fopma-Loy, J., Kinney, J. M., & Lokon, E. (2016). "It makes me feel like myself": Person-centered versus traditional visual arts activities for people with dementia. *Dementia*, 15(5), 895-912. doi:10.1177/1471301214543958

Stallings, J. W. (2010). Collage as a therapeutic modality for reminiscence in patients with dementia. *Art Therapy: Journal of the American Art Therapy Association*,

27(3), 136-140. doi:10.1080/07421656.2010.10129667

doi:10.1080/07421656.2010.10129667

Stewart, E. G. (2004). Art therapy and neuroscience blend: Working with patients who have dementia. *Art Therapy: Journal of the American Art Therapy Association*,

21(3), 148-155. doi:10.1080/07421656.2004.10129499

Tucknott-Cohen, T., & Ehresman, C. (2016). Art therapy for an individual with late stage dementia: A clinical case description. *Art Therapy, 33*(1), 41-45.

doi:10.1080/07421656.2016.1127710

Ullán, A. M., Belver, M. H., Badía, M., Moreno, C., Garrido, E., Gómez-Isla, J., . . . Tejedor, L. (2013). Contributions of an artistic educational program for older people with early dementia: An exploratory qualitative study. *Dementia, 12*(4), 425-446.

doi:10.1177/1471301211430650

Wald, J. (1993). Art therapy and brain dysfunction in a patient with a dementing illness.

Art Therapy: Journal of the American Art Therapy Association, 10(2), 88-95.

doi:10.1080/07421656.1993.10758987

Windle, G., Gregory, S., Howson-Griffiths, T., Newman, A., O'Brien, D., & Goulding, A.

(2017). Exploring the theoretical foundations of visual art programmes for people living with dementia. *Dementia, 14*7130121772661.

doi:10.1177/1471301217726613

Young, R., Camic, P. M., & Tischler, V. (2015). The impact of community-based arts and health interventions on cognition in people with dementia: a systematic review.

Aging & Mental Health, 20(4), 337-351. doi:10.1080/13607863.2015.1011080