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Artistic creativity and dementia. A study of assessment by experts¹

Manuel H. Belver²; Ana M^a Ullán³

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Abstract. The goal of this study was to determine whether experts attribute a series of images created by people with dementia who were participating in a program of contemporary art education to artists or to people without prior artistic experience. In this way, we sought to obtain an indicator of the artistic quality of the images produced by people with dementia. Participants were 122 specialists in art to whom were presented 30 images, 15 works by professional artists and 15 created by people with dementia. For each of the 15 images created by the people with dementia, we calculated the proportion of experts who attributed the image to a professional artist. The results indicated that, in a significant number of cases, which varied according to the images, the experts attributed the images to professional artists. The judgment of the experts reinforcing the idea of the creative potential of people with dementia.

Keywords: Art; dementia; artists; creativity.

[es] Creatividad artística y demencia. Un estudio de evaluación por expertos

Resumen. El objetivo de este estudio fue determinar si expertos atribuían a artistas o a personas sin experiencia artística previa una serie de imágenes creadas por personas con demencia que participaban en un programa de educación artística contemporánea. De esta manera, buscamos obtener un indicador de la calidad artística de las imágenes producidas por personas con demencia. Participaron en el trabajo 122 especialistas en arte a los que se presentaron 30 imágenes, 15 obras de artistas profesionales y 15 creadas por personas con demencia. Para cada una de las 15 imágenes creadas por las personas con demencia, calculamos la proporción de expertos que atribuyeron la imagen a un artista profesional. Los resultados indicaron que, en un número significativo de casos, que variaron según las imágenes, los expertos atribuyeron las imágenes a artistas profesionales. El juicio de los expertos refuerza la idea del potencial creativo de las personas con demencia.

Palabras clave: Arte; demencia; artistas; creatividad.

Sumario. 1. Introduction. 2. Method. 3. Results. 4. Discussion. References.

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1. Introduction

Studies of the relationship between art and dementia have increased significantly in recent years. Several investigations of people with Alzheimer's disease or other dementias have highlighted the importance of artistic activities as a factor that can contribute to the improvement of their well-being and quality of life. Beard points to the significant role that visual arts can play in the lives of people with dementia, as illustrated by several studies (Beard, 2012). Kinnsey and Rentz (Kinney & Rentz, 2005), expanding a previous pilot work (Rentz, 2002), assessed seven domains of well-being while subjects were participating in an art program for people with early-onset or mid-stage dementia designed to promote self-expression through the visual arts. They also compared the well-being observed in the same individuals while participating in more traditional activities of the day center. The results showed that the people showed more interest, sustained attention, pleasure, self esteem, and normalcy during their participation in the art program, with no differences in negative affect or sadness between the two types of activities. A recent review (Young, Camic, & Tischler, 2015) of the impact of community-based art and health interventions concluded that, despite certain methodological limitations, the studies suggest that art-based activities have a positive impact on cognitive processes, particularly on attention, memory stimulation, improvement of communication, and engagement in creative activities. Participation in a program of looking at art in a public gallery followed by a session of art-making can affect cognition, improving episodic memory, mood, and self-confidence and reducing isolation, as assessed by family caregivers (Eekelaar, Camic, & Springham, 2012).

In a study designed to address the most common methodological limitations in works on the effect of artistic activities in the quality of life of people with dementia, Sauer et al. (Sauer, Fopma-Loy, Kinney, & Lokon, 2014) assessed the extent to which people with dementia displayed behaviors of well-being and distress during a program of visual arts activities, Opening Minds through Art (OMA), by itself and in comparison with traditional arts and craft activities. Their study concludes that the OMA program, designed to facilitate the creative self-expression of people with dementia, provided the participants with opportunities to display behaviors of well-being such as social interest, engagement, and pleasure to a greater extent than the traditional programs with which OMA was compared. Also in a recent study, Miller and Johansson (2016) investigated the capability to paint among nonartist participants with Alzheimer's disease in an instructed painting condition versus a noninstructed painting condition. The overall conclusion is that people with AD have a preserved capability to paint, with and without instructions, even those in the later stages of the disease. The results also indicate that an artistic development is possible and that painting can be used as an appreciated and beneficial activity for people with AD.

The participation of people with dementia in artistic activity programs is highly valued, both by the participants themselves and by their family or professional caregivers (MacPherson, Bird, Anderson, Davis, & Blair, 2009; Ullán et al., 2013).

The impact that dementia can have on essentially creative and aesthetic aspects is an issue that has not received much attention. The relationship between dementia and creativity can be explored from different points of view (Palmiero, Di Giacomo, & Passafiume, 2012). The degree to which dementia affects the cognitive processes

involved in creative tasks in general, such as the application of knowledge, analogy, the combination of elements, and abstraction (Welling, 2007), or how dementia affects specific domain components like visual restructuring can be analyzed (Palmiero, Nakatani, Raver, Belardinelli, & van Leeuwen, 2010). But creativity has to do with extra-cognitive processes such as motivation (Amabile, 1985) and emotions (Zenasni & Lubart, 2008), whose relationship with dementia is also relevant. There is growing interest in analyzing the role of creativity in the emotion regulation of people with dementia. The design of non-pharmacological therapeutic interventions to treat the symptoms of dementia has emphasized the development of intervention strategies based on creative skills that may be beneficial to patients (Ullán et al., 2013).

There may be an important bias in the appraisal of works of art made by people with dementia because different aesthetic or stylistic criteria are used depending on whether or not the patients are artists. Palmiero et al. (2012) have reviewed studies on creativity and dementia, reporting that stylistic and aesthetic criteria are only taken into account in the assessment of the works produced by artists, whereas when appraising works produced by people who are not artists, artistic creation is only considered as a means to express emotions. These authors suggest further exploring this issue in order to determine whether works of art by patients with dementia match the criteria of creativity, regardless of whether or not these people had performed artistic activities prior to their illness. In particular, they suggest using techniques like the consensual appraisal technique proposed by Amabile (Amabile, 1982). This technique is based on the idea that the creativity of any work can be measured as the combined judgment of different people. This requires that independent judges—ideally, experts in the field—evaluate the creativity of products in accordance with the tacit and personal meaning of creativity for them.

In keeping with this suggestion, the purpose of this study was to analyze works created by people with dementia who are not artists, using similar artistic criteria to those used to assess the works of artists. For this purpose, we used works of art created by people who had participated in a program of artistic education for people with dementia (Ullán et al., 2013). This program was designed on the basis of the following points:

1. The artistic activities must be designed so they can be included in an artistic educational program for adults without any neurological pathologies.
2. The activities designed will promote contact with works of art and relevant artists from diverse epochs and styles.
3. The artistic techniques used will promote the participants' creativity and development of a personal work.
4. The aim is to establish connections between the works of art included in the program and the participants' personal creations, either through technique, content, or the formal and/or conceptual aspects of the creations.
5. Care should be taken with the design of the artistic activities so they promote the participants' sense of personal value and identity.
6. The designed artistic activities should favor the participants' use of cognitive capacities (such as relation, discrimination, association, etc.) and communication skills.

The program was organized in a series of workshops, each one of which was carried out in two stages. The first stage consisted of presentation of audiovisual material of diverse artists' works of art, which had been prepared for the participants to view and comment on. The second stage consisted of the participants' creating their own personal works. Twenty-one people diagnosed with mild or moderate dementia participated in the program. While conducting the workshops, participant observation was carried out, and the participants' engagement was assessed. Upon completing the series of workshops, five focus groups were carried out with the participants with dementia, as well as a focus group with their professional caretakers. We observed the participants' high level of commitment to the activity and their interest in learning new things. We also observed the participants' satisfaction during the creative process and with their results. The artistic activities reinforced the feelings of capacity of the participants with early dementia and transmitted a positive image of them. Conclusions: Dementia was not an obstacle to participate in the program, which was an opportunity for creativity, learning, enjoyment, and communication of people with dementia.

During this program, we observed the high aesthetic quality of many of the creations of the participants with dementia who had no artistic experience prior to their participation in the program. The educators in charge of the program mentioned this frequently, and it was also recorded in the participant observation carried out and in the focus groups. Obviously, this assessment could be biased due to the educators' involvement in the design and development of the program.

Therefore, we needed uninvolved specialists to make an assessment of the creativity and artistic quality of the works carried out by the people with dementia who participated in the program. With this aim, we conducted the study described below.

2. Method

2.1. Participants

Participants were 122 subjects, all of them specialists in art. One-hundred and one were advanced students of the Fine Arts degree and 21 were Art teachers.

2.2. Materials

We presented 30 projected images to each participant, one half created by professional artists and the other half by people with dementia who had participated in the contemporary educational art program described above. The people in charge of the program selected the images made by people with dementia, attempting to ensure the representativeness of the selection with regard to the work performed in the program. These images are presented in Figure 1. A panel of experts selected the images of the professional artists used in this study, following the criterion that these images should have some technical or formal similarity to the images produced in the educational art program. The numbering of these images is included in Table 1.

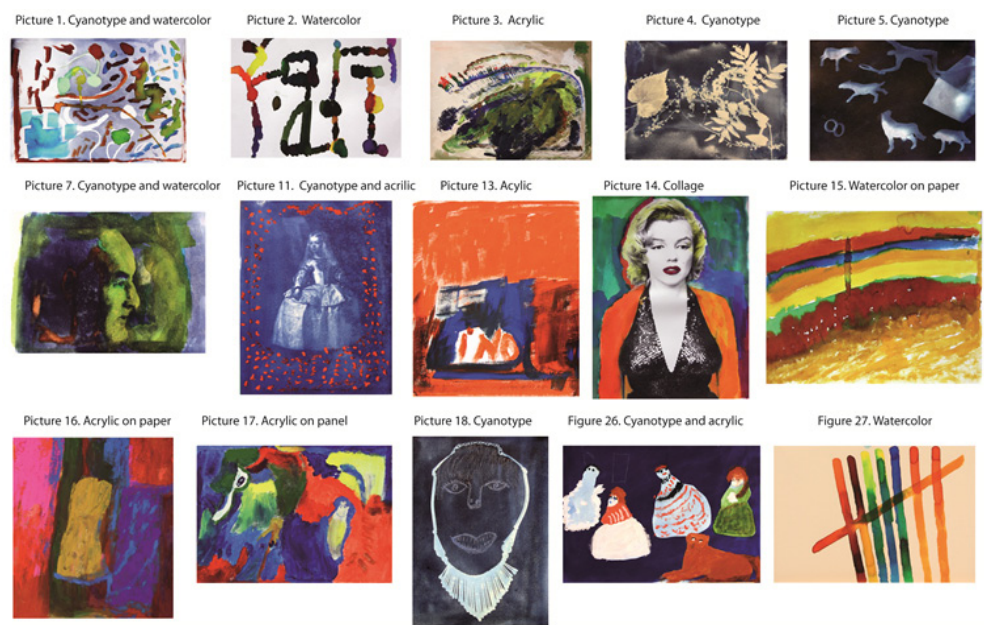


Figure 1. Images created by people with dementia that were used in this study. The number corresponds with the presentation order of the image.

Image 6. Kandinsky, Composition V, 1911, Oil on canvas.
Image 8. Sam Francis, Untitled, 1984, Acrylic on canvas
Image 9. Henri Matisse, Spanish Still Life, 1910, Oil on canvas
Image 10. Michel Herin. Cyanotype Photography.
Image 12. Manolo Valdés, La Jarra, 2003, Oil and mixed
Image 19. Sam Francis, Untitled, 1991, Acrylic on paper
Image 20. Robert Motherwell, Elegy to the Spanish Republic No. 110, 1984, Acrylic with graphite and charcoal on canvas

Image 21. Andy Warhol, Rorschach, 1984, Synthetic polymer paint on canvas
Image 22. Jean Dubuffet, Activation XLVII, 1985, Colored chalk and black felt on writing paper
Image 23. Manolo Valdés, Las Meninas X, 2000, engraving
Image 24. Andy Warhol, Ladies and Gentelman, 1975, Acrylic and silkscreen ink on linen
Image 25. Rebecca Harbaugh, Faith Writings on Cyanotype, 2010, Cyanotype
Image 28. Esteban Vicente, Number 2, 1967, Oil on canvas
Image 29. Willem de Kooning, Montauk I, 1969, Oil on canvas
Image 30. Joan Mitchell, Pastel, 1992, Pastel on paper

Table 1. Works by professional artists that were used in this study. The number corresponds with the presentation order of the image.

2.3. Procedure

The 30 images were presented to all participants in the same order. Participants were informed that one half of the projected images were creations by a professional artist and the other half were creations by people without previous artistic experience, but not mentioning that the authors of these works had participated in a program of artistic education for people with dementia or providing any other information about them. For each image, participants were requested to indicate whether, in their opinion, the image was the work of a professional artist or of someone without previous artistic experience, based on artistic criteria: style, composition, etc.

3. Results

For each of the 15 images created by people with dementia who participated in the educational art program, we calculated the proportion of experts who attributed

the image to a professional artist, as well as the 95% confidence interval of these proportions. The results can be seen in Table 2. The number of the images corresponds to the order in which the image was presented. The table also includes gender, age, diagnosis, and the authors' scores in the Mini-Mental State Examination (MMSE; Folstein, Folstein, & McHugh, 1975) and the Global Deterioration Scale (GDS (Reisberg, Ferris, de Leon, & Crook, 1982).

Number of presentation order of the image	Data of the author of the image: gender, age, diagnosis, MMSE*, GDS**	% of experts who attributed each image to a professional artist	95% Confidence interval
1	Male, 81 years old, diagnosis: AD, MMSE: 21/30, GDS: 4	29.7%	22.3-38.4
2	Female, 84 years old, diagnosis: Alzheimer type dementia, MMSE: 16/30, GDS: 4	47.5%	38.9-56.3
3	Male, 73 years old, diagnosis: Alzheimer type dementia, MMSE: 10/30, GDS: 5 - 6.	42.6%	34.2-51.5
4	Female, 92 years old, diagnosis: Alzheimer type dementia, MMSE: 16/30, GDS: 5	48.4%	39.7-57.1
5	Male, 73 years old, diagnosis: Alzheimer type dementia, MMSE: 26-30, GDS: 3	60.0%	51.0-68.3
7	Male, 86 years, diagnostic: moderate dementia, probable combined etiology (neurodegenerative and vascular), MMSE: 12/30, GDS: 5	73.1%	64.5-80.3
11	Female, 83 years old, diagnosis: Alzheimer type dementia, MMSE: 14/30, GDS: 5.	19.1%	13.1-27.1
13	Male, 79 years old, diagnosis: degenerative dementia, probable AD, MMSE: 15/30, GDS: 5.	34.4%	26.5-43.3
14	Female, 80 years old, diagnosis: Alzheimer type dementia, MMSE: 16/30, GDS: 4	38.5%	30.3-47.4
15	Female, 83 years old, diagnosis: Alzheimer type dementia, MMSE: 14/30, GDS: 5.	13.9%	8.9-21.2

16	Male, 73 years old, diagnosis: Alzheimer type dementia, MMSE: 10/30, GDS: 5 - 6.	73.8%	65.3-80.7
17	Female, 88 years old, diagnosis: mixed dementia (AD, vascular), MMSE: 26/30, GDS: 4.	20.6%	14.4-28.7
18	Female, 76 years old, diagnosis: cortico-subcortical dementia, MMSE: 25/30, GDS: 3	27.5%	20.3-36.1
26	Female, 88 years old, diagnosis: mixed dementia (AD, vascular), MMSE: 26/30, GDS: 4.	10.7%	6.4-17.5
27	Male, 73 years old, diagnosis: Alzheimer type dementia, MMSE: 26-30, GDS: 3	57.0%	48.1-65.5
<p>*MMSE Score on the MiniMental State Examination (Folstein, Folstein, & McHugh, 1975)</p> <p>** GDS Score on the Global Deterioration Scale (Reisberg et al., 1982)</p> <p>AD: Alzheimer's disease</p>			

Table 2. Percentage of experts who attributed to professional artists the images created by people with dementia, who had no previous artistic experience and who were participating in a program of contemporary artistic education.

4. Discussion

The goal of this study was to determine whether experts attribute a series of images created by people with dementia who were participating in a program of contemporary art education to artists or to people without prior artistic experience. The results indicated that, in a significant number of cases, which varied according to the images, the experts attributed the images to professional artists. The technicians in charge of the program of artistic education for people with early dementia during which the images had been created had emphasized the level of creativity and the artistic quality of the patients' works (Ullán et al., 2013). The judgment of the experts, who were unaware of the goals of the program and of the clinical characteristics of the patients involved in it, corroborates the technicians' observation, reinforcing the idea of the creative potential of people with dementia.

Although cognitive impairment in dementia has been widely studied, research has paid relatively little attention to changes in creativity during the illness (Palmiero et al., 2012). However, the documented experiences agree that dementia itself is not an obstacle to artistic cultural consumption, such as visits to art galleries or museums (Camic, Tischler, & Pearman, 2014; MacPherson et al., 2009; Young

et al., 2015). Likewise, cases of artists affected by dementia whose skills were preserved for a long time during their illness, even after other cognitive functions presented severe deficits, have been documented (Cummings, Miller, Christensen, & Cherry, 2008; Fornazzari, 2005). There are also documented cases of people with neurodegenerative diseases who have developed artistic interests and skills they did not have prior to their illness (Bruce L. Miller, Boone, Cummings, Read, & Mishkin, 2000; Miller et al., 1998). As mentioned earlier, painting is an activity in which people with AD can show development. Possible artistic progress can be vital in gaining a better understanding of the brain in people with AD and also beneficial for afflicted people's self-esteem (Miller and Johansson, 2016).

In this context, the notion of "paradoxical functional facilitation" introduced by Kapur (Kapur, 1996) may be relevant to explain the unexpected improvement subsequent to brain damage. Kapur proposed the notion of paradoxical functional facilitation to refer to those cases in which, in certain contexts, subjects with central nervous system injuries show a non-trivial facilitation of psychological functioning. By paradoxical, Kapur refers to improved performance in brain functioning tests, where the improvement occurs in the opposite direction to the detrimental effects that usually accompany neural changes. The area of creativity in neurodegenerative diseases is mentioned (Kapur et al., 2013) as a context in which the concept of paradoxical functional facilitation might be relevant, referring to how patients who suffer certain dementias unexpectedly display new or preserved artistic skills. Despite progressive neurodegeneration, these patients share traits with historical creative minds, such as showing a growing interest and/or concern for their topic, forgetting social or occupational responsibilities in favor of their art, continuing with their artistic works even in the absence of any outside support or stimulation, achieving flow experiences (Csikszentmihalyi, 1991)—moments in which the person is so engaged in an activity, almost in a meditative state, to the point of not noticing the passing of time—with relative ease.

In order for this notion of paradoxical functional facilitation to be applied to the study of creativity in patients with dementia, objective evaluations of the works of art are needed (Palmiero et al., 2012). The purpose of this work was to address this issue, exploring the experts' appraisals of the artistic productions of people with dementia who had participated in a program of contemporary art education. The results lead us to conclude that it is possible to consider creativity as an area in which, under certain conditions, people with dementia can achieve optimal levels of performance. The capabilities of persons with dementia are frequently underestimated. The functional and cognitive losses associated with dementia are exacerbated by the stereotypes and stigmas surrounding the disease (Sauer, Fopma-Loy, Kinney, & Lokon, 2014). The deficits of people with dementia are often emphasized, and consequently, they are presented with tasks of a low level of intellectual stimulation or sense of achievement (Malone & Camp, 2007; Perrin, 1997). These processes have been related to the concept of "extra-disability", understood as the discrepancy that occurs when a person's functional inability is higher than that justified by his or her actual injury (Chung, 2004). People with dementia frequently face the double stigma of ageing and dementia (Benbow & Reynolds, 2000; Katsuno, 2005). Therefore, it is extremely important to highlight those aspects that are retained or, with support, can even improve in the course of the disease. The results of our study indicate that artistic creativity could be one of them. The people with dementia—the authors of

the images—actively participated in the program of artistic education during which these images were created, but the works of art they created in this context also revealed a considerable level of artistic creativity, as is clear from the appraisals of the art experts who participated in this study.

Visits to museums and art galleries can be a source of cognitive stimulation, enjoyment, social connections, and self-esteem, providing opportunities for social inclusion that can change the way in which dementia is perceived (Camic et al., 2014; Eekelaar et al., 2012; Flatt et al., 2015; MacPherson et al., 2009) and produce positive emotional and relational effects for people with dementia and their caregivers (Camic, Baker, & Tischler, 2015). However, we should also take into account that people with dementia can produce artistic creations of a considerable level, according to expert opinion. The promotion of creativity can be a stimulus for successful aging (Mazzucchi, Sinforiani, & Boller, 2013) and the social recognition of the creative abilities of people with dementia could contribute to improving their social and personal image, distancing it from the traditional model focused on deficits, and revealing a more complex view of the human potential of people with dementia.

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